The Semitic Languages

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# The Semitic Languages

An International Handbook

Edited by
Stefan Weninger

In collaboration with
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# Foreword

This volume, which presents a comprehensive overview of the current state of research on the Semitic languages, has undergone a long period of preparation. Our heartfelt thanks go first of all to the authors for their cooperation and patience. We are also indebted to the editor of the series, Herbert Ernst Wiegand for accepting this volume in the series *Handbooks of Linguistics and Communication Sciences*, and to Barbara Karlson of De Gruyter Mouton for her efficient and friendly manner in dealing with issues concerning this volume. Special thanks go to Melonie Schmierer (Cambridge) who did a wonderful job in editing the English. Finally, thanks are due to Michael Waltisberg (Marburg) for his help in proofreading and to the student assistents Maren Hadidi, Temesghen Tesfu and Christina Gansloser (Marburg) for their help in copy-editing and indexing.

The editors

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# 1. Introduction



## 1. Scope of the volume

The present volume, *Semitic Languages: An International Handbook*, is meant to serve as comprehensive reference tool for Semitic Linguistics in its broad sense. In contrast to Brockelmann (1908–1913), Moscati (1964), Lipiński (1997), Stempel (1999), Kienast (2001) and Haelewyck (2006), it is not restricted to comparative Grammar, although it covers also comparative aspects. On the other hand, the Handbook is not a collection of grammatical sketches, as e.g. the works of D. Cohen ([ed.] 1988, 31–159), Bergsträsser (1928/1983) or Hetzron (1997). By comprising a section on typology (see chs. 10 and 11), chapters with sociolinguistic focus (see chs. 16, 25, 26, 35, 46, 48, 56, 62, 69, and 71) and chapters on language contact (chs. 15, 17, 42, 43, 59, 60, 61, 74) the conception of the book aims at a comprehensive, unbiased description of the state of the art in Semitics. The articles on language contact are especially welcome within the framework of the HSK series, because the HSK volume on language contact (Goebl et al. [eds.] 1996–1997) concentrates its examples in the second volume on languages of Europe and the former Soviet Union. The articles on individual Semitic languages and dialect groups give basic facts on location, numbers of speakers, scripts, size and nature of text corpus, attestation etc., where appropriate, basic facts of the grammar and an overview on the research.

At the beginning of the Handbook, the greater genealogical context of Semitic is discussed (*Section I*), reconstruction and classification (*Section II*), and typological aspects of Semitic (*Section III*). In the following chapters, research on the individual Semitic languages and dialects is presented. As the internal classification of Semitic is, at least partly, still open to discussion due to several conflicting isoglosses, the organisation of the chapters is based on largely non-technical, admittedly rather traditional, geographical principles (*Sections* IV–VII).

### 1.1. Semitic in an Afroasiatic context

It is commonly held by Semitists and Afroasiaticists that the Semitic language family forms part of the macro-family of Afroasiatic (Hamito-Semitic) languages, although the sub-classification of the Afroasiatic families is disputed. A notorious problem of Afroasiatic studies is the vast variety of languages that makes it virtually impossible for an individual researcher to cope with the whole of Afroasiatic. The articles of this chapter sum up the traits that might be part of the common heritage of Semitic and Egyptian (ch. 2), Semitic and Berber (ch. 3), Semitic and Chadic (ch. 4), and Semitic and Cushitic-Omotic (ch. 5). Problems of language contact are not the focus of this

section, but are treated in chapters that follow where appropriate (see ch. 59 on Berber-Arabic contact and ch. 74 on Ethio-Semitic – Cushitic contact). The editors firmly believe that the inclusion of Afroasiatic in larger families such as 'Nostratic' cannot be justified. The topic therefore is not covered in the volume.

## 1.2. Reconstructing Proto-Semitic and models of classification

This section is devoted to Semitic studies as a historical-comparative discipline. There is one section on the reconstruction of Proto-Semitic phonetics and phonology (ch. 6), one on the morphology of Proto-Semitic (ch. 7), and one on the lexicon (ch. 8). Due to the lack of research on this area to date, reconstructive syntax is excluded here (But see below ch. 7 on syntactic typology). The internal classification of Semitics has been subject to particularly hot debate since the very beginning of comparative Semitics. The various models and the assumptions on which they are based are the subject of a separate section (ch. 9).

## 1.3. The Semitic languages and dialects I: Their typology

In addition to the historic-genetic perspective of the previous section, this section covers typological aspects of Semitic languages. Both morphological typology (ch. 10) and syntactic typology (ch. 11) are covered. As this section is of special relevance for typologists without a Semitic background, the authors paid extra attention to ensure the readability of the articles for the non-Semitist.

## 1.4. The Semitic languages and dialects II: East Semitic

The introductory section (ch. 12) provides an overview of the Akkadian language, its history and attestation, including sections on cuneiform writing. Then the oldest varieties of Akkadian, i.e. Old Akkadian and Eblaite are treated (ch. 13). After this, the two main dialects of Akkadian, i.e. Assyrian and Babylonian, their distinctive features and their development through the ages are covered in a contrastive perspective by a central section (ch. 14). Akkadian is heavily influenced by Sumerian, which was transmitted by speakers of Akkadian as a classical language after its extinction as a spoken language. Therefore, a section on Sumerian-Akkadian language contact is necessary (ch. 15). Akkadian was used as a language of diplomacy in wide areas of the Middle East. A further chapter gives an overview of the role of Akkadian in history outside Babylonia and Assyria (ch. 16). Later, during the first millennium B.C., Akkadian was finally replaced by Aramaic. This justifies an additional section on Akkadian-Aramaic language contact (ch. 17).

## 1.5. The Semitic languages and dialects III: North-West Semitic

In the introductory section, the notion 'North-West Semitic' is discussed, including internal classification, an overview of Aramaic, N.-W. Semitic alphabets, contacts with Egyptian, Tell Amarna and treatment of the smaller varieties of North-West Semitic

that are not covered by the other sections such as Moabite, Ammonite, and Edomite (ch. 18). This is followed by a section on the oldest attestation of NW-Semitic, i.e. Amorite (ch. 19). The first NW-Semitic language with textual attestation is Ugaritic (ch. 20). Then the Canaanite languages are covered, first with a section on Phoenician and Punic (ch. 21) and one on Biblical Hebrew (ch. 22). The later stages of Hebrew are covered by a section on Rabbinic Hebrew (ch. 23), and on Modern Hebrew (ch. 24). Historical aspects of Hebrew as the language of Judaism are also described (ch. 25). The unique case of a language revival from written sources is analyzed in a chapter on the emergence of Modern Hebrew (ch. 26). Aramaic is treated in a series of chapters, first on Old Aramaic (ch. 27) and Imperial Aramaic (ch. 28). The role of Imperial Aramaic as an administrative language and its role in history is described in a special section (ch. 29). A chapter on Late Imperial Aramaic examines varieties such as Nabataean or Palmyrene (ch. 30). This is followed by articles on several Western Middle Aramaic varieties, i.e. Jewish Palestinian Aramaic (ch. 31), Samaritan Aramaic (ch. 32), and Christian Palestinian Aramaic (ch. 33). The part on Eastern Middle Aramaic begins with a section on Syriac (ch. 34), that is complemented by a section on Syriac as the language of Eastern Christianity and its role in history (ch. 35). Then the other Eastern Middle Aramaic varieties, Babylonian Talmudic (ch. 36) and Mandaean (ch. 37) are covered. The next part of the chapter is devoted to Neo-Aramaic, that can be classified into Western Neo-Aramaic spoken in Syria (ch. 38), Ṭuroyo (with Mlaḥso) (ch. 39), North Eastern Neo-Aramaic (ch. 40) and Neo-Mandaean (ch. 41). The rest of the section consists of two chapters on language contact, one on contact between Aramaic dialects and Iranian languages (ch. 42), and one on Aramaic-Arabic language contact (ch. 43). The latter covers both directions, to avoid repetition in section VI.

## 1.6. The Semitic languages and dialects IV: Languages of the Arabian Peninsula

This section covers the varieties spoken on the Arabian Peninsula and adjacent islands, and those that have their historical origin on the Peninsula (i.e. Arabic dialects outside the Peninsula). Beginning with Ancient North Arabian (ch. 44), the structure of Classical Arabic (ch. 45) and its role as the lingua sacra of Islamic culture (ch. 46), it then covers Middle Arabic (ch. 47), the modernization of Arabic and the role of the Arabic academies (ch. 48), Modern Standard Arabic, the differences between Classical Arabic and MSA, registers and regional varieties of MSA (ch. 49). Arabic dialects in general and their geography are treated in an introductory chapter to the second part of the section (ch. 50). This is followed by chapters on the Arabic dialects of the Arabian Peninsula (ch. 51), the dialects of Mesopotamia (ch. 52), the dialects of the Levant (ch. 53), of Egypt and Sudan (ch. 54), and of North Africa, including Maltese (ch. 55). Spoken Arabic is treated in a systematic, non-geographic way in chapters on sociolinguistics (ch. 56) and Arabic urban vernaculars (ch. 57). This is followed by a chapter on Arabic-based pidgins and creoles (ch. 58). Three chapters treat the contact of Arabic with other languages in this section: Arabic-Berber (ch. 59), Arabic-Persian (ch. 60), and Arabic and modern European languages (ch. 61). Aramaic-Arabic language contact is treated above in the context of Aramaic (ch. 43). This is followed by a

chapter on Maltese as a national language (ch. 62). In the third part of this section, the non-Arabic languages of the Arabian Peninsula are covered. As the attestation of the four varieties of Ancient South Arabian is rather unbalanced, the editors thought it best to treat them together (ch. 63). This is followed by an extensive overview of the Modern South Arabian languages of Yemen and Oman (ch. 64).

## 1.7. The Semitic languages and dialects V: Ethio-Semitic languages

In an introductory chapter (ch. 65), the distinctive features of Ethio-Semitic in general are covered, together with its internal classification to avoid repetitions in the following articles. This chapter also touches briefly varieties without special articles. This is followed by a chapter on the classical language of Ethiopia and Eritrea, Gəʿəz (ch. 66). Chapters on the modern North-Ethiopic languages Tigre and Tigrinya then follow (ch. 67 and ch. 68). In a chapter with a more sociolinguistic focus, the role of Tigrinya as a written language and a language of Eritrea is described (ch. 69). A rather large chapter treats Amharic together with Argobba (ch. 70). A further chapter (ch. 71) elucidates the role of Amharic as a national Language and an African lingua franca. The following chapter covers the Gurage dialect bundle (ch. 72). In the next section, Harari is treated (ch. 73). Due to widespread multilingualism, phenomena of language contact are especially salient in Ethio-Semitic. The research and its perspectives on Ethio-Semitic–Cushitic contacts are covered by the last article (ch. 74).

## 1.8. Limits

Needless to say that even a book of this size cannot cover all aspects of the subject. Chapters originally planned but unwritten for different reasons include Diachronic Typology of Semitic Languages, Middle Aramaic in general, and Sociolinguistic aspects of Neo-Aramaic. Apart from single chapters, three further aspects are systematically neglected:

This volume focuses on the structure of the Semitic languages themselves, their history and their roots in societies. Hence, there is no special section on the history of Semitic studies. The reader is referred to the relevant chapters in the HSK volume *History of the Language Sciences* (Auroux et al. [eds.] 2000–2006) where both the indigenous traditions are covered (Aroux et al. [eds.] 2000–2006, 1–5, 215–344), as well as the European tradition of Semitic studies since the age of Humanism (Aroux et al. [eds.] 2000–2006, 673–680, 728–734, 1311–1325).

For similar reasons, no chapter is devoted to the writing systems of Semitic languages in this volume. Instead, the reader is referred to the HSK volume *Writing and Its Use* (Günther/Ludwig [eds.] 1995–1996) where several aspects of written language and writing systems of Semitic languages are covered (Günther/Ludwig [eds.] 1995–1996, 274–288, 297–321, 491–510, 525–536). Needless to say, information on the script of individual languages are given where their attestation and rooting in society is covered.

Onomastics is a field that is important in Semitic studies. Names of persons, tribes and places reveal valuable information on social, religious and linguistic history, espe-

cially for periods and regions where other sources are scarce or missing (cf. as an example the articles in Streck/Weninger [eds.] 2002). Nevertheless, as there is a HSK-volume especially devoted to name studies (Eichler et al. [eds.] 1995−1996) that comprises several articles on Semitic onomastics as part of the section on the historical development of names (Eichler et al. [eds.] 1995−1996, 854−879), the editors of the present volume decided not to include a special section on onomastics here, the chapter on Amorite (see ch. 19) being a necessary exception for obvious reasons.

## 2. Technical and formal aspects

The editors had a long discussion on the question whether they should attempt to impose a unified transcription on the whole volume. They finally decided that it is impossible to devise a transcription that reconciles all the necessities of synchronic descriptions of individual Semitic languages with those of diachronic reasoning. For example, it is *communis opinio*, that the Proto-Semitic source of Hebrew *q* (ק), Classical Arabic *q* (ق), Egyptian Arabic ʾ, Muslim Baghdadi Arabic *g* and Geez *ḳ* (ቀ) most probably was an ejective velar stop [*ḳ] that approximately can be symbolized by IPA kˀ. But is anything gained in using the etymological symbol in the attested languages? The idea to present data of, e.g. Modern Arabic dialects in etymological writing would be clearly inappropriate. On the other hand, the use of IPA-symbols instead of the time-honored Semitological transcription is also problematic. IPA-symbols are meant to represent very precise phonetic sounds. How should, e.g., Ugaritic *ṣ* be transcribed in IPA, when all we know about this phoneme is that it is the product of the merger of **ṣ*, **ṯ* and **ś*? Finally the editors agreed not to impose a unified transcription, but to leave the decision on how to transcribe the individual languages to the respective authors.

The editorial responsibilities have been distributed like this: S. Weninger: Semitic in an Afroasiatic Context (chs. 2−5), Typology (chs. 9−10), Ancient North Arabian and Classical Arabic (chs. 44−47), Ethio-Semitic (chs. 65−74). M. P. Streck: Comparative Semitic (chs. 6−9), Akkadian (chs. 12−17), and part of ancient North-West-Semitic (chs. 18−21 and 27−30). G. Khan: North-West-Semitic (chs. 31−43). J. C. E. Watson: Ancient South Arabian, Modern South Arabian, and Modern Arabic, both standard and dialect (chs. 48−64).

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# I. Semitic in an Afroasiatic Context

## 2. Semitic-Egyptian Relations



### Abstract

*This overview summarises the regular consonantal correspondences of Egyptian and Proto-Semitic, the innovations and divergences of each branch, and surveys the basic common elements of morphology shared by both Egyptian and Semitic. Problems of research on the common Egypto-Semitic lexicon are also discussed.*

### 1. History of the research on genetic connections between Semitic and Egyptian

Although the hieroglyphic and demotic writing systems were deciphered and the language identified by Champollion in 1822, some elements of the relationship with the Semitic languages had already been recognized on the basis of Coptic, which had been familiar to European science several centuries before. The findings of the first researchers in the 19th century are summarised in the works of Erman (1892), Ember (1930), von Calice (1936), and Cohen (1947), who laid firm foundations for the study of regular consonant correspondences. These fundamental works contain retrospective bibliographies.

In the second half of the 20th century, the study of Egyptian linguistics failed to keep pace with rapid developments in Afro-Asiatic linguistics and little interest was shown in investigating the Afro-Asiatic background of Egyptian. Until the 1990s, only three Egyptologists (Vycichl, Ward and Hodge) carried on this work.

In 1971 the outstanding Semiticist Rössler (who erroneously regarded Egyptian as a 'Semitic language') proposed a significantly different interpretation of the Old Egyptian phonological system and the Egypto-Semitic phonological and lexical correspondences, based on controversial assumptions and an *a priori* selected group of disprovable etymologies. The currently ongoing 'Etymological Dictionary of Egyptian' (EDE) project has confirmed the validity of the older conception (cf. also Takács 2003; 2006, 90ff. and 2007, 5ff.). For the literature of the diverse periods of Egypto-Semitic com parative research, cf. EDE I 1–8.

## 2. Egyptian consonantism and its Semitic correspondences

Old Egyptian had 24 consonant phonemes that are clearly reflected in the writing, to which can be added at least **l* (which had no special sign of its own). These have been identified with relative safety both on inner and etymological grounds (cf. Vergote 1945; 1973; Edel 1955, 47−66; Vycichl 1990, 39−71).

Old Egyptian was innovative from the perspective of historical phonology. It is already clear that several Old Egyptian consonants represent a merger of diverse proto-phonemes of fully different origins (EDE I 271−272). Thus, the high diversity of the Afro-Asiatic system of sibilants (inherited by Semitic, South Cushitic, and West Chadic) was radically simplified in Egyptian, e.g. OEg. *z* < PAA **ʒ* and **ǯ* (yielding Semitic **z* and **ḏ*); OEg. *s* < PAA **c*, **s*, **č*, **š*; or OEg. *š* < PAA **ŝ* and **ĉ*. Similarly, OEg. *ḏ* < PAA **g* and also **ç*, **č̣*, **ĉ̣* (Sem. **ṣ*, **ṯ*, **ḏ*), while OEg. *ḫ* < PAA **ḫ*, **q*, **ǧ*, **q̇* (which had merged in Semitic also). Proto-Semitic, in turn, had the ancient system of sibilants only slightly modified (PSem. **s*, **š*, **ṯ*, **ṣ* < PAA **c*, **s*, **č*, **š*., while PSem. **ṣ*, **ṯ*, **ḏ* < PAA **ç*, **č̣*, **ĉ̣*). Only the Afro-Asiatic labial triad (**b*, **p*, **f*, preserved intact also in South Cushitic and Chadic) was better retained in Egyptian (*b*, *p*, *f*) than in Semitic (where both PAA **p* and **f* had merged in **p*). The regular correspondences are as follows:

Tab. 2.1: Regular Egyptian-Semitic consonant correspondences

| Eg. | *3* | *j* | *ʿ* | *w* | *b* | *p* | *f* | *m* | *n* | *r* | *h* | *ḥ* | *ḫ* | *ḫ* | *z* | *s* | *š* | *q* | *k* | *g* | *t* | *ṯ* | *d* | *ḏ* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sem. * | *r*<br>*l* | *y*<br>*l*<br>*r* | *ʾ*<br>*ʿ*<br>*γ* | *wy* | *b* | *p* | *p* | *m* | *n*<br>*l* | *r*<br>*l* | *h* | *ḥ* | *ḫ* | *ḫ*<br>*ḫ* | *z*<br>*ḏ* | *s*<br>*š*<br>*ṯ* | *ŝ*$_1$<br>*ŝ*$_2$ | *ḳ* | *k* | *g* | *t*<br>*ṭ* | *k* | *d*<br>*ṭ* | *g*<br>*ṣ*<br>*ṯ*<br>*ḏ* |

Note that Eg. 3 correspond rarely also to Sem. **ʾ* (EDE I 67−78), but the conditions of this merger with the Eg. reflex of Sem. **r* and **l* are not clear.

There are further peculiarities of the Old Egyptian consonant system that evidently distinguish it from that of any of the ancient (or even several modern) Semitic languages:

– Palatalization of the PAA velars (**k* and **g*) as OEg. *ṯ* and *ḏ*, in certain positions (presumably conditioned by the following vowel as supposed by Diakonoff 1965, 24−25, fn. 11; 1988, 39, #1.4). This process had begun well before the script appeared and was completed in the case of *k* > *ṯ* only towards the end of the Old Kingdom. This is why the Pyramid Texts contain both non-palatalized and palatalized varieties, e.g. OEg. *kw* ∼/> *ṯw* 'you', *kb.wj* ∼/> *ṯb.wj* (dual) 'sandals'.
– Palatalization of PAA **l* and **r* > *j* [y] (presumably under the influence of the subsequent vowel as with **k* > *ṯ* and **g* > *ḏ*). This process was long-lasting, starting well before the written period and lasting throughout the 3rd millennium B.C.
– Erosion of PAA **l* and **r* (under conditions not yet satisfactorily clarified) in the first stage as a kind of voiced alveolar (or dental) vibrant or rolled sound ('Egyptian aleph'), which later weakened into a real aleph (glottal stop). This process was later repeated.

The status and the Semitic counterparts of some of the Old Egyptian consonant phonemes have been debated by Rössler (1971) and a minor, albeit recently active group of his followers (the trend of the so-called '*neuere Komparatistik*': except for Voigt, Egyptologists), who have suggested entirely new Egypto-Semitic correspondences. The arguments and especially the methods applied in this trend's arbitrary etymologies have, however, provoked a fierce critique, cf. 6. below.

Tab. 2.2: Radically new suggestions by Rössler

| OEg. | *3* | *j* ∼ *r* | *ʿ* | *f* | *z* | *d* | *ḏ* |
|---|---|---|---|---|---|---|---|
| PSem. | **d* too | **g*, *γ*, *ʿ too | *d, *ḏ, *z, *ẓ | **b* | *ṯ too | *ṣ, *ḏ too | *ṯ, *ʿ, *ḳ |

## 3. Egypto-Semitic nominal morphology

Similar to Semitic and some other groups of Afro-Asiatic, the vocalism of the Old and Middle Egyptian verbal forms was apparently apophonic. The Egyptian primary nouns (i.e. those that were not derived from verbal roots), in turn, probably had a firm root vowel just as in Semitic ones, whereas Egyptian derived nouns were formed according to apophonic patterns, some of which can be detected in Semitic (as demonstrated by Osing in his NBÄ).

Most Egyptian grammatical morphemes can be traced back to a common Afro-Asiatic heritage, but a not insignificant number of these are not shared by Semitic.

The feminine marker was in both Semitic and Egyptian nouns the well-known common Afro-Asiatic **-t*. The fossilized OEg. ending of masculine nouns *-w* (attested only occasionally) has, however, evident reflexes only outside Semitic, cf., i.e. Brb. **w-* ∼ **u-* 'prefix of nouns in status annexus' [Djk.] ||| PCu. **-u* 'morpheme of the masc. gender' [Zbr. 1991, 76, #2] ||| NOm.: Kafa *-ō* 'masc. noun suffix' [Crl. 1951, xxiii, #1] (for the AA comparison cf. also Diakonoff 1986, 47−48; 1988, 58). Similarly, out of the three gender markers of the OEg. demonstrative pronoun series only two have reliable Semitic cognates: e.g. **t-* (fem.) is identical with the ending *-t* of fem. nouns and **n-* (pl. and non-animate) is related to PAA **-n* 'plural ending of nouns' [Sasse] > e.g. Sem. **-ān-* > Akk. *-ān-ū* (nom.), *-ān-ī* (acc./gen.), e.g. *šarr-ān-ū* 'kings' (sg. *šarr-u*) || Syr. *-ān-īn*, e.g. *rabb-ān-īn* 'masters' (sg. *rabb-ā*) || Geez *-ān* (masc. pl. ending), e.g. *ṣādəq* 'just', masc. pl. *ṣādəq-ān* (Sem.: CGSL 88) ||| Brb. **i-...-ən* 'pl. affix' [GT] ||| SAgaw: Awngi (dial.) *-Vn* 'pl. suffix' [Dlg.] || LECu.: Oromo pl. suffixes *-w-ān*, *-w-ōn(i)*, *-ēn(i)*, *-ān(i)* [Dlg. 1991, 21] = *-ān, -en*, *-w-an* [Ali-Zbr. 1990, 10] ||| NOm.: Kafa *-i-na-ō* ∼ *-e-na-ō* (pl. suffix) [Crl. 1951] ||| CCh.: e.g. Logone *ŋgun*, pl. *ŋgwan-en* ∼ *ŋgunn-en* 'Bauch' [Lks. 1936, 114] (AA: Greenberg 1955, 49; Sasse 1981, 141).

In Old Egyptian too, there were three grammatical numbers. The singular had no particular marker. Both the dual and plural morphemes have Semitic counterparts. OEg. dual marker *-j-* (followed by the gender marker: masc. *-w-j* vs. fem. *-t-j*) ∼ Sem. **-ā* (nom. case), **-ay* (obl. case and full form) 'dual ending' [GT pace Grande 1972, 285−287] ||| NBrb.: Shilh **-i-* dual marker, cf. *məraw-i-n* 'twenty' [Djk. 1988, 64]. OEg. plural marker *-w-* (preceding the gender suffix: masc. *-w* < **-w-w* vs. fem. *-w-t*) ∼ Sem.

*-*āt-* < *-*aw-at-* (?) ‘fem. pl. ending’ [GT, cf. Grande 1972, 283−284] ||| PCu. *-*aw* ∼ *-*wa* ‘morpheme of plural’ [Zbr. 1991, 76, #5] ||| CCh.: e.g. Lame *wó* ‘pluralisateur’ [Scn. 1982, 297].

The system of Old Egyptian personal pronouns with all the Afro-Asiatic cognates cannot be presented here in full (cf. recently especially Blažek 1995; also Diakonoff 1988, 70−79). There is a significant overlapping in the Egyptian and Semitic systems, and examples of the common Afro-Asiatic character of these systems are presented here.

Independent personal pronouns: OEg. *jnk* (the original root was **jn*, to which the personal ending *-k* was attached) → Cpt.: (S) *anok* ‘I’ ||| Sem. **ʔan-āku* ∼ **ʔan-ā/ī* ‘I’ [Djk.] ||| Brb. **ənakk$^{w}$* ‘I’ [Prasse 1972, 179] ||| Bed. *ane* ∼ *aní* ∼ *anḗ* ‘ich’ [Rn. 1895, 20] || ECu. **ʔan-i/u* ‘I’ [Sasse 1982, 26] || SCu. **ʔan-i* ‘I’ [Ehret 1980, 283] ||| NOm.: Kafa *anō* ‘I’ [CR] | Maji *inu* ‘I’ [Bnd.] || SOm. **in-ta* ‘I’ [Flm. 1976, 315] (Cu.-Om.: Dlg. 1973, 210−1) ||| WCh.: e.g. PRon **yin* ‘I’ [GT, cf. Jng. 1970, 390].

Dependent personal pronouns: OEg. sw ‘him’ ||| Sem. **s̲ū* < **s̲uw* (?) ‘he’ [GT] = **s̲uwa* [Djk. 1965] = **šuw-* [Djk. 1988] = **šuʔa* [Dlg. 1990, 213] ||| Brb. **əs* ‘3$^{rd}$ person sg. indirect object’ [Prasse 1972, 164] ||| ECu. **ʔu-sū* ‘he’ [Sasse 1979, 34] || SCu. **ʔusu* ‘he’ [Ehret 1980, 295] ||| WCh.: Hausa *šíí* ‘he (indep.)’, cf. *sá* ‘him (object)’ [Abr. 1962, 808, 754] | Kulere *šì* ‘er (subj. Pron.)’ [Jng. 1970, 355] || CCh.: Hitkala *sí* ‘er, sie (sg.)’ [Lks. 1964, 109]. The fem. counterpart: OEg. *sj* ‘her’ ||| Sem. **s̲iya* ‘she’ [Djk. 1965] = **šiy-* [Djk. 1988] ||| ECu. **ʔi-šī* ‘she’ [Sasse 1979, 34−35] || SCu. **ʔisi* ‘she’ [Ehret 1980, 290] ||| WCh.: Mupun *sét* ‘3$^{rd}$ person fem. sg. reflexive pron.’ [Frj. 1991, 54].

Suffix pronouns: OEg. *-k* (2$^{nd}$ person masc. sg.) ||| Sem. *-*ka* ‘your (masc. sg.)’ [Djk.] ||| Brb. *-*ak* ‘2$^{nd}$ masc. sg. compound indirect object pron.’ [Prasse 1972, 170] ||| Bed. (Beni Amer) *-ka* ‘2$^{nd}$ masc. sg. poss. pron.’ [Rn.] || ECu. **ka* ∼ **ku* ∼ **ki* ‘your (masc. sg.)’ [Apl. 1984, 13] || SCu. **ku* ‘your (masc. sg.)’ [Ehret 1980, 245] ||| PCh. *-*ka* ∼ *-*ku* ‘your (masc. sg.)’ [GT].

Among the interrogative pronouns, only OEg. *m* ‘who? what?’ is to be explained from a common Afro-Asiatic heritage, cf. Sem. **mī* ‘1. what, 2. who?’ [GT] ||| PBrb. **mā* ‘what?’ vs. **mī* ‘who?’ [Prs. 1972, 216, 239] ||| Agaw *-*mā* (postpos. interrog. particle) [Rn. 1884, 390] || ECu. **maʔ/*mā* ‘what?’ [Sasse 1982, 143, 138, 146; Lsl. 1988, 195] || SCu. **ma* ‘which?’, **mi* ‘what (kind of)?’ [Ehret 1980, 153−159] ||| PCh. **mV* ‘who, what?’ [Dlg. 1973, 178−179] = **mi/*mə* ‘what?’ [Nwm. 1977, 34]. For further details see EDE III 9−13. The only other Egyptian interrogative pronoun having a clear cognate in Semitic was only preserved in Coptic (SBF) *ou* ‘who?’ (KHW 264). Its Egyptian etymology has been hitherto mistakenly conceived: typically, an inner Eg. derivation from ꜥ ‘person’ (!) has been proposed (l.c.) due to ignorance of the Afro-Asiatic evidence. The unattested OEg. **w* derives in fact from AA **ʔaw* ∼ **wa* ‘who?’ [GT] > Bed. *aû* (aw) ‘who?’ [Rn. 1895: 35; Rpr. 1928, 157] || Agaw **ʔaw* ‘who?’ [Apl. 1984, 50; 1991, 23] || ECu.: Somali *āwe* ‘dove?’ [Lmb. 1994, 112] ||| NOm. **ō-* ‘who’ [GT] (NOm.: Lmb. 1994, 111−2) ||| PCh. **wa* ‘who?’ [Nwm. 1977, 34]. Cf. also AA **ʔay* ∼ **ya* ‘who?’ [GT]: Sem. **ʔayy-u* ‘welcher?’ [Zbr.] (Sem.: WUS #161) ||| ECu. **ʔay*[*y*]- ‘who? which?’ [Sasse 1979, 46; 1982, 30] ||| Om. **ay-* ‘who?’ [GT] (Om.: Flm.

1969, 321; Lmb. 1994, 112) ||| WCh.: Ngizim *-yee* 'who? whom? whose?' [Schuh 1981, 177] (AA comparison: Mukarovsky 1987, 408−409; Dolgopolsky 1988, 629, #3; Zaborski 1989, 590, #97; Appleyard 1991, 23; Hodge 1994, 530; Starostin et al. 1995 MS, 34). The Afro-Asiatic etymologies of some other Egyptian interrogative pronouns (e.g. OEg. *jšs.t* 'what?', LEg. *jḫ* 'what?', OEg. *ṯn* 'where?') have not yet been thoroughly investigated.

Non-productive distance (deictic) elements (*Distanzelement*) of the Egyptian demonstrative pronouns are also reflected in Semitic and other Afro-Asiatic branches:

(1) OEg. **-3* (closeness) preserved in *ꜥ3* '(t)here', *p3* (m), *t3* (f), *n3* (pl.) 'this' ∼ Sem. **-ll-*: Akk. *ullū* 'jener, entfernt' [AHW 1410] || Hbr. *ʾēlle(h)* ∼ *ʾēl* 'these' [KB 50, 52] || Ar. *ʾullā-(ka)* 'ceux-ci', 'these' [BK I 49] (Sem.: CGSL 111; Grande 1972, 204) ||| SCu. **la* 'there, at (a place)', **la* 'where?' [Ehret 1980, 202].

(2) OEg. **-f* (remoteness) retained in *ꜥf* 'there', *pf(3)* (m), *tf(3)* (f), *nf(3)* (pl.) 'that' ∼ NWSem. **p-* 'here' [GT]: Ug. *p* 'here' [WUS #2179], Hbr. *po(h)* ∼ *pō* ∼ *po(ʾ)* '1. hier, an diesem Orte, 2. hierher' [GB 635] ||| PCu.-Om. **-pa* 'locative case ending' [Lmb. 1991, 557] ||| WCh.: Kupto *fá* 'diese/-r/-s' [Leger 1992, 18] | *Pa'a fa* '(loc. adv.) there, here (not far)' [MSkn. 1979, 176] || CCh.: Tera **fá-* [GT], cf. *fá-n* 'here', *fá-ra* 'there' [Nwm. 1964, 46] | Lame *fí* '(directionnel) indique un mouvement de retour vers le point de départ' [Scn. 1982, 290].

(3) OEg. **-n* (closeness at hand) in *ꜥn* 'here', and *pn* (m), *tn* (f), *nn* (pl.) 'this' ∼ Sem. **-n-* 'усилительный указательный элемент' [Grande]: Akk. *annu* [< **ha-nn-*] 'that' || Aram. *-n-*, cf. *yawmānā* 'today' (Sem.: Grande 1972, 204) ||| NBrb.: *Shilh* **-n* (remoteness), cf. *γi-n* 'there' vs. *γi-d* 'here' [Vcl.] ||| Om.: Yemsa and Ari *-na* ''far' demonstrative morpheme' [Bnd. 1990, 678−679] ||| WCh.: Hausa *nàn* 'this, these (near at hand)' [Abr. 1962, 698] | PRon **na-* 'demonstrative basis' [GT]: Bokkos *na* 'hier(her)', *náà* 'dort', *nayí* 'dann', Daffo-Butura *nàn* ∼ *nànní* 'hier', *nǎy* 'nun, dann' (Ron: Jng. 1970, 145, 219) || CCh.: Tera *ná* 'this' [Nwm. 1964, 46]. Ultimately cognate are PCu. **ni* 'he' [GT] ||| SOm. **no* 'he', **na* 'she' [Flm. 1976, 315], etc. (Eg.-Brb.: Vycichl 1933, 171, #1; 1934, 84; AA comparison: Greenberg 1955, 50; Illič-Svityč 1976, #332; Zaborski 1984−1986, 505; Blažek 1989, 215; 1990, 212).

## 4. Common elements of verbal morphology

The Old Egyptian system is not yet fully clear. As a rule the vowels were not written, and it is therefore difficult to discerne the apophonic patterns governing the making of verbal forms. As in Semitic, the formation of the diverse verbal and participial stems was affected by the class to which the underlying verbal root belonged (monoradical, biradical, secundae geminatae, triradical, tertiae infirmae with *-j* or *-w* as 3rd consonant, quartae infirmae, etc.).

Old Egyptian used a suffix conjugation (the so-called *sḏm=f* pattern and its extended varieties) for the verbs of action, where the personal endings coincided with the possessive suffixes. In this respect, Egyptian differs radically from Semitic, Berber or Cushitic and forms a special group with Chadic.

Both derivational morphemes of the passive voice in the Egyptian suffix conjugation have correspondences in Semitic. Thus, the OEg. passive element *-tw-* (∼/< *-tj-*) of the *sḏm-tw=f* pattern (and its extended varieties) might be identical with Sem. **-t-* 'refl.-pass. pre-/infix' [CGSL 127] ||| Brb. **-ət* 'suffix of intr. and pass. verbs' [Ajhenval'd 1987, 5−9] ||| PCu.-Om. **-t* 'suffix of refl., med., pass. verbs', **tV-* 'refl. prefix' [Dlg. 1991, 94−95] = **t- ∼ *-t* 'refl.-pass. affix' [Zbr. 1991, 78, #36] ||| CCh.: Hitkala *t* 'refl. affix' [Stl. 1991, 364]. The Eg. marker *-w-* of the perfective passive *sḏm-w=f* form is equivalent, for example, with Sem. **-u-* 'vowel of pass. in inner flexion' [GT]: Hbr. *-u-*, preserved in intens. act. *qiṭṭēl* vs. pass. *quṭṭal* (cf. the *-o-* in caus. act. *hiqṭīl* vs. pass. *hoqṭal*) || Ar. *-u-*, e.g. I act. *kataba* vs. *kutiba*, II act. *kattaba* vs. pass. *kuttiba*, III act. *kātaba* vs. pass. *kūtiba* etc. (Sem.: Grande 1972, 222) ||| NBrb.: Qabyle *-u-* 'pass. marker between the personal prefix and the stem' [Ajh. 1987, 10] ||| WCh.: Hausa *-ú* 'suffix of pass. and refl. stems' [Stl. 1991, 363].

Egyptian shares a special verbal paradigm with Semitic and Berber, namely the so-called Egyptian 'old perfect' or 'pseudoparticiple' (Coptic and Berber qualitative, Akkadian stative). This is the only exception where a peculiar set of personal endings (entirely different from that of Eg. *sḏm=f* and Semitic perfective/imperfective) was used.

Tab. 2.3: Personal pronouns common in Old Egyptian, Akkadian, Arabic, and Qabyle

| | Old Egyptian suffix (*sḏm=f*) | Old Egyptian 'old perfect' | Akkadian stative | Arabic new perfective | Qabyle qualitative |
|---|---|---|---|---|---|
| 1st sg. | *-j* | *-kwj* | *-ā-ku* | *-tu* | *-əγ* |
| 2nd sg. masc. | *-k* | *-tj* | *-ā-ta* | *-ta* | *-əḍ* |
| 2nd sg. fem. | *-t* | *-tj* | *-ā-ti* | *-ti* | *-əḍ* |
| 3rd sg. masc. | *-f* | *-w* > *-Ø* | *-Ø* | *-a* | *-Ø* |
| 3rd sg. fem. | *-s* | *-tj* | *-at* | *-at* | *-at* |
| 1st pl. | *-n* | *-wjn* | *-ā-nu* | *-na* | *-it* |
| 2nd pl. masc. | *-tn* | *-tjwnj* | *-ā-tunu* | *-tumu* | *-it* |
| 2nd pl. fem. | *-tn* | *-tjwnj* | *-ā-tina* | *-tunna* | *-it* |
| 3rd pl. masc. | *-sn* | *-w* | *-ū* | *-ū* | *-it* |
| 3rd pl. fem. | *-sn* | *-tj* | *-ā* | *-na* | *-it* |

The Egyptian 'old perfect' (pseudo-participle, stative) and the Coptic qualitative express a state or condition (whereby transitive verbs gain passive sense) in contrast to the essentially dynamical suffix conjugations, which correspond to the Akkadian stative (permansive, predicate of state).

## 5. Egyptian numerals in Semitic

The Egyptian numerals are clearly of Afro-Asiatic origin (for a comprehensive etymological survey see Blažek 1999, 28−56; cf. also Takács 1997 with additional entries), even if sometimes these numerals are not common to all branches and out of ten, only five have more or less reliable Semitic parallels:

(1) OEg. *sn* 'two' ~ Sem. **ṯin-* 'two' [Djk. 1988, 67] ||| Brb. **sin* 'two' [Mlt. 1991, 75] < AA **čin-* 'two' [Djk.] (well-known etymology with abundant literature).

(2) OEg. *srs* (partial reduplication from **sr?*) → (later) *sjs* 'six': perhaps either an irregular change from **sds*, cf. Sem. **šidṯ-* 'six' (as usually suggested in the literature) or perhaps cognate with NOm.: (?) Kefoid **širitt-* 'six' [GT] (unless this is a strongly modified Ethio-Sem. loan as usually suggested) ||| CCh.: Musgu*g sára* ~ *ŝára* 'six' [Krause] = *sāra* [Röder], Kada *ŝírè* 'six' [Brt.], Munjuk *ŝāra* [*sl-*] 'six' [Trn. 1991, 117] = *ŝàrà* [Brt.], Mbara *ŝírá* [TSL 1986, 270], Vulum *ŝàrà* [Trn.] (Musgu: Lks. 1941, 76; Brt.-Jng. 1993, 133) | Gidar *sĕrrĕ́* 'six' [Str. 1910, 457] = *θirre* ~ *šire* [Mch. 1950, 59] (for Eg.-CCh. see Greenberg 1955, 60; 1963, 62).

(3) Eg. *sfḫ* 'seven' (incompatibility shift from **sfʿ* </~ **sbʿ*) ~ Sem. **sabʿ-*/**šabʿ-* 'seven' [GT] ||| Brb. **ə-ssaḇ* (?) → **ə-ssah* 'seven' [GT] = **sāh* [Blz.] ||| SOm.: Hamer *soʾba* [Flm.], Karo *sopbo* 'seven' [Flm.] (SOm.: Bnd. 1994, 157) ||| CCh.: Mofu *čibe* [*tsch-*] 'seven' [Str. 1922−1923, 122], Gwendele and Hurzo *číbà* 'seven' [Clm.] = Hurzo *číḇà* [Rsg. 1978, 322, #622] || ECh.: Jegu *sub* ~ *sup* 'seven' [Jng. 1961, 107] (Eg.-AA etymology: Zyhlarz 1931, 137; Rössler 1952, 142, #66; 1966, 228; Diakonoff 1965, 47; Zavadovskij 1974, 109, #10; 1975, 49; Blažek 1990a, 31).

(4) Eg. *ḫmn* 'eight', cognate with Sem. **ṯamāniy-* 'eight' [Blz.], may be due to an irregular shift from **smn*, influenced by the last consonant of Eg. *sfḫ* (somewhat analogous to Eg. *psḏ* 'nine' vs. *mḏ* 'ten') and/or Eg. *ḫmt* 'three'. The connection to Brb. **tām* ~ **hittām* 'eight' [Prasse 1974, 405] is obscure.

(5) Eg. *psḏ* 'nine'. Most probably, this represents a shift < **tsḏ* ~ **tsḫ* (provable, cf. Goedicke 1955; Vycichl 1957, 71; Knudsen 1962) < **tsʿ* (due to the incompatibility of *t*/*s* + ʿ in the same Eg. root, cf. EDE I 326−327) ~ Sem. **tiš(a)ʿ-* 'nine' [GT] ||| PBrb. **təẓah* (?) 'nine' [GT] = **t-s-ʔ* [Rsl. 1966, 228] = **taṣṣaʾu* [Rsl. 1952, 143] = **tẓa* [Zvd. 1974, 109; 1975, 49] = **tiẓāh* ~ **tūẓah* [Prs. 1974, 403, 404] ||| ECh. **t-g-s* ~ **g-s-t* 'nine' [GT] (cognate or Ar. loan?): PLay **t-g-s* [GT] | PSomray **t-s* (or **d-s*) [GT] | (?) Mokilko *géssát* [Lks. 1977, 210] = *géssá*(*t*) [Jng. 1990, 101] (ECh.: Hoffmann 1971, 9).

## 6. Egypto-Semitic inherited lexicon

As knowledge of the common lexicon is largely incomplete and etymological research has been hindered by diverse and serious controversies, at present it is impossible to estimate the relative degree of overlapping of the two branches in this respect as compared to that of other Afro-Asiatic branches. In any case, the preliminary results of both the Diakonoff group (SISAJa, HCVA) and the 'Etymological Dictionary of Egyptian' (EDE) project suggest that the divergence of the Egyptian vs. Semitic lexicon is surprisingly significant. The surmised closeness of Egyptian and Chadic (Diakonoff 1981; 1988, 22; 1996, 293−294; Takács 1998, 324; EDE I 35−36) should also be subject to further investigation. In addition, etymologies for several Egyptian lexemes cannot be sought on Afro-Asiatic grounds at all and have only distant (extra-Afro-Asiatic) African parallels (from Nilo-Saharan, Bantu, Khoisan).

Recent decades have witnessed a regrettable confrontation of two radically opposed conceptions on Egypto-Semitic comparative consonantism ('old school' vs. 'neuere Kom-

paratistik'). The latter has been established by Rössler using a brilliant argument (based on the incompatibility of root consonants) and a vulnerable etymological apparatus against the traditional system. Some of his followers have recently proposed numerous far-fetched and dilettantic alternative 'etymologies' in support of the theory. The alarming methods of this trend have already evolved a heavy debate and a considerable literature (for a critical appraisal of these etymologies see Ward 1985; Vycichl 1985; Osing 1997; 2000; EDE I 333–393; Takács 2003; 2006, 90ff. and 2007, 5ff., where so far the most detailed discussion of the whole problem can be found). The problem cannot be discussed here but will be illustrated by the following example: Eg. *ꜥb3* '(ein Schiff) kommandieren, leiten' (PT, Wb I 177, 1) was compared by Rössler (1971, 286), Zeidler (1992, 206), and Kammerzell (1998, 29) with Syr. *dbr* 'egit, duxit' and Ar. *dbr* II 'verwalten, gut regieren', which was rightly rejected by Ward (1985, 241) as '*an excellent example of words in different languages having an apparent relationship which is shown to be illusory by an examination of their origins*', since (1) as pointed out already by Sethe, OEg. *ꜥb3* cannot be separated from OEg. *ꜥb3* 'sceptre' (i.e., who holds the sceptre he commands), while (2) Syr. *dbr* and Ar. *dbr* II are denominal from the primary sense 'to say' of Sem. **dbr* (GB 153–154). Thus, OEg. *ꜥb3* 'sceptre' and Sem. **dbr* 'to say' have nothing in common. Besides, one cannot ignore the correspondence of OEg. *ꜥb3* and OSA (Qatabanian) *ꜥbr* 'to arrange', $s_1$-*ꜥbr* 'to command, order' [Ricks 1982, 169].

*Abbreviations of languages and related terms*

AA: Afro-Asiatic (Semito-Hamitic), Akk.: Akkadian, Amh.: Amharic, Ar.: Arabic, Aram.: Aramaic, Bed.: Bed'awye (Beja), Brb.: Berber, C: Central, Ch.: Chadic, Cpt.: Coptic, CT: Coffin Texts, Cu.: Cushitic, Dem.: Demotic, E: East, Eg.: Egyptian, ESA: Epigraphic South Arabian, GR: Ptolemaic and Roman period, H: Highland (in Cushitic), Hbr.: Hebrew, Hrs.: Harsusi (in MSA), Jbl.: Jibbali, L: Late or Low(land), Lit.: literary texts, LP: Late Period, M: Middle, Mag.: magical texts, Math.: mathematical papyri, Med.: medical texts, Mhr.: Mehri, MK: Middle Kingdom, MSA: Modern South Arabian, N: New, N: North, NE (or NEg.): New Egyptian, NK: New Kingdom, O: Old, OK: Old Kingdom, Om.: Omotic, OSA: Old South Arabian, P: Proto-, PT: Pyramid Texts, S: South, (S): Sahidic, Sem.: Semitic, Sqt.: Soqotri, Syr.: Syriac, Tna.: Tigrinya, Ug.: Ugaritic, W: West.

*Abbreviations of reference works*

CGSL: Moscati 1964; DELC: Vycichl 1983; EDE I: Takács 1999; EDE II: Takács 2001; EDE III: Takács 2008; EG[3]: Gardiner 1957; KHW: Westendorf 1977; NBÄ: Osing 1976.

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# 3. Semitic-Berber Relations



## Abstract

*This chapter examines the genetic relationships linking Semitic and the Libyco-Berber branch of the Hamito-Semitic family, and considers some of the main isoglosses shared by Berber and Semitic languages.*

## 1. Berber and Hamito-Semitic (Afro-Asiatic)

The languages and dialects of Libyco-Berber are spoken west of the Nile in North Africa. First attested in ancient times (the oldest inscriptions in a native alphabet date

to the second half of the first millennium B.C.E.), the epigraphic data provide scant linguistic evidence, so that linguistic comparison usually takes into account only the modern Berber languages.

The classification of Berber as a branch of the Hamito-Semitic (Afro-Asiatic) linguistic family is now undisputed (Chaker 1995; Galand 2010, 11). A number of linguistic features are recognised in common with other branches, most notably with languages of the Semitic group. Although ties with Semitic are conspicuous, it is not easy to determine the linguistic layer to which these belong. Berber has existed in close contact with Semitic languages for millennia (Punic in antiquity and Arabic since the 7th century C.E.), and features in common with Semitic derive not only from a shared Hamito-Semitic heritage, but also from extended and intense contact with the Semitic world.

Isoglosses shared with Semitic were noted in the first essays exploring the linguistic affiliation of Berber. In the mid-19th century, De Slane (1856, 524) highlighted a number of 'points de ressemblance', most of which are still commonly cited: 1) triliteral roots; 2) similar personal markers in verb conjugations; 3) secondary stems derived through affixation; 4) gender distinction in 2nd and 3rd person verb inflections; 5) affixed pronouns different from independent pronouns; 6) alternation of vowels and semivowels in 'weak' roots; 7) verbs marking aspect rather than tense ('les temps du verbe manquent de précision'); 8) existence of 'broken' plurals; 9) similar word order. De Slane also noted features unique to Berber: 1) vocabulary; 2) the existence of a set of pronouns affixed to verbs, marking the indirect object; 3) place of clitics, which may be both prefixed and suffixed.

Well into the modern period, most research was limited to the recognition of ties with Semitic alone, even though most of the features taken into consideration belong to the common Hamito-Semitic heritage. The existence of ancient legends ascribing the origins of the indigenous peoples of North Africa to the Canaanites (a claim reported since Augustine's time) or to Yemenite populations (reported by Arabic authors including Ibn Khaldun) may be partially responsible. The focus on Semitic alone has also been a consequence of evolving definitions of the Hamito-Semitic macro-family, an entity which has been more difficult to define than Semitic. One of the last studies with this perspective, a disputed article by O. Rößler (1952), is rather an argument against the concept of 'Hamitic' as a homogeneous branch of Hamito-Semitic than a real attempt to integrate Berber into the Semitic family.

## 1.1. Berber and Semitic: General Overview

The most systematic contribution to the question of the degree of closeness between Berber and Semitic is an article by L. Galand (1973). Taking a list of 26 features considered by D. Cohen as typical for Semitic languages, Galand compared these with Berber. The result was 10 features shared by modern Berber, 10 possibly shared by ancient stages of the language and 6 features not shared.

As is often the case within Hamito-Semitic, the greatest differences lie in the verbal morphology. Semitic displays an opposition between suffixal and prefixal conjugations (features #16; #20 [?] and #21 [?] are connected), while all Berber tenses (usually) display the same series of affixes, which may be prefixed or suffixed, and sometimes

both. Setting to one side a questionable feature (#22: the existence of a double series of pronouns), the last points of difference (features #23 and #24) are concerned with the aspect of some independent pronouns, in which Semitic probably innovated beyond Hamito-Semitic.

The altogether small differences resulting from this structural analysis do not include the matter of lexicon, which, on the contrary, sharply distinguishes Berber and Semitic. The Semitic languages share a wide, easily recognizable common lexicon and the differences are usually explained in terms of regular phonetic 'laws'. In contrast, the Berber lexicon − also very compact − is much more difficult to compare, as phonetic correspondences are not easily established.

Although details are disputed, it is commonly accepted that structural isoglosses and lexicostatistics show a higher degree of convergence between Semitic and Libyco-Berber than with any other branch of the Hamito-Semitic family. The relationship is depicted by Lipiński's Proto-Afro-Asiatic tree in which Libyco-Berber represents the last branch split from Semitic (2001, 42), with a period of independent development of both branches of approximately 5500 years (2001, 48).

## 2. Phonetics

The common Afro-Asiatic heritage is reflected in similar phonological systems, although some differences have developed in the separate evolution of both branches. Despite the similarity of both sound systems, phonetic comparison between Berber and Semitic is complicated by difficulties in establishing regular phonetic correspondences in cognate lexemes. For example, the reconstruction of the numerals Berber *sin* '2' and *tam* '3', and Semitic *ṯin-ānī* and *ṯamānī*, show two different sounds, *s* and *t*, corresponding to Proto-Semitic **ṯ*.

### 2.1. Consonants

The most noticeable feature shared by Berber and Semitic is the existence of a set of 'emphatic' consonants along with the non-emphatic voiced and voiceless series. In modern Berber, emphatics are uvularized and often divided into a voiced and a voiceless set, although this appears to be an innovation due to contact with Arabic. Like Proto-Semitic, the original Berber system had but one series of emphatics (now represented by *ḍ/ṭṭ, ẓ/ẓẓ, γ/qq* with voiceless geminated stops), which supports a hypothesis that the articulation could also be different (Dolgopolski 1999a, 30; 2005).

Most back consonants such as pharyngeals and laryngeals are lacking in Berber, a striking point of difference with Semitic, in which these are typical sounds. However, the internal reconstruction based on the analysis of some verbal paradigms suggests an ancient stage of the language in which 'weak' sounds were dropped, triggering phonetic modifications. Prasse (1972, 105ff.; 1973, 96ff.) marks these sounds as **h*, while Vycichl (2005, 68−71) speaks of unknown 'laryngeals' and marks them with *X. Recent studies on Zenaga, a peripheral Berber dialect (Mauritania), revealed the

preservation of two laryngeals, voiceless *ʔ* and voiced *h* (Taine-Cheikh 1999 and 2004; Kossmann 2001a).

The spirantisation of non-emphatic plosives in several Northern Berber dialects is an interesting phenomenon. The situation in Djerba (Tunisia) is similar to that of the NW Semitic *begadkephat* (Vycichl 1975), but the time and the circumstances of this shift are still uncertain.

## 2.2. Vowels

The original vocalic systems of Berber and Semitic seem almost identical. Prasse (1972, 77ff.) reconstructs a proto-Berber system with 2 quantities and 3 qualities (*a*, *i*, *u* - *ā*, *ī*, *ū*), just as in Semitic. According to this reconstruction, the lack of vowel quantity in most Berber languages derives from the preservation of former long vowels as 'full vowels' and the reduction of short vowels to *ă* (< *a*) and *ə* (< *i*, *u*) in Tuareg, and simply *ə*/Ø (< *a*, *i*, *u*), the so-called 'zero vowel', elsewhere. A parallel phenomenon to this vowel reduction is observed in the North African Arabic dialects (D. Cohen 1970; Durand 1996). Significantly, Zenaga did not undergo the same process and preserved short *a*, *i* and *u* (Kossmann 2001b, 92), thus confirming the validity of this reconstruction. Some Berber dialects, namely Kabyle (Algeria) and Siwi (Egypt), show a strong tendency towards a spontaneous nasalisation of final vowels (Vycichl 2005, 186), recalling the archaic stages of Semitic preceding the grammaticalization of nunation and mimation.

# 3. Grammar

The most obvious correspondences between Semitic and Berber are the wide use of apophony, and the existence of two genders.

## 3.1. Apophony

The morphological systems of both Semitic and Berber are based on a combination of roots and schemes. Vowels are mostly used as morphological elements, while consonants bear the lexical meaning of roots, with a small set of consonants (usually nasals, semivowels plus *s* and *t*) sharing both functions. It is therefore noteworthy that Berber widely uses apophony in nouns ('broken plurals'), and not only in verbs, which is consistent with South Semitic, while apophonic plurals are hardly found in the rest of Semitic (Lipiński 2001, 251−251).

## 3.2. Gender

The division of nouns into two classes governing agreement with verbs, pronouns and adjectives is a typical Afro-Asiatic feature. The feminine is usually marked by *t* in

contrast with *Ø* marking of the masculine. A feature affecting almost all Berber nouns is the double marking of gender at the beginning and at the end of the word as a consequence of the incorporation of an ancient gendered 'article' (*ta-mġar-t* 'an old woman' vs. *a-mġar* 'an old man').

### 3.3. Verb

Unlike Semitic, the Berber verbal system does not display an opposition between suffixal and prefixal conjugations and instead all tenses have the same set of personal markers (prefixes, suffixes, and circumfixes). Although there have been many attempts to reconstruct ancient stages similar to that of Proto-Semitic, also taking into account a peculiar class of 'quality verbs' in Berber (midway between verbs and adjectives) which display a rudimentary suffixal conjugation similar to the Akkadian permansive, the results of such investigations are far from definitive (see, among others, Prasse 1973; Taine-Cheikh 2003; Vycichl 1952a and 2005, 106−120).

Despite the remarkable difference in the conjugations, the threefold scheme of Berber tenses and its similarities to that of Akkadian and Ethiopian, has attracted the interest of many scholars. In fact, the Berber verb displays three basic forms: two are marked as perfective vs. imperfective, and a third is unmarked as far as aspect is concerned (the 'aorist'). The themes of perfective and aorist are usually different. The imperfective clearly derives from the aorist (usually by consonantal reduplication or by a *t(t)-* prefix) and is also called 'intensive aorist' (or 'habitudo'). Accordingly, it is commonly accepted that an archaic opposition between perfective and aorist (which perhaps once had an imperfective meaning) was replaced by another when a new tense, formerly a derived stem, replaced the aorist, which consequently went on to be used in other secondary uses.

### 3.4. Ergativity

Some recent claims (among others, in Lipiński 2001, 35, 261), that the nominal prefixes affecting two 'states' of Berber nouns are relics of an ergative phase, are unfounded, as this phenomenon arose within Berber itself at a period when a sort of 'article' was integrated into the noun (Brugnatelli 1997, 2006; Galand 2010, 130ff.). An interesting feature which may be considered with reference to this subject is the Berber category of 'reversible verbs' having an intransitive ('passive') or transitive ('active') meaning in accordance to the number of arguments. For example, the verbal form *yebna* means 'was built' if it occurs with only one argument, as in *yebna wexxam* 'was built − the house', while the same verbal form means 'has built' when it occurs with two arguments, as in *yebna wergaz axxam* 'has built − the man − the house' (cf., among others, Aikhenvald 1995; Satzinger 2005 and Galand 2010, 294).

## 4. Some peculiar isoglosses

There is neither sufficient space nor reason to examine here all comparable features of Berber and Semitic. The following list of isoglosses, far from comprehensive, is

intended to draw attention to some interesting features deriving either from areal phenomena which developed after the common Afro-Asiatic phase, or which show parallel developments of tendencies common to the Afro-Asiatic family.

## 4.1. Shift **p* > *f*

A noticeable phonological feature is the lack of a voiceless bilabial stop *[p], replaced by a labio-dental fricative [f]. Within Semitic, this phenomenon is an isogloss typical of Southern Semitic (Arabic, modern and ancient South Arabian, Ethiopian). However it should be noted that, unlike the South Semitic shift, already complete before the first contacts with Romans and Greeks (Lipiński 2001, 115), the period in which the shift **p* > *f* occurred in Berber is still in dispute. The shift may have taken place in historical times, as transcriptions in Latin and Greek of Berber words and names often contain <p>; however the modern reflexes of Latin loanwords containing *p* are inconsistent. For example, two borrowings tracing back to Christian times show different reflexes of *p*: *peccatum* > *(a)bekkaḍu* 'sin' but *pascha* > *(ta)faska* 'religious feast'.

## 4.2. Loss of morphological *t*

Like many other Afro-Asiatic languages, Berber and Semitic share a tendency to phonetically reduce this plosive sound in morphology (Brugnatelli 1994).

This general phenomenon is widespread in both nouns and pronouns. Moreover, it is worth noting that striking correspondences exist between Berber and modern South Arabian concerning the loss of *t-* prefixes in 'hollow' verbs and in some derived forms, even if these phenomena should be regarded as a common tendency rather than as an inheritance from a common stage (Johnstone 1968 and 1975, 19; Brugnatelli 1994, 6−7; Voigt 2006).

## 4.3. Dissimilation of *m-* initial

All Berber languages show a dissimilation of *m-* > *n-* as a prefix of roots containing a labial sound (*nəfrən* 'to be chosen'; *ănâlkam* 'he who follows': Prasse 1972, 55). Rößler (1952, 128) has noted the peculiarity of this phenomenon, which appears to be ancient and is also shared by Akkadian and, sporadically, Aramaic (Lipiński 2001, 118). The feature appears to be long-lived, and may also be observed in recent loanwords as *aneslem* 'muslim' < Arabic *muslim*.

## 4.4. Adjectives

Although Berber appears to be devoid of a true class of adjectives ('quality verbs' are used instead), it is worth noting that some procedures of deriving 'denotative' elements through affixes are also shared with Semitic (*nisba* and suffix *-ān*) (Vycichl 1952b; Pennacchietti 1974).

### 4.5. Causatives

In both Berber and Semitic derived verbal forms are created through affixation, in particular causatives in *s-* (Lipiński 2001, 395). Significantly, the Berber causative shows the reflexes of an ancient *i*-vocalism, which coincides with the ancient NW Semitic vocalism: Amarna *hifil*, Phoenician/Punic *yifil/'ifil*, Hebrew *hifil* (possibly also Aramaic: Brugnatelli 1985).

### 4.6. Syntax of kinship terms

Berber kinship terms usually contain, even implicitly, a personal possessive (*yemma* without affixes means 'my mother' not simply 'mother'), which seems superfluous when the kinship term refers to a noun (*yemma-s n Muḥend* 'M.'s mother', lit. 'his-mother, of M.'). Similar phenomena have been detected in Ebla (J. Krecher 1984, 145−6) and in Khamtanga, a Cushitic language (Appleyard 1987, 261). It is not clear whether this is a relic of an archaic common feature or just a parallel development, as the phenomenon is also shared by many languages of different linguistic families (Brugnatelli 1991).

### 4.7. Two sets of pronouns affixed to verbs

In Berber, there are two sets of pronouns affixed to verbs: a 'direct' series, showing a typical consonant *t* in the third person, and an 'indirect' series, marked by the consonant *s*: *eml-as-t* 'show (*eml*) it (*t*) to him (*as*)'. This closely resembles the distribution of demonstratives in Akkadian, where two sets exist: the 'direct' series ending in *-āti* and the 'indirect' series ending in *-āši*. (Brugnatelli 1994, 8; Dolgopolsky 1999b gathers some data on *-t* accusative in Semitic and Cushitic but omits the obvious parallel with Berber). The order of the affixes is also the same, with the indirect object preceding the direct object. For example, Akkadian **aṭrud.am-kum-šu* 'I-sent to-you it' and Berber (Tuareg) *nəg-assăn-tu* 'we-did to-them it'.

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# 4. Semitic-Chadic Relations



## Abstract

*This section examines Semitic and Chadic languages in terms of phonological typology, with particular attention to consonantal and vowel systems, the root-and-pattern structure of nominal and verbal lexemes, derivational and inflectional morphology of nouns and verbs, and expressions of negation.*

## 1. Introduction

Chadic and Semitic are universally accepted as two families within the Afro-Asiatic macro-family. Accordingly, Chadic languages are expected to share a number of phonological and grammatical similarities with Semitic languages that reflect structural patterns inherited from Proto-Afro-Asiatic. Striking similarities in the shapes of personal pronouns have long been noted, as have lexical correspondences. Less widely known are the striking similarities in terms of phonological typology which pertain to the triadic organization of obstruent articulation, as well as regarding the conspicuous role of vowels in the shared root and pattern system. In addition, nominal morphology shows some common markers of plural formation and noun derivation and similar structural patterns in the domain of gender. Verb morphology shows striking similarities again between "pluractional" verb stem formation in Chadic and Semitic verb stem formations of the *qattala* and *qātala* type, and between Chadic inflectional "plural verb stems" and subject

pronoun marking devices in Semitic (2nd and 3rd person plural). Furthermore, negative markers appear to provide another domain of shared inherited patterns.

From the vantage point of recent insights into "Common Chadic" and conspicuous parallels in Semitic, this study examines features long assumed to be diagnostic for Semitic which have influenced assumptions on Afro-Asiatic as a whole.

## 2. Phonology

### 2.1. Consonant inventories

Although Chadic systems are not uniform in consonantal inventory, they share with Semitic "triadic" sets of *voiced-voiceless-glottalized* obstruents. Newman (1977a) reconstructs such sets for PC labials, alveolars and palatals. *p*/*f* and often *b*/*v* may not regularly contrast in Chadic, a feature reminiscent of (Proto-)Semitic and later developments in Ethiopian Semitic. There is no interdental series of consonants in Chadic (unlike that reconstructed for PS). Table 4.1. lists reconstructed PS consonants (Moscati et al. 1964, 24 − slightly modified) alongside Akkadian (Buccellati 1997, 70) and PC (Newman 1977a, 9) plus West Chadic Standard Hausa (Newman 2000, 392) and Central Chadic Lamang (Wolff 1983, 25).

### 2.2. Vowel systems

Generally speaking, a much larger number of *synchronic* vowel phonemes reflect a much smaller number of *abstract underlying* and/or *historically reconstructable* vowels to the extent that, as is the case with certain Central Chadic languages, only a single vowel */*a*/ can be safely reconstructed internally. In languages of this type, all other (ten or more) surface vowels reflect − historically − either [*i*] or [*u*] syllabifications of the approximants /*y*/ and /*w*/, or assimilatory raising of /*a*/ to [*e*] or [*o*] in [+high] phonological environments. Other synchronic vowels would simply reflect positional "colourings" of pro- and epenthetic vowels (in particular short high and central vowels). The combination of pro-/epenthetic vowel plus approximant may yield phonetically long vowels, despite the absence of phonological vowel length.

Some Central Chadic languages, in particular, have developed labialization and palatalization prosodies stemming from umlaut/distant assimilation effects that would apply to both vowels and consonants across the whole phonological word. The likely historical origin of such prosodies are historically reconstructable markers which carried the feature [+high] (quite likely from a defunct petrified determiner system, such as *-*y*/*-*i,* *-$k^wV$ etc., cf. Wolff 2006), e. g. Lamang root *$ɣ^w$-*dz-f-* 'bone' plus petrified determiner *-*y* undergoes the following phonological processes:

| | |
|---|---|
| epenthetic vowel insertion: | *$ɣ^w$[ə].*dz*[ə].*f* + *-*y* |
| prosody creation: | *$ɣ^w$ə.*dz*ə.*f*$^{+y}$ |
| /$^{+y}$/ prosody anticipation: | *$ɣ^w$ə.$^{+y}$*dz*ə.$^{+y}$*fy* |
| phonetic realizations: | [ɣùdʒìfì ~ ɣùjìfì] |

The palatalization $C_2$ /*dz*/ > [*dʒ*~*j*] is triggered by the petrified determiner suffix *-*y* and becomes anticipated onto the penultimate syllable where epenthetic [*ə*] is realized as [*i*], the underlying approximant of the determiner suffix *-*y* itself is syllabified to [*i*] in final syllable nucleus position.

Tab. 4.1: Selected consonant inventories

| place of articulation | | PS | Akkadian | PC | Standard Hausa | Lamang |
|---|---|---|---|---|---|---|
| *bilabial* | vl | *p* | *p* | *p* | **p/f* | *p f* |
| | vd | *b* | *b* | *b* | *b* | *b v* |
| | glott | | | *ɓ* | *ɓ* | *ɓ* |
| | prenas | | | | | *mb* |
| | | *m* | *m* | *m* | *m* | *m* |
| *inter-dental* | vl | *t̲* | | | | |
| | vd | *d̲* | | | | |
| | glott | *t̲'* | | | | |
| *dental/ alveolar* | vl | *t s* | *t s* | *t s* | *t s* | *t s* |
| | vd | *d z* | *d z* | *d z* | *d z* | *d z* |
| | glott | *t' s'* | *t' s'* | *ƈ ʂ* | *ƈ ts* | *ƈ* |
| | prenas | | | | | *nd nz* |
| | | *l r* | *l r* | *l/ɬ r* | *l r r̃* | *l r* |
| | | *n* | *n* | *n* | *n* | *n* |
| *palato-alveolar/ palatal* | vl | *š ś* | *š* | *c (sh)* | *c sh* | *ts/c ɬ* |
| | vd | | | *j* | *j* | *dz/j ɓ* |
| | glott | | | **J* | *'y (<*ƈiy)* | |
| | prenas | | | | | *ndz/nj* |
| | | *y* | *y* | *y* | *y* | *y* |
| *velar* | vl | *k ḫ* | *k ḫ* | *k kʸ kʷ x xʸ xʷ* | *k kʸ kʷ* | *k kʷ x xʷ* |
| | vd | *g ġ* | *g* | *g gʸ gʷ* | *g gʸ gʷ* | *g gʷ ɣ ɣʷ* |
| | glott | *q* | *q* | *ƙ ƙʸ ƙʷ* | *ƙ ƙʸ ƙʷ* | |
| | prenas | | | | | *ŋg ŋgʷ* |
| | | | | | | *ŋ ŋʷ* |
| | | *w* | *w* | *w* | *w* | *w* |
| *pharyngeal* | | *ʿ ḥ* | | | | |
| *laryngeal* | | *ʔ h* | *ʔ* | | *ʔ h* | *ʔ* |

## 3. Personal pronouns

Out of the different sets of pronouns (independent, possessive, object, subject etc.), many forms attested for Semitic or other Afro-Asiatic languages have counterparts in Chadic. A striking selection by form (not necessarily corresponding in synchronic function) is given in Table 4.2. based on the following sources: Diakonoff 1988 (as quoted in Hayward 2000, 88) for PS, Moscati et al. 1964, 106 for Akkadian, Newman 1980, 15 for "Old Hausa" (with slight modifications of presentation), Wolff 1983 and author's ongoing research for Lamang, Alio 1986 for Bidiya.

Tab. 4.2: Comparative list of personal pronouns

| | Proto-Semitic | Akkadian | West Chadic: "Old Hausa" | Central Chadic: Lamang | East Chadic: Bidiya |
|---|---|---|---|---|---|
| 1. sg. | *-ii, *-ya' | -i, -ya | | -i, /-yu/ | |
| | *-n(i) | -ni | *ni | | no |
| 2. sg. m. | *-ka | -ka | *ka | -ka | ki, -kiŋ |
| f. | *-ki | -ki | *ki, *kim | | ka, -kaŋ |
| 3. sg. m. | *-šu | -š(u) | *ši | Ø, | ŋa, -yi |
| f. | *-ši | -š(a) | *ta | /-ɗi∼-tsi/ | na, -ti |
| 1. pl. (ex.) | *-na∼*nu∼ni | -ni | *na | -ni(y), -yiŋ | ni -yaŋ |
| (in.) | | | *mu, *mun | -mwa | -niŋ |
| 2. pl. m. | *-kumu | -kunu | *ku, *kun | -keni | ku…oŋ, -kuŋ |
| f. | *-kina | -kina | | | |
| 3. pl. m. | *-šumu | -šunu | *su, *sun | -xaŋ, -taŋ | ŋu, -yo |
| f. | *-šina | -šina | | | |

Note that many Chadic languages have replaced whatever pronoun shapes were inherited from PC (or PAA) for 3rd person, by innovative synchronic pronouns which reflect, most of all, previous determiners such as **n(V), *t(V), *ɗ(V), *y(V)*, or nominal plural markers. In particular, feminine **ta* has widely been reassigned as a pronoun of 3rd person sg. f. (or has been generalized to 3rd person c.g. marking in the sg. and/or pl.).

# 4. Morphology

## 4.1. Root and pattern

Biradical rather than triradical roots appear to represent the canonical forms in Chadic. Note, however as is often proposed for Semitic (for instance in Moscati et al. 1964, 25ff. and more recently Ehret 1995), in some languages final consonants of verb roots ("determinants" in Semitic linguistic terminology) appear to semantically modify the root. Examples are provided by Central Chadic Ouldeme (de Colombel 1987) and West Chadic Hausa (Jungraithmayr 1970; Newman 2000). Plural noun formation may be based entirely on a systematic change of vocalization pattern from singular to plural noun stem, and such "internal" plurals occur widely across Chadic. They characteristically involve the occurrence of /*a*/. With verbs, so-called "internal *a*" reflects a basic distinction between "zero-vocalization" and "*a*-vocalization" (the latter being the instantiation of "*a*-infixation"), to morphologically mark "pluractional" formations which, in many languages, become reassigned as imperfective/habitative stems within the TAM system.

As in Semitic, formative gemination of consonants occurs synchronically in Chadic both in nominal and verbal morphology. Surface "gemination", however, usually reflects diachronic consonant reduplication with subsequent syncope as, for instance, in Hausa *zóobèe* 'ring', pl *zôbbáa* < **zóobàbáa*.

Some West and East Chadic languages have developed binary systems of verb stem formation in which "internal /*a*/" ablaut and consonant reduplication look deceivingly identical to Semitic forms in terms of surface appearance, as Hayward 2000, 91 points out once again:

| | *preterite* | *imperfect* | |
|---|---|---|---|
| Akkadian | *ikbit* | *ikabbit* | 'become heavy' |
| | *perfect* | *imperfect* | |
| Migama | *ʔápìlé* | *ʔàpàllá* | 'wash' |
| Mubi | *ʔēwít* | *ʔūwát* | 'bite' |
| Ron (Daffo) | *mot* | *mwaát* | 'die' |

This surface similarity must, however, be viewed with a strong *caveat*, as Hayward 2000, 91 points out: "Schuh (1976) carries the argument further in identifying fossils of the ablaut in one set of verbal nominalizations found in both West and East Chadic branches. Wolff (1977), however, shifts the emphasis away from considering these forms as primarily concerned with tense/aspect and relates them at a wider level to plural categories of events and actions marked in the verb − which could, of course, actually be closer to their original AA role."

## 4.2. Nominal morphology

From a Semitic/Afro-Asiatic vantage point, it may be interesting to note that Chadic nouns do not, as a rule, mark "case" in their morphology, nor do distinctions of "state" play any role. There is also no reason to assume that PC had a category of dual in addition to plural and singular in the nominal system.

### 4.2.1. Grammatical gender

Grammatical gender was a feature of PC with marked feminine opposed to unmarked masculine in the singular, and a common gender plural. There is no known Chadic language that differentiates gender in the plural. The dominant pattern of gender marking is the A/B/A pattern (Newman 1990), such as found in Hausa *n*/*t*/*n* with /*t*/ marking sg. f., and /*n*/ being used both for sg. m. and pl. c.g. However, the category of gender is no longer operational in the pronominal and nominal systems of about half of the modern Chadic languages. Some languages which have given up gender distinction may nevertheless show lexicalized/petrified traces in nominal morphology and pronominal forms. Note that the feminine marker **t(V)* with "triple function 'female / diminutive / singulative'" also in Chadic and stemming from the original deictic system (Newman 1980, 13) has widely taken over personal pronoun functions as 3rd sg. f. (but is also found in innovative 3rd pl. c.g. forms), cf. Table 4.2.

Interestingly, Newman 1980, 17−20 is able to show "gender stability" in Chadic/Afro-Asiatic, i.e. certain non-sex related nouns attribute gender on the basis of mean-

ing alone, irrespective of phonological shape and etymological relationship. These meanings are *blood* m., *crocodile* m., *egg* f. (?), *eye* f., *fire* f., *fly* (n.) m., *louse* f., *moon* m., *monkey* m., *name* m., *nose* m., *root* m., *sun* f., *water* m./pl.

### 4.2.2. Noun plurals

Newman 1990 reconstructs four plural formatives for PC, two of which are of particular interest for Afro-Asiatic comparison, namely **-n-* and **-ay*/**-ai*. Hayward 2000, 92 (following Zaborski 1976 and despite considerable doubts expressed by Newman 1990, 36, 50) suggests adding **-w* to the list of noun plural markers that may be retentions from PAA. Wolff 2009 has identified **-n(a)* as the only PC "external" plural suffix, in addition to PC "internal" plurals based on vocalization patterns (general **a-a-a, *a-a-i,* marginal **a-i-a, a-i-i*). The incorporation of "frozen determiners" (**-n-, *-k-, *-ḏ-, *-y* ∼ **-w*) enlarges the surface variation of available noun plural forms.

### 4.2.3. Noun derivation

Like many other Chadic languages, Hausa allows a prefix *ma-* (with different noun endings and tone melodies) to productively form nouns of agent/location/instrument. Abstract and other nouns with fairly transparent semantics are formed by various suffixes and tone melodies from nouns and verbs.

## 4.3. Verbal morphology

Verb stems may show agreement of number with the subject (referred to as "plural [agreement] stems"). In some languages, verb stems may have overt inflectional forms relating to triads or binary distinctions within the TAM system. Certain verbs have particular imperative forms.

### 4.3.1. Vocalization patterns and pluractional forms

One can distinguish between *a*-vocalization and non-*a*-vocalization (zero- or schwa-vocalization). Zero-/schwa-vocalized bases are open to insert **-a-* (or to replace schwa with **-a-*) to form internally derived bases which serve as "pluractionals". Verb bases may, however, be *a*-vocalized from the start without carrying any pluractional semantics. Surface high vowels occurring in the base can often be identified as syllabic manifestations of underlying /*y*/ and /*w*/ as part of the root (to be compared to "weak radicals" in Semitic), although as a rule they cannot be replaced but rather give way to infixation of pluractional **-a-*. In this process the weak radicals become palatal or labial glides or corresponding prosodies. Chadic languages also use reduplicative processes for pluractional expressions.

### 4.3.2. Plural stem formation

In addition to and quite different from pluractional forms, Chadic verbs allow external derivation of inflectional plural stems which mark grammatically conditioned number agreement with the subject. Out of several attested synchronic markers, Newman 1990 reconstructs *-*(a)n* for Proto-Chadic. Interestingly, this agreement suffix in Chadic finds itself in very much the same position as the suffixed elements of disjunctive personal pronouns in prefix conjugation type verb inflection elsewhere in Chadic (and Semitic, for that matter). The following illustrations are taken mainly from Newman 1990. They show striking similarities in the 2nd and 3rd person plural across Afro-Asiatic which, however, relate to plural agreement verb stem formation in Chadic.

Tab. 4.3: "Ambifixal" pattern of 2nd and 3rd personal pronoun marking in Chadic and across Afro-Asiatic

| | 2nd sg. | | 2nd pl. | | 3rd sg. | | 3rd pl. | |
|---|---|---|---|---|---|---|---|---|
| West Chadic: Kirfi | *kà ɗee-wò* you (m.) got (it) | | *kù ɗe-n-kò* you (pl) got (it) | | *shì mak-ki Garbà* he shot Garba | | *sù mat-in-ki Garbà* they shot Garba | |
| Central Chadic: Gisiga 'kill' | *kə kaɗ* | c.g. | *kə kəɗ-am* | c.g. | *ʔa kaɗ* | c.g. | *ʔa kəɗ-am* | c.g. |
| East Chadic: Bidiya 'come' (2nd person only) | *ki ʔás* | c.g. | *ku ʔás-ŋo* | c.g. | | | | |
| Semitic: | *tə-* | m. | *tə-…(-əm)* | m. | *yə-* | m. | *yə-…(-əm)* | m. |
| South Arabian | *tə-…V/i* | f. | *tə-… -ən* | f. | *tə-* | f. | *tə-… -ən* | f. |
| Cushitic: Rendille 'kill' | *ti-gis* | c.g. | *ti-gas-en* | c.g. | *y-igis* *ti-gis* | m. f. | *yi-gas-en* | c.g. |
| Berber: | *θ-…-əð* | m. | *θ-…-im* | m. | *i-* | m. | *Ø…-in* | m. |
| Tamazight | *θ-…-əð* | f. | *θ-…-im-θ* | f. | *θ-* | f. | *Ø…-in-θ* | f. |

### 4.3.3. Thematic derivation (extended verb stems)

Thematic derivation of verb stems in Chadic is usually achieved by suffixation. Modern languages may show large inventories of "extension suffixes", many of which appear to be fairly recent grammaticalizations of prepositions, body part expressions, etc. and convey both locative-directional (ventive, allative, illative, efferential, etc.) as well as grammatical meanings with regard to argument structure (applicative, causative, benefactive, etc.).

Reconstructable for PC is a suffix *-*tV* which carries iterative/frequentative semantics (Newman 1990), and *-*an* for benefactive/pre-indirect object forms at least for West Chadic (Newman 1977b). There is little if any evidence that Chadic thematic extensions relate to any of the widely spread Semitic prefixal derivations other than by semantic coincidence (such as, for instance, causative, passive-like and reflexive/reciprocal functions), unless PC *-*tV* should turn out to be somehow related to the rare *tan-* prefix of similar iterative semantics in Akkadian. If this were the case, then this would be an interesting instance of a suffix in Chadic corresponding to a cognate

prefix in Semitic. This, again, would then be parallel to the issue of "causative" marking containing /*s*/ in Chadic (cf. suffix *-(a)s* in West Chadic Hausa and Ngizim) which, however, may not represent a retention from (pre-)PC due to doubtful semantics, highly restricted occurrence, and still unclear internal history.

Correspondences to the proto-typical Semitic stem formations based on doubled second radical (*qattala)* and lengthened first vowel (*qātala*) must be sought in Chadic in the internal formative processes affecting the verb base (*pluractionals*), i.e., consonant reduplication and infix *-a-*.

### 4.3.4. The tense/aspect/mood system

Chadic prefix and suffix conjugational patterns appear to have little or nothing to do with counterparts in Semitic, but are largely predictable from word order typology. As a rule, SVO order entails pre-posed pronouns, and VSO order entails post-posed pronouns. These pronouns tend to reflect originally non-subject ("primary") pronouns, hence their particular patterning with Semitic pronouns as illustrated in Table 4.2.

Two historical theories compete to explain Chadic inflectional verb stem morphology.

The first theory is strongly influenced by theories virulent in Semitic philology and was developed by H. Jungraithmayr in the mid 1960s. This theory assumes a basic binary aspect distinction between "perfective" and "imperfective", in which the imperfective stem is marked in terms of ablaut (cf. the inconclusive "internal *a*" discussion) or additional phonological material (such as consonant gemination and affixation).

A competing theory was developed by H. E. Wolff since the mid 1970s. According to this theory PC had a binary aspect-dominated set of verb stems in the indicative mood (unmarked *aorist/*aspect-neutral vs. marked *perfective(?)). Morphologically marked verb stems outside this basic inflectional system were, among others, pluractionals and verbal nouns. Many Chadic languages have reassigned either their pluractionals or their verbal nouns to the TAM system to create a marked imperfective category (with iterative/habitual/durative/progressive, etc. readings). The resulting trichotomic structure of **aorist/*aspect-neutral* vs. **perfective* vs. *(new) imperfective* has then often been reduced again to secondary binary structures, as Table 4.4 shows.

The question of whether there were one or two original prefix conjugations in Semitic reminds Chadicists of the reassignment of pluractionals to the aspect system as innovative imperfective stems (most likely with mainly iterative/habitual readings). The latter would be responsible for the repeatedly quoted striking similarities between verb stem pairs such as Semitic/Akkadian *-prus* (preterite) ↔ *-parras* (present) and (East) Chadic/Mubi *lèlè'j-* (simple) ↔ *làllà'j-* (pluractional) 'to taste', the more so in the light of the observation that many such pluractionals end up in the aspect system of a given Chadic language indicating iterative, habitual, durative, or continuous action.

## 5. Syntax

As research into comparative Chadic syntax is very much in its infancy, no generalizations will be attempted here with the exception of a few remarks on word order and negation.

Tab. 4.4: Diachronic development of the PC aspect system in the indicative mood

| | Proto-Chadic category | | |
|---|---|---|---|
| | *unmarked* *aorist/*aspect-neutral | *marked* *perfective(?) | *marked* *verbal noun (VN) or *pluractional |
| Scenario A. Retention of the inherited unmarked/marked binary system (often re-analyzed as *imperfective*/*perfective*) | | | |
| | so-called *imperfective* | *perfective* | (unassigned to aspect system) |
| Scenario B. System simplification: Reduction to inflectional neutrality of verb stem | | | |
| B.1 loss of *aorist/*aspect-neutral | --- | *aspect-neutral verb stem* | (unassigned to aspect system) |
| B.2 loss of marked PRF stem | *aspect-neutral verb stem* | --- | (unassigned to aspect system) |
| Scenario C. Expansion of dichotomic to trichotomic system by reassignment of VN or pluractional | | | |
| C-1. innovative aspectual trichotomy | **aspect-neutral*/**aorist* | *perfective* | *imperfective* |
| with secondary reduction to binary system, generalized reading of any binary opposition as *imperfective*/*perfective* | | | |
| C-2. loss of PC *perfective(?) | so-called *perfective* | --- | *imperfective* |
| C-3. loss of PC *aorist/*aspect-neutral | --- | *perfective* | *imperfective* |
| C-4. loss of reassigned VN or pluractional (result = scenario A) | so-called *imperfective* | *perfective* | --- |

The predominant word order in Chadic is SVO, with a geographically neatly defined area encompassing a number of Central Chadic languages displaying VSO order (this language area corresponds largely to the one in which the inherited gender distinction has been lost and likewise inherited rich inventories of noun plural formations have also been abolished). Whether this VSO order represents a retention from PC or manifests yet another highly areal innovation is still under debate, with the theory advanced by Williams 1989 taking a kind of intermediary position in assuming VS order for intransitive and SVO order for transitive constructions in PC.

## 5.1. Negation

Faber 1997, 9 mentions an inherited Afro-Asiatic negative marker **b* with some relationship to more complex Semitic negative markers (which probably reflect combinations of **b* with another morpheme of the shape **la*) such as Hebrew *bli* 'without', Ugaritic/Phoenician *bl* 'not', and Arabic *bal* 'on the contrary'. Chadic has a widespread negative marker

**ba* which, however, does not appear to be the general PC negative marker because this can be reconstructed as **wa* (Newman 1977a, 30). **ba* tends to occur in disjunctive negation patterns of the type *bà(a)… bá* (as, for instance, in Hausa), and *… ba… wo* (as, for instance, in Lamang predication focus negation). Note that typological parallel patterns are found in Modern South Arabian *ə… la'/'ɔ… lɔ'*. What etymological relationship, if any, exists between these and forms found in, for instance, Bedouin Arabic like *muu-b* (Kaye/Rosenhouse 1997, 302), remains an open question (the more so if Semitic negative marker **maa* could eventually be established as related to PC **wa*). Note also Harari *-m* (Wagner 1997, 502). Within Chadic, at least, *m* ↔ *w* sound shifts do occur, if only sporadically.

## 6. Lexicon

Many PAA etymologies that are shared between Chadic and Semitic have been proposed (and many have been subsequently rejected) since the beginning of comparative Afro-Asiatic scholarship. Quite recently, Hayward 2000, 94 has given a short selection as seemingly "unlikely to be disputed", founding his list on compilations in Ehret 1995 (E) and Orel and Stolbova 1995 (O and S), cf. Table 4.5.

Tab. 4.5: "Undisputed" shared PAA etymologies acc. to Hayward 2000

| PAA | gloss | number in E | number in O&S |
|---|---|---|---|
| **ba* | not be there, negative | 2 | |
| **bak* | strike, squeeze | | 194 |
| **-dar-* | enlarge, increase | 150 | |
| **dim/*dam* | blood | 140 | 639 |
| **-fir-* | flower, bear fruit | 85 | |
| **gad-/*gud-* | be big | 265 | 867 |
| **-geh-, *gay-* | speak | 274 | 911 |
| **kamaʔ-/*kamay-* | food | | 1424 |
| **kop-* | sole | 327 | 1406 |
| **kab-* | shoe, sandal | | |
| **k'ar-* | tip, point | 424 | 1549 |
| **k'ar-* | horn | | |
| **man-/*min-* | house | | 1723 |
| **nam-/*nim-* | man | 621 | 1841 |
| **pir* | fly (v.) | 51 | |
| **sum-/*sim-* | name | 220 | 2304 |
| **sin-/*san-* | nose | 222 | 2194 |
| **s'am-* | to sour | 535 | |
| **-tuf-* | to spit | 162 | 2413 |
| **-zaaʕ-* | rend, tear | 208 | |

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# 5. Semitic-Cushitic/Omotic Relations



## Abstract

*The 30+ Cushitic languages, excluding Omotic now generally agreed to constitute a separate branch of Afroasiatic, comprise four distinct branches broadly named after their geographical location across the Horn of Africa as North, Central, East and South. Typical of the more conservative phonological systems is the presence of pharyngeals and laryngeals as well as triads of stops and affricates with voiceless, voiced and glottalised articulation, as well as five-term vowel systems with phonemic length. Most Cushitic languages are pitch-accent languages in which accent plays a morphologically defined role. Throughout inflectional morphology most fundamental structures and associated morphemes can be related to the rest of Afroasiatic, including Semitic. Nouns exhibit gender, number and case; in the latter instance typical is a "marked nominative" contrasting with a multi-function "absolutive" and a possessive or genitive. Postpositions, some-*

*times developing into further case suffixes, are also typical. The personal pronoun system shows partial division into independent subject and often clitic oblique (object, possessive, etc.) sets. A few conservative languages show two types of verbal inflection, one with person marking essentially by prefixes, the other by suffixes. Remnants of the prefix system are found in a few more languages. The suffix conjugation demonstrably derives from the addition of a prefix-inflecting auxiliary to the verb stem. Also typically Afroasiatic is the sytem of derived stems in verbs marking valency variations (causative, reflexive, passive, etc.)*

## 1. Introductory remarks

There are between 30 and 50 or so Cushitic languages depending in the first instance on what is differentiated as a language or a variety or dialect of a language, and in the second instance on whether or not the so-called Omotic languages are subsumed under the term Cushitic, which would add around another 30 languages. For a brief discussion on the status of Omotic see 1.2. below. The various Cushitic languages are considerably more differentiated amongst themselves than the members of the Semitic family, and several branches of Cushitic themselves show as much internal complexity as Semitic as a whole. The present-day focus or epicentre of the Cushitic languages is the area of the four countries of the Horn of Africa: Djibouti, Eritrea, Ethiopia and Somalia. Outside this region, one language, Beja, is also spoken in Sudan and southern Egypt, and Somali and Oromo extend into Kenya along with a few smaller languages, chiefly members of the South Cushitic branch, which are found only in Kenya and Tanzania. There is also some linguistic evidence that Cushitic languages were in the past more widespread in East Africa and have now given way both to Bantu and Nilotic languages in the area of today's Kenya and Tanzania.

In terms of numbers of speakers many Cushitic languages are comparatively small, with a few thousands, tens of thousands or occasionally hundreds of thousands of speakers, and in a few instances with only a few hundred or less. Although available figures are not always reliable in respect of exact numbers, the only Cushitic languages with more than a million speakers are 'Afar (c. 1 million), Beja (c. 1.2 million), Oromo (at least 18 million, counting all varieties), Sidaama (c. 2.9 million), and Somali (around 13 million). To these may be added Omotic Wolaitta and the varieties of the Gamo-Gofa-Dawro cluster (c. 1.2 million each). There are no pre-modern records of Cushitic languages, the earliest attestations being in the first instance extracts from the Song of Songs translated at the behest of the Scottish traveller, James Bruce, in the late 18$^{th}$ cent., and later some Agäw prayer texts written in Ethiopic script that probably date from the mid 19$^{th}$ cent. Otherwise, until orthographies were developed for some languages towards the end of the 20$^{th}$ cent., all prior attestations derive from language studies made by foreign scholars from the latter half of the 19$^{th}$ cent. onwards. Some languages remained unknown to scholarship until the second half of the 20$^{th}$ cent.

### 1.1. Internal classification

Whilst Cushitic is now universally recognised as a branch of the Afroasiatic phylum, there is still some controversy about the details of the internal classification of the

family, and a detailed account of the history and various developments in the internal classification of Cushitic can be found in Tosco (2000) (see also Hayward 2003). Aside from the question of Omotic, with regard to the internal classification of the remaining languages, the fairly conservative picture that is generally presented divides Cushitic into four branches:

(1) North Cushitic, represented by the single language Beja.
(2) Central Cushitic [C. Cush], also called Agäw (or Agaw), represented by four closely related languages or dialect clusters, the two largest being Awngi (500,000 speakers) and Bilin (100,000 speakers).
(3) East Cushitic [E. Cush], by far the largest both in terms of number of languages and of the overall number of speakers of those languages; also the most complex branch insofar as it is further divided into several discrete sub-branches: Lowland East Cushitic [L. E. Cush], with various sub-groups (the largest languages being Oromo and Somali), Highland East Cushitic [H. E. Cush] (the largest languages being Sidaama and Hadiyya), and Yaaku-Dullay, comprising the single, now extinct language Yaaku as one branch, and a cluster of small languages and/or dialects as the other (e.g. Gawwada).
(4) South Cushitic [S. Cush], represented by a number of small languages of Kenya and Tanzania, of which the largest is Iraaqw (c. 460,000 speakers). This branch, in particular, has been the subject of debate in recent years: one language, Ma'a (also called Mbugu) has been regarded as a mixed language with sizeable non-Afroasiatic (Bantu) input, and another, Dahalo, is now regarded as forming a separate branch of E. Cush.

Various refinements and adjustments to this model have been proposed: in his major survey of various questions of Cushitic morphology, Hetzron (1980) suggested on the one hand that Beja should be reclassified as a separate branch of Afroasiatic and not a member of the Cushitic family, and, on the other hand, that C. Cush. and H. E. Cush. showed sufficient features in common to query whether there might be a closer genetic affiliation between the two to form a "Rift Valley Cushitic" branch. Both of these suggestions have, however, been contested (for Beja see Tosco 2000; and Appleyard 2004; for C. Cush. and H. E. Cush. see again Tosco 2000; and Appleyard 1996) and there is no reason to redraw the generally accepted classification here. Hetzron also proposed that the for him remaining E. Cush. languages and S. Cush. be merged into a single group, as there is insufficient morphological differentiation to warrant two separate groups. Since the 1970s, other scholars have questioned the inclusion of one language, Dahalo, under the S. Cush. umbrella, notwithstanding the picture commonly presented in reference works deriving from the only detailed study of comparative S. Cush. (Ehret 1980), which places Dahalo as a separate branch of S. Cush. A contrary statement was decisively presented by Tosco (2000), arguing for the placing of Dahalo as a separate branch of E. Cush.

## 1.2. The question of Omotic

The ongoing re-analysis of the internal classification of Cushitic is not the only question regarding the nature of the family, nor the most recent one. For many years since the

first attempts at a classification of Cushitic a further branch called West Cushitic was proposed, comprising a number of languages spoken in South West Ethiopia. There are sufficient substantial differences both in morphology and lexicon that set these languages apart from the rest of Cushitic such that the erstwhile West Cushitic, now renamed Omotic, was proposed as a quite separate family of the Afroasiatic phylum originally by Fleming in 1969 (see Fleming 1976) and backed up in several in-depth studies by Bender (esp. 2000). The majority of linguists working in the area now concur with this classification (see Hayward 1990). There has, however, been some opposition to this view with the proposal to retain some or all of Omotic within the Cushitic family (Zaborski 1986a; Lamberti 1987). It has for instance been suggested that only part of Omotic, the Aroid (also called Ari-Banna, or Southern Omotic) languages, form a separate branch of Afroasiatic, whilst the rest are part of Cushitic. These problems of classification essentially revolve around the questions (a) how much that is similar between Omotic and Cushitic is due to shared archaisms from Afroasiatic, and (b) how much arises from convergence due to an extended period of geographical proximity. There are certainly many similarities at all levels of linguistic analysis that are best explained by contact and convergence. On the other hand, there are considerable and fairly fundamental differences. Originally, much was made of the fact that in the personal pronoun system, in the languages of several branches of the family, the 1sg. and 2sg. forms seemed to show the reverse of what would be expected for Cushitic, or indeed any Afroasiatic language: Wolaitta *ta*, *ne*, resp., hence the label "ta/ne" sometimes applied to these languages. This isogloss has certainly been overstated in the past, and it has been shown (Bender 2000) that the current forms represent a specific internal development. Nonetheless, person marking in Omotic both in the pronouns and in verbal inflexion shows some differences from Cushitic, as do, by and large, gender and case marking in nominals. Further discussion of Omotic is excluded from what follows.

## 2. Grammatical survey

For the Semitist the Cushitic languages show numerous familiar structural and formal features, especially in the areas of phonology and morphology. Together with the Berber (see ch. 3) languages, Cushitic shows the closest parallels with Semitic most notably in the inflexion of verbs with the distinctive interlocking or "block" pattern (Tucker 1967, 657) marking of person by means of prefixes, such that it is sometimes suggested that Berber, Cushitic and Semitic form a closer grouping within the Afroasiatic phylum. There are also clear similarities in the morphology of the pronominal system and in the inflexion of nouns.

### 2.1. Phonology

Many Cushitic languages show a number of parallels with other Afroasiatic and specifically Semitic languages in their phonemic and phonological systems. For instance, the presence of pharyngeals (ʿ, *ħ*) and laryngeals (ʾ, *h*), and a series of stops

with secondary, typically glottalised articulation, forming triads with plain voiceless and voiced stops (*t*, *d*, *t'* and *k*, *g*, *k'*) as well as an affricate triad (*c*, *j*, *c'*). Consonant and vowel length are also widely phonemic, as in Proto-Semitic, for example. Another feature of Cushitic phonemic systems that is reminiscent of some Semitic varieties, including Ethiopian Semitic, is the widespread absence of a voiceless pair *p* of the labial stop *b* and the concomitant presence of a labial fricative *f*. Not all of these features, however, occur in all Cushitic languages. The pharyngeals, for instance, only occur in 'Afar-Saho, Somali, Dullay, Dahalo and Southern Cushitic. The phonemic systems of Beja and the C. Cush. branch, for instance, show marked differences: Beja has no pharyngeals and no glottalised consonants, but a retroflex pair (*ṭ*, *ḍ*); similarly, in C. Cush. there are no pharyngeals and generally no glottalised consonants (other than chiefly in loans from Ethiopian Semitic and glottalised *k'* in Bilin which seems to be a comparatively recent realisation of older uvular *q*, still occurring in Awngi as well as apparently in the earliest recorded Bilin material), but reconstructed in the proto-language there is a pair of alveolar affricates (**ts*, **dz*) which have differing reflexes in the various languages. It is probable that the Beja retroflex and the C. Cush. affricate pair derive from earlier glottalised alveolars. As well as the retroflex *ḍ*, a voiced implosive *ɗ* is also found in many E. Cush. languages (the symbol *d'* or orthographic *dh* is often used in the literature for both), which suggests that both may derive from an earlier glottalised stop.

Other features of the phoneme inventory that are found in separate languages or branches of Cushitic and which are sometimes reconstructed for the proto-system are the presence of labialised velars ($k^w$, $g^w$, $k'^w$), found in C. Cush. and S. Cush. and partially in Beja; a lateral fricative/glottalised affricate pair (*ɬ*, *tɬ'*) also exists in Iraaqw and is reconstructed for Proto-South-Cushitic; a voiceless velar fricative (*x*) occurs in a wide range of languages, sometimes demonstrably deriving from an earlier stop, but *x* is also sometimes tentatively reconstructed for the proto-system (Sasse 1979, 20–21); some E. Cush. languages have a voiceless glottalised labial (*p'*) of infrequent occurrence, which cannot, however, be reconstructed for the proto-system and is perhaps due to Omotic influence. There have been various proposals for the reconstruction of the Proto-Cushitic consonant system, some with a smaller number of phonemes, others with a larger set. Table 5.1. shows what is by and large the most widely accepted system, differing little from what is proposed for Proto-E. Cush.

Tab. 5.1: Proto-Cushitic consonants

| | Labial | | Dental/Alveolar | | Alveolar-Palatal | | Velar | | Pharyngeal | | Laryngeal |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Voice | – | + | – | + | – | + | – | + | – | + | – |
| Stops | | *b* | *t* | *d* | *c* | *j* | *k* | *g* | | | *ʔ* |
| Glottalised | | | *t'* | *ɗ* | *c'* | | *k'* | | | | |
| Fricatives | *f* | | *s* | *z* | *š* | | *x (?)* | | *ħ* | *ʕ* | *h* |
| Nasals | | *m* | | *n* | | | | | | | |
| Liquids | | | | *l, r* | | | | | | | |
| Glides | | *w* | | | | *y* | | | | | |

The majority of Cushitic languages have a five-term vowel system (*i*, *e*, *a*, *o*, *u*) each with long counterparts. C. Cush., however, has the same seven-term system as Ethiopian Semitic (*i*, *e*, *a*, *ä*, *ə*, *o*, *u*) without phonemic vowel length. The vowels *e* and *o* are of restricted occurrence, and the other five appear to have developed from an earlier three-term system ±length in the same way as Ethiopian Semitic vowels derive from Proto-Semitic (**i/u* > *ə*, **ii* > *i*, **a* > *ä*, **aa* > *a*, **uu* > *u*).

## 2.2. Morphology

The type of non-concatenative morphology that is a hallmark of the classical Semitic languages, typified by apophony in verb stems, partial reduplication again as a part of verb inflexion, the so-called "broken plurals" in nouns, etc., features that are noted elsewhere in Afroasiatic, can also be found in Cushitic, though in many languages only as traces. At the northern extent of the Cushitic area, however, Beja and ʻAfar-Saho preserve this kind of morphology best. In the instance of verbal inflection, it has been suggested that this may be due to close contact with Semitic languages, and not just in obvious loans which adopt the prefix-conjugation, but also as an over-all "revitalisation" of the inherited pattern (see Hayward 1978, 356). The Cushitic languages of the Ethiopian highlands have been in close contact with Ethiopian Semitic languages for more than two millennia, at least as far as the C. Cush. languages are concerned (see 77). These are generally believed to have formed the substratum over which the modern Ethiopian Semitic languages developed, and there are many shared typological features in morphology and especially syntax, as well as the more expected borrowings in the lexicon, in both families of languages. The beginnings of this linguistic interference can already be observed in Geʻez (see 69), though of course it is much more apparent in the modern languages such as Tigrinya (see 71) and Amharic (see 73). The typical SOV, head-final syntax of the modern Ethiopian Semitic languages is generally attributed to the influence of substrate Cushitic languages.

### 2.2.1. Personal pronouns

One of the most obvious parts of the morphological system of Cushitic languages where the common Afroasiatic heritage is apparent is the system of personal pronouns, both in terms of structure and form. Most Cushitic languages operate with a seven-term system, in which gender (masculine and feminine) is only distinguished in the 3sg. Whilst only S. Cush. retains the inherited gender distinction in the 2sg. and plural, there are traces of the different forms of the 2sg. in C. Cush. though without any gender distinction. Somewhat differently, Beja, which has innovated extensively in its independent pronouns, marks gender distinction in both the 2nd and the 3rd persons, singular and plural (the latter in some dialects only), but not in dependent (possessive and object) pronouns. Beja also has "allocutive" suffixes marking the gender of the addressee (masc. *-a* and fem. *-i*) added to verbs. A number of L. E. Cush. languages (Somali, Rendille, Dhaasanac, etc.) have introduced a distinction in the 1pl. between exclusive and inclusive, though no common form of the exclusive can be reconstructed, even at a low level. Most languages also make a formal distinction, particularly in the

1st and 2nd persons, between the independent pronoun, typically used in subject function, and the dependent or clitic pronoun used in a range of oblique functions, such as possessive, verbal object, or in combination with various case suffixes. These two sets of pronouns have clear parallels and indeed cognates in Semitic with, for example, the 1sg. and 2sg. independent forms in **ʔan-* and **ʔa/i[n]t-*, resp., and the corresponding dependent forms in **yV-* and **kV-*. Some languages have confused the two sets, especially in the plural, but note also Arbore *ye*, *ke*, as both subject and object pronouns 1sg. and 2sg., resp. The 3rd person pronouns in both sets derive from proto-forms in **sV-* or **šV-*. Interestingly, differing Beja dialects have clitic forms in both *s* and *h*/*Ø*, which recalls the similar alternation in Semitic (e.g. in both modern and ancient South Arabian, and between Akkadian and Central Semitic for further details see Appleyard 1986).

Tab. 5.2: Independent pronouns (nominative). The *-s* form in the Beja sg. 3 m. is the 'Amar'ar dialect; the upper forms of pl. 1 in Somali and Rendille are exclusive 'we but not you', and the lower forms are inclusive 'I/we and you'.

| | Beja | Somali | Rendille | Oromo | Sidaama | 'Afar | Bilin | Iraaqw |
|---|---|---|---|---|---|---|---|---|
| sg. 1 | *ane* | *anigu* | *ani* | *ani* | *ani* | *anu* | *an* | *an*[*i*] |
| sg. 2 | *baruuk*<br>*batuuk* | *adigu* | *ati* | *ati* | *ati* | *atu* | *ənti* | *kuuŋ*<br>*kiiŋ* |
| sg. 3 m. | *baruu;*<br>*baruus* | *isagu* | *usu* | *inni* | *isi* | *usuk* | *ni* | *inos* |
| sg. 3 f. | *batuu;*<br>*batuus* | *iyadu* | *ice* | *išeen* | *ise* | *is* | *nəri* | |
| pl. 1 | *hinin* | *annagu*<br>*innagu* | *naħ*<br>*inno* | *nuy* | *ninke* | *nanu* | *yən* | *at*[*en*] |
| pl. 2 | *baraak*[*na*]<br>*bataak*[*na*] | *idinku* | *atin* | *isini* | *kiʔne* | *isin* | *əntən* | *kuŋga*<br>*kiŋga* |
| pl. 3 | *baraa;*<br>*baraasna,*<br>*bataasna* | *iyagu* | *ico* | *isaani* | *insa* | *oson* | *na* | *inoʔin* |

### 2.2.2. Gender, number and case in nouns

The typical Afroasiatic grammatical gender system comprising "masculine" and "feminine" runs throughout Cushitic morphosyntax. In nouns, gender is not always apparent from the citation form of the noun, though in 'Afar, for example, all consonant-final and all vowel-final nouns with penultimate accent are masculine, whilst all others are feminine; or, in the C.Cush. language Awngi in the citation form all masculine nouns end in *-i* or a consonant, and all feminine nouns end in *-a*. Apart from nouns referring

Tab. 5.3: Oblique pronouns

| | Beja | | Somali | | Oromo | | Sidaama | | ‘Afar | | Bilin |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | poss. | obj. | poss.[2] | obj. | poss.[2] | obj. | poss. | obj.[3] | poss. | obj. | poss./obj.[4] |
| sg. 1 | *-Ø* | *-heeb* | *-kayga* | *i* | *koo/kiyya* | *[a]na* | *-ʔya* | *-e*<br>*ane* | *yi* | *yoo* | *yə* |
| sg. 2 | *-k* | *-hook* | *-kaaga* | *ku* | *kee* | *si* | *-kki* | *-he*<br>*ate* | *ku* | *koo* | *kʷə* |
| sg. 3 m. | *-Ø; -s*[1] | *-Ø; -hoos*[1] | *-kiisa* | *Ø* | *isaa* | *isa* | *-si* | *-si iso* | *kay* | *kaa* | *ni* |
| sg. 3 f. | | | *-keeda* | | *išee* | *išee* | *-se* | *-se ise* | *tet* | *teeti* | *nər* |
| pl. 1 | *-n* | *-hoon* | *-kayaga*<br>*-keenna* | *na*<br>*ina* | *keenya* | *nu* | *-nke* | *-nke*<br>*ninke* | *ni* | *nee* | *yəna/ä* |
| pl. 2 | *-kna* | *-hookna* | *-kiinna* | *idin* | *keessan* | *isin* | *-ʔne* | *-ʔne*<br>*kiʔne* | *sin* | *siini* | *ənta/ä* |
| pl. 3 | *-hina;*<br>*-sna*[1] | *-Ø;*<br>*-hoosna*[1] | *-kooda* | *Ø* | *isaanii* | *isaan* | *-nsa* | *-nsa*<br>*insa* | *ken* | *keeni* | *na* |

[1] *-s* forms ’Amar’ar dialect
[2] masc. non-subject forms
[3] Sidaama has both suffixed and independent object pronouns
[4] object forms require the case suffix *-t*

to humans, where natural gender assignment prevails, grammatical gender is mostly randomly assigned. Gender is for the most part manifested through agreement, for instance, between the verb and its noun subject, or between determiners and head nouns: e. g. Beja *yaas* 'dog/bitch' but *uu-yaas* 'the dog', *tuu-yaas* 'the bitch'; [*ʔ*]*oor* 'boy, girl' but *wi-ʔoor-i baaba* 'the boy's father', *ti-ʔoo*[*r*]*-t-i baaba* 'the girl's father'; *uu-tak uu-win ee-ya* 'the tall man came', *ti-takat tuu-win ee-ta* 'the tall woman came', where the feminine markers are the various *t-* elements. Throughout Cushitic the commonest feminine marker in determiners is the consonant *t*, or its development in keeping with predictable sound changes in individual languages. It is often associated with the vowel *i*. The corresponding masculine determinative element in all of Cushitic except for Beja is *k* or its development, which is often linked with the vowel *u*, though the latter may be rather a nominative case marker: cp. Oromo demonstrative 'this' masc. nom. *kun*[*i*], fem. nom. *tun*[*i*], masc. abs. *kana*, fem. abs. *tana*; Burji possessive pronoun 'our' masc. nom. *nin-ku*, fem. nom. *nin-ci*, masc. abs. *nin-ka*, fem. abs. *nin-ta*; Awngi complemental relative suffixes masc. *-γ*$^{w}$*/w*, fem. *-t*. There is some evidence that the Beja masculine marker in determiners equivalent to *k-* in the rest of Cushitic was **w-* (see Appleyard 2004, 180). If this is so, the use of **k*[*u*] in this function is a later innovation of the rest of Cushitic. In some languages, there are also differences in case inflection according to gender; typical is that in several languages only masculine nouns are marked for the nominative or subject case, as well as some classes of feminine having a distinct genitive suffix. In Bilin, on the other hand, nouns have different endings for the accusative or object case and the dative case, as well as the genitive, according to gender.

Number marking in nouns in Cushitic is particularly complex and heterogeneous, and whilst there are commonalities, by and large it is not possible to reconstruct a single system for the proto-language. The number system in most languages operates with three terms: a basic, indeterminate form that is often called "the singular" in the literature, though it is usually neutral in respect of number, which in many languages has collective or mass reference, too. Formally derived from this may be two marked forms, a "singulative" referring to a single individual, and a plural with multiple reference: Bilin *dəmmu* 'cat(s)', *dəmmura 'a* single cat', *dəmmut* 'several cats'. All three terms, however, do not necessarily occur in every noun or in every language: Kambaata basic *adani-ta* 'cat(s), singulative *adancu-ta* 'a single cat'; singulative *abur-cu* 'a single cockerel', plural *aburra-ta* 'cockerels'; basic *ciila*-[*ta*] 'infant', plural *ciilla-ta* 'infants'. The singulative suffixes vary, but many incorporate the feminine t-suffix (though singulatives are not necessarily grammatically feminine): e.g. 'Afar *-yta*, *-ytu*, *-yto*, *-ta*, *-tu*, *-to*; Sidaama, *-icco*, Oromo *-icca* (masc.), *-ittii* (fem.), Bayso *-ti/-titi*; Bilin *-ra* (for more details see Zaborski 1986b, 291–293). This recalls, for instance, the *nomen unitatis* forms in Arabic and Hebrew constructed with the feminine ending, and is thus most probably an inherited Afroasiatic feature.

The formation of noun plurals is very diverse, even within groups of closely related languages, though is mostly by means of suffixes. Plurals formed by internal modification of the noun stem, sometimes in combination with the addition of a suffix, do exist in a number of languages; devices include partial or, rarely, total reduplication, lengthening or shortening of an internal vowel of the stem, consonantal ablaut and lengthening. The northern languages, such as 'Afar-Saho and Bilin, also have examples of Semitic-type "broken plurals", but these seem to occur mostly in loans from Arabic

or Ethiopian Semitic (Tigrinya and Tigre). Examples of Cushitic internal plurals are: Beja *ginuuf* – *ginuf* 'nose', *oor* – *ar* 'child', 'Afar *dayla* – *dayloola* 'medicine', *duʿur* – *duʿuura* 'fool', Saho *anrab* – *anrub* 'tongue', Bilin *ʿəl* – *ʿələl* 'eye', *gira* – *git* 'mountain'; Somali *geel* – *geelal* 'herd of camels'. Plural suffixes show a wide range of forms, and often more than one plural-forming device may be used with the same noun. The commonest shape of plural suffixes may be typified as: -[*V*]*t*[*V*], -[*V*]*w*[*V*] and -*Vn*. A further formative that is restricted to E. Cush. is -*Vy*[*V*], and there are others of more restricted occurrence (for details see Zaborski 1986b). The first three of these all have parallels elsewhere in Afroasiatic, including Semitic, and are almost certainly inherited from Afroasiatic, though because of continuing uncertainties about the relevant sound changes at such a deep level, as well as the inevitable cycles of morphological innovation, it is impossible to reconstruct precise proto-forms. Examples of suffixed plurals are: Beja *gaw* – *gawa* 'house', *ragad* – *ragada* 'leg, foot', 'Afar *bar* – *baritte* 'night', *bakkeela* – *bakkelwa* 'hare', Saho *ʿeela* – *ʿeelit/ʿeelwa* 'well', Oromo *laga* – *lagoota/laggeen* 'river', *gaara* – *gaarota* 'mountain', *saʾa* – *saawwan* 'cow', Somali *kab* – *kabo* 'shoe', *ʿas* – *naʿasyo* 'fool', *waddo* – *waddooyin* 'road', *ugaħ* – *ugħan* 'egg', Bilin *mərawa* – *mərawti* 'snake', *bəra* – *bərtət* 'field'. In many languages such plural noun forms require singular (masculine or feminine) rather than plural agreement, since gender assignment attaches to the specific "plural" formative: in Kambaata, for instance, most formal plurals are feminine. In other languages, such as Somali, different plural devices have different associated genders; e.g. the ending -*o* requires masculine agreement: *naag* f. 'woman' – *naago* m. 'women', *jilib* m. 'knee' – *jilbo* m. 'knees', but – *Co/yo* is feminine: *baabuur* m. 'truck' – *baabuurro* f. 'trucks', *naʿas* m. 'fool' – *naʿasyo* f. 'fools'.

Most languages have a three-term primary case system: a marked nominative or subject case, an unmarked form often called "absolutive" with a wide range of functions including that of citation form as well as the complement or object of verbs, and a possessive or genitive case. In some languages such as 'Afar and C. Cush. Kemant (and this appears to be the original situation) only masculine nouns mark the nominative. Others have innovated and spread nominative marking to some classes of feminine nouns, as in Somali and Oromo, whilst yet others (e.g. C. Cush. Bilin and Awngi, also the languages of the Dullay group) have replaced the marked nominative-absolutive system with a nominative-accusative pattern, introducing a specific accusative case marker and leaving the nominative unmarked. Table 5.4. shows a sample from a few languages, but it should be borne in mind that there are variations and complexities in each language that have had to be omitted. Beja, however, appears never to have had this system, but to have retained an older pattern which may be compared directly with Proto-Semitic (see Appleyard 2004, 178–180; also Sasse 1984), whilst the rest of Cushitic innovated with a marked nominative system in -*i*. There are traces of the older pattern here, too, with masc. nom. -*u* in demonstratives, as well as 'Afar personal pronouns (*anu*, *atu*, cp. Table 5.2.), and in H. E. Cush. nouns.

Adverbial relations are variously denoted, in keeping with the typical SOV syntax of Cushitic, by means of postpositions, which in some languages, notably C. Cush. and H. E. Cush., but also to some degree in 'Afar-Saho and Oromo, have become so closely fused with the noun as to be regarded as secondary case suffixes. Interestingly, however, in Somali and most of its closest relatives, these original postpositions have become detached from their nouns and accumulate in preverbal position: Somali *markaasay šeekadii dabada uga gašay* 'then she entered upon the story from the beginning',

Tab. 5.4: Primary cases in nouns

| masculine | | | | | | | |
|---|---|---|---|---|---|---|---|
| | ‘Afar | Somali | Oromo | | Bilin | Beja | |
| | | | | | | indef. | def. |
| nom. | *awkí*<br>*dul* | *inan*<br>*nin* | *namni* | nom. | *gərwa*<br>*ləŋən* | *tak*<br>*haɖa* | *uu-tak*[1]<br>*wi-haɖa* |
| abs. | *áwka*<br>*dul* | *inán*<br>*nín* | *nama* | acc. | *gərwäs*<br>*ləŋənsi* | *tak*<br>*haɖaa-b* | *oo-tak*<br>*wi-haɖa* |
| gen. | *awkí*<br>*dulti* | *inán*<br>*nín* | *namaa* | gen. | *gərwi*<br>*ləŋən* | *tak-i*<br>*haɖa-i* | *i-tak-i*<br>*wi-haɖa-i* |
| | ‘boy’,<br>‘hippo’ | ‘boy’,<br>‘man’ | ‘man’ | | ‘man’,<br>‘house’ | ‘man’,<br>‘lion’ | |

| feminine | | | | | | | |
|---|---|---|---|---|---|---|---|
| | ‘Afar | Somali | Oromo | | Bilin | Beja | |
| nom. | *saga* | *naagi* | *lafti/lafni* | nom. | *gäna* | *yaas-t* | *ti-yaas* |
| abs. | *saga* | *náag* | *lafa* | acc. | *gänät* | | |
| gen. | *sagáh/*<br>*sagáC* | *naagéed* | *lafaa* | gen. | *gänär* | *yaas-t-i* | *ti-yaas-t-i* |
| | ‘cow’ | ‘woman’ | ‘land’ | | ‘mother’ | ‘bitch’ | |

[1] The article in Beja varies according to the syllabic structure of the following noun (see Appleyard 2007, 452). The endings *-t* and *-b* are gender markers on indefinite nouns, masc. and fem., resp., the latter only in the acc. case.

Tab. 5.5: Proto-forms of primary cases

| | masc. short vowel | masc. long vowel | fem. short vowel | fem. long vowel |
|---|---|---|---|---|
| nom. | **-i* | **-ii* | **-a* | **-VV* |
| abs. | **-a* | **-VV* | **-a* | **-VV* |
| gen. | **-i* | **-ii* | **-[a]ti* | **-VVti* |

in which *uga* is a combination of *u* and *ka* referring to nouns *šeekadii* ‘the story’ and *dabada* ‘the front’. The forms of many of these elements are clearly related across Cushitic, though the functions vary to some extent: dative/instrumental **si*, locative **la/li*, instrumental/comitative **ni*, ablative/instrumental **ka*, locative **[V]dV*, allative/adessive **wa* (for details see Appleyard 1990; Sasse 2003).

### 2.2.3. Verbal inflexion

It is perhaps in the area of verbal inflexion in Cushitic that the Semitist will most readily recognise several familiar features. Inherited from Afroasiatic, most languages show a

complex system of verbal derivation marking changes in valency: a causative or transitive formed with a sibilant affix *s*, or its expansions (e.g.; "double causative"), a passive or intransitive formed with a nasal affix *m* (*ŋ* in C. Cush. with reciprocal and allied functions), and another passive or reflexive extension, which in some languages developed a subjective or "middle", or "autobenefactive" sense, formed with a dental affix *t*. Some L. E. Cush. languages have a further affix *-VVw* with inchoative function, and all languages have the possibility of combining derivational affixes. Many also have intensive or iterative derivations which are formed by partial or total reduplication of the basic stem. In Beja some verb types also form an intensive by means of inserting a long vowel within the verb stem: *adbil* 'I collected (once)', *adaabil* 'I collected (several times or several things)'. A few languages have two types of verbal inflexion, one involving person marking by means of prefixes, and the other, more common type, by means of suffixes. In Beja (always) and 'Afar-Saho (frequently), where prefix-conjugating verbs are common, the derivational affixes appear in the verbal chain between the personal prefix and the verb root: Beja *ʔi-too-maan-na* 'they have been shaved' (passive *-tVV-*), *ti-s-dabil-a* 'you made (him) collect' (causative *-s-*). Otherwise, they occur after the verb root and before the personal marker: Beja *raat-am-een* 'they were asked/asked one another' (passive-reciprocal *-am-*), *tam-s-een* 'they made him eat' (causative *-s-*).

Tab. 5.6: Prefix-conjugation paradigms

| | Beja | | 'Afar | | Somali | |
|---|---|---|---|---|---|---|
| | present | past | present | past | present | past |
| 1 sg. | *anbiis*[1] | *abis* | *amaate* | *emeete* | *imaadaa* | *imi*[*d*] |
| 2 sg. | *tinbiis-a*<br>*tinbiis-i* | *tibis-a*<br>*tibis-i* | *tamaate* | *temeete* | *timaadaa* | *timi*[*d*] |
| 3 m. sg. | *inbiis* | *ibis* | *yamaate* | *yemeete* | *yimaadaa* | *yimi*[*d*] |
| 3 f. sg. | *tinbiis* | *tibis* | *tamaate* | *temeete* | *timaadaa* | *timi*[*d*] |
| 1 pl. | *neebis*[2] | *nibis* | *namaate* | *nemeete* | *nimaadaa* | *nimi*[*d*] |
| 2 pl. | *teebisna* | *nibisna* | *tamaaten* | *temeeten* | *timaadaan* | *timaadeen* |
| 3 pl. | *eebisna* | *ibisna* | *yamaaten* | *yemeeten* | *yimaadaan* | *yimaadeen* |
| | 'bury' | | 'come' | | 'come' | |

[1] the n before $R_1$ in 2-consonant verbs and before $R_2$ in 3-consonant verbs is seen by some as a dissimilation from a geminate or long consonant, and by others as an n-infix deriving from the interpolation of an old auxiliary.
[2] the plural persons of the present adopt an intensive stem inflexion.

As indicated earlier there are two types of inflection for person, the prefix-conjugation, which has marked similarities to the same in Semitic and Berber, and which is clearly related, and the suffix conjugation, a Cushitic development, in which it has long been recognised that the person + tense marking suffixes derive from an old prefix-inflecting auxiliary suffixed to the verb stem. The exact nature of the auxiliary is uncertain as it is now reduced to the tense/aspect marking vowel, but the most likely contender is the monoconsonantal root *y-* 'say' which still survives in C. Cush. and H. E. Cush. with traces elsewhere, e.g. in Saho and Somali.

The person markers are readily identifiable as the same or similar in both patterns and follow the distinctive Afroasiatic "block" pattern: 1sg. *ʔ-* (> Ø), 2sg., 2pl., 3fsg. *t-*, 1pl. *n-*, 3msg., 3pl. *y-* (> Ø), and a suffixed element *-n* in the 2pl. and 3pl. The prefix-conjugation is an archaism and occurs as a functioning and productive part of verbal inflexion only in Beja and 'Afar-Saho (see *inter alia* Voigt 1996). Several other languages (C. Cush. Awngi and L. E. Cush. Somali varieties, Rendille, Boni, Arbore, Dhaasanac) preserve a handful (between four and thirteen according to language) of such verbs. There are generally two tenses or aspects (past/perfective and present or non-past/imperfective), which are distinguished by contrasting vowels in the verb stem in the case of prefix-inflecting verbs, or in the ending in the case of suffix-inflecting verbs. Whilst the imperfect is generally marked by the vowel *a*, a variety of other vowels marks the perfective: e.g. in 'Afar prefix-verbs *i*, *u*, *e*, *o*, which are lexically conditioned, and *e* in suffix-verbs. The position of the tense/aspect vowel may be both after the person marker and inside the stem: *yemeete* – *yamaate* 'come' (see Table 5.7. and Table 5.8.), or only after the person marker: *yokme* – *yakme* 'eat', *yuduure* – *yaduure* 'return'. In Beja the vocalisation is different; it has been argued (see Zaborski 1975, 12ff.) that with the innovation of a "new" present (*inbiis*), the old present shifted to past function (*ibis*), whilst the old past acquired a variety of other functions ranging from remote past to dubitative and conditional (*iibis*). The expected vocalisations, however, only appear in suffix-verbs: old present = past, *tam-ya*, old past *tam-i*; the new present is *tam-iini*. In H. E. Cush. and in C. Cush. the original pattern of the prefix-conjugation has mostly been ousted from main-verb functions by new forms and is retained chiefly in various subordinate functions. In H. E. Cush. (see Table 5.7. Sidaama) the new endings contain some additional elements, perhaps of pronominal or copular original. In C. Cush. the original forms are retained in the negative verb complex, e.g.

Tab. 5.7: Suffix-conjugation paradigms. Present/Imperfective

| | Beja | | 'Afar | Somali | Oromo | Sidaama |
|---|---|---|---|---|---|---|
| | new pres. | old pres. (= past) | | | | |
| 1 sg. | *tamani* | *taman* | *faka* | *keenaa* | *deema* | *sirbeemm-o/-a*[1] |
| 2 sg. | *tamtinii-a*<br>*tamtinii* | *tamtaa*<br>*tamtaa-i* | *fakta* | *keentaa* | *deemta* | *sirbatt-o/-a* |
| 3 m. sg | *tamiini* | *tamya* | *faka* | *keenaa* | *deema* | *sirbanno* |
| 3 f. sg | *tamtini* | *tamta* | *fakta* | *keentaa* | *deemti* | *sirbitanno* |
| 1 pl. | *tamnay* | *tamna* | *fakna* | *keennaa* | *deemna* | *sirbineemmo* |
| 2 pl. | *tamteena* | *tamtaana* | *faktaana* | *keentaan* | *deemtu/deemtani* | *sirbitinanni* |
| 3 pl. | *tameen* | *tamaan* | *fakaana* | *keenaan* | *deemu/deemani* | *sirbitanno*,[2] *sirbinanni* |

[1] the vowels *-o* and *-a* mark masc. and fem., resp.
[2] in Sidaama the 3 fsg. functions as a plural, whilst the old 3 pl. now marks 3rd polite.

Tab. 5.8: Past/Perfective

| | Beja (old past) | ʻAfar | Somali | Oromo | Sidaama |
|---|---|---|---|---|---|
| 1 sg. | *tamii* | *fake* | *keenay* | *deeme* | *sirbumm-o/-a* |
| 2 sg. | *tamtii-a*<br>*tamtii* | *fakte* | *keentay* | *deemte* | *sirbitt-o/-a* |
| 3 m. sg | *tami* | *fake* | *keenay* | *deeme* | *sirbi* |
| 3 f. sg | *tamti* | *fakte* | *keentay* | *deemte* | *sirbitu* |
| 1 pl. | *tamni* | *fakne* | *keennay* | *deemne* | *sirbinummo* |
| 2 pl. | *tamtiina* | *fakteeni* | *keenteen* | *deemtani* | *sirbitini* |
| 3 pl. | *tamiin* | *fakeeni* | *keeneen* | *deemani* | *sirbitu,*[2] *sirbini* |
| | ʻeat' | ʻopen' | ʻbring' | ʻgo' | ʻsing' |

Bilin *gäbnä-li* 'we do not refuse', and in part as "indefinite" tenses in Awngi alone, as well as in numerous subordinate forms, whilst the affirmative main-verb tenses use a different "auxiliary" from a root 'be', e.g. Bilin *gäbnäk*$^{w}$*ən* 'we refuse' (see Appleyard 1992).

An interesting, third type of verb inflexion occurs in a small number of L. E. Cush. languages (ʻAfar-Saho, Somali), with possible traces elsewhere, in the so-called Stative conjugation of adjectival verbs (see Table 5.9.), which has been compared with the Akkadian "permansive" etc., Cushitic having no trace of *-kV* 1sg. marker, only *ʔV* and the oblique pronoun *yV*.

Tab. 5.9: Stative conjugation

| | Saho | Somali | | Saho | Somali |
|---|---|---|---|---|---|
| 1 sg. | ʿ*adiyo* | ʿ*usbi* | 1 pl. | ʿ*adino* | ʿ*usbin* |
| 2 sg. | ʿ*adito* | ʿ*usbid* | 2 pl. | ʿ*aditin* | ʿ*usbidin* |
| 3 sg. | ʿ*ado* | ʿ*usub* | 3 pl. | ʿ*adon* | ʿ*usub* |
| | ʻbe white' | ʻbe new' | | | |

## 3. Concluding remarks

The discussion has deliberately focused on inflexional morphology as it is here that the most identifiable links between Cushitic and Semitic (and indeed the rest of Afro-asiatic) can be readily described, in addition to the fact that morphology is usually thought of as being one of the more conservative areas of linguistic analysis. The lexicon also shows parallels, but perhaps less so overall than in morphology, and even between the different branches of Cushitic the amount of shared lexicon is not impres-

sive. It is in the area of syntax, though, that Cushitic most differs from Semitic, insofar as the family is generally pervaded by a head-final, SOV syntax. In addition, in most languages syntax is further dominated by discourse factors such as topicalisation and focalisation which can influence case marking, agreement and forms of the verb.

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# II. Reconstructing Proto-Semitic and Models of Classification

# 6. Proto-Semitic Phonetics and Phonology



## Abstract

*This chapter provides an overview of the reconstruction of the Proto-Semitic phoneme system and its representation in the individual Semitic languages.*

## 1. Consonantism

### 1.1. Canonical reconstruction

In its traditional reconstruction, the PS consonantal system comprises 29 phonemes, as shown in Table 6.1.

Tab. 6.1: Traditional reconstruction of the Proto-Semitic consonantal system

| | Obstruents | | | | | | resonants | | |
|---|---|---|---|---|---|---|---|---|---|
| | stops | | | fricatives | | | | | |
| | voiceless | emphatic | voiced | voiceless | emphatic | voiced | | | |
| bilabial | p | | b | | | | w | | m |
| dental | t | ṭ | d | | | | | r | n |
| interdental | | | | t̲ | ṭ̲ | d̲ | | | |
| hissing | | | | s | ṣ | z | | | |
| hushing | | | | š | | | | | |
| lateral | | | | ŝ | ŝ́ | | | l | |
| palatal | | | | | | | | y | |
| velar | | | | | | | | | |
| uvular | k | ḳ | g | ḫ | | ɣ̓ | | | |
| pharyngeal | | | | ḥ | | | | | |
| laryngeal | | ʾ | | h | | | | | |

## 1.2. Regular correspondences

Regular consonantal correspondences are illustrated by the chart in Table 6.2.

This consonantal inventory is very stable and only two of its segments − sibilants and gutturals − have been subject to substantial changes in individual Semitic languages. Lexical illustrations can thus be limited to 15 proto-phonemes belonging to these two groups.

Tab. 6.2: Regular correspondences of the Proto-Semitic consonants

| PS | Akk. | Ugr. | Hbr. | Syr. | Arb. | Sab. | Gez. | Tgr., Tna. | Amh. | Har. | Gur. | Mhr. | Jib. | Soq. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *p | p | p | p | p | f | f | f | f | f | f | f | f | f | f |
| *b | b | b | b | b | b | b | b | b | b | b | b | b | b | b |
| *m | m | m | m | m | m | m | m | m | m | m | m | m | m | m |
| *w | w | w, y- | w, y- | w, y- | w | w | w | w | w | w | w | w | w | w |
| *t | t | t | t | t | t | t | t | t | t, č | t, č | t, č | t | t | t |
| *d | d | d | d | d | d | d | d | d | d, ǯ | d, ǯ | d, ǯ | d | d | d |
| *ṯ | ṯ | ṯ | ṯ | ṯ | ṯ | ṯ | ṯ | ṯ | ṯ, č̣ | ṯ, č̣ | ṯ, č̣ | ṯ | ṯ | ṯ |
| *n | n | n | n | n | n | n | n | n | n, ñ | n, ñ | n, ñ | n | n | n |
| *r | r | r | r | r | r | r | r | r | r | r | r | r | r | r |
| *l | l | l | l | l | l | l | l | l | l | l | l | l | l | l |
| *ṱ | š | ṱ | š | t | ṱ | ṱ | s | s, š | s, š | s, š | s, š | ṱ | ṱ | t |
| *ḏ | z | d, ḏ | z | d | ḏ | ḏ | z | z | z, ž | z, ž | z, ž | ḏ | ḏ | d |
| *ṯ | ṣ | ṯ, γ | ṣ | ṯ | ḏ | ṯ | ṣ | ṣ, č̣ | ṯ, č̣ | ṯ, č̣ | ṯ, č̣ | ḏ | ḏ | ṯ |
| *s | s | s | s | s | s | $s_3$ | s | s, š | s, š | s, š | s, š | s | s | s |
| *z | z | z | z | z | z | z | z | z | z, ž | z, ž | z, ž | z | z | z |
| *ṣ | ṣ | ṣ | ṣ | ṣ | ṣ | ṣ | ṣ | ṣ, č̣ | ṯ, č̣ | ṯ, č̣ | ṯ, č̣ | ṣ, ṣ̌ | ṣ | ṣ |
| *š | š | š | š | š | s | $s_1$ | s | s, š | s, š | s, š | s, š | š, h | š, s̄ | š, h |
| *ŝ | š | š | ŝ | s | š | $s_2$ | ŝ | s, š | s, š | s, š | s, š | ŝ | ŝ | ŝ |
| *ŝ́ | ṣ | ṣ | ṣ | ʿ | ḏ | ŝ́ | ŝ́ | ṣ, č̣ | ṯ, č̣ | ṯ, č̣ | ṯ, č̣ | ẑ | ẑ́ | ẑ́ |
| *y | y, Ø | y | y | y | y | y | y | y | y | y | y | y | y | y |
| *k | k | k | k | k | k | k | k | k | k, č | k, č | k, č | k | k | k |
| *g | g | g | g | g | ǯ | g | g | g | g, ǯ | g, ǯ | g, ǯ | g | g, z̄ | g, ž |
| *ḳ | ḳ | ḳ | ḳ | ḳ | q | ḳ | ḳ | ḳ | ḳ, č̣ | ḳ, č̣ | ḳ, č̣ | ḳ | ḳ, s̄ | ḳ, š |
| *ḫ | ḫ | ḫ | ḫ | ḫ | ḫ | ḫ | ḫ | ḥ | Ø | ḥ | Ø | ḫ | ḫ | ḥ |
| *γ | Ø | γ | ʿ | ʿ | γ | γ | ʿ | ʿ | Ø | Ø | Ø | γ | γ | ʿ |
| *ḥ | Ø | ḥ | ḥ | ḥ | ḥ | ḥ | ḥ | ḥ | Ø | ḥ | Ø | ḥ | ḥ | ḥ |
| *ʿ | Ø | ʿ | ʿ | ʿ | ʿ | ʿ | ʿ | ʿ | Ø | Ø | Ø | ʿ | ʿ | ʿ |
| *h | Ø | h | h | h | h | h | h | h | Ø | h | Ø | h | h | h |
| *ʾ | Ø | ʾ | ʾ | ʾ | ʾ | ʾ | ʾ | ʾ | Ø | Ø | Ø | ʾ | ʾ | ʾ |

### 1.2.1. *ṱ

*ṱalg- ‘snow’ > Akk. *šalgu*, Hbr. *šäläg*, Syr. *talgā*, Arb. *ṯalǯ-*, Jib. *ṯalg* (AHw. 1147, HALOT 1503, LSyr. 825, Lane 350, JL 284);

*ṯV$^{\text{ʿ}}$Vl-, *ṯa$^{\text{ʿ}}$lab- ‘fox’ > Akk. *šēlebu*, Hbr. *šūʿāl*, Syr. *taʿlā*, Arb. *ṯuʿāl-*, *ṯaʿlab-*, Jib. *iṯʿél* (SED II No. 237);

*parṯ- ‘food in the stomach’ > Akk. *paršu*, Hbr. *päräš*, Syr. *pertā*, Arb. *farṯ-*, Tna. *färsi*, Mhr. *farṯ*, Soq. *fórt* (SED I No. 221).

### 1.2.2. *ḏ

*ʾuḏn- ‘ear’ > Akk. *uznu*, Ugr. *ʾudn*, Hbr. *ʾōzän*, Syr. *ʾednā*, Arb. *ʾuḏn-*, Sab. *ʾḏn*, Gez. *ʾəzn*, Jib. *ʾiḏén*, Soq. *ʾídihen* (SED I No. 4);

*ḏkr ‘to remember’ > Akk. *zakāru*, Hbr. *zkr*, Syr. *dkr*, Arb. *ḏkr*, Sab. *ḏkr*, Gez. *zakara*, Mhr. *ḏēkər*, Soq. *dekir* (AHw. 1503, HALOT 269, LSyr. 153, Lane 968, SD 38, CDG 636, ML 80, LS 127);

*ḏVb(V)b- ‘fly’ > Akk. *zubbu*, Hbr. *zəbūb*, Syr. *debbābā*, Arb. *ḏubāb-*, Amh. *zəmb*, Mhr. *ḏəbbēt*, Soq. *ʾedbíboh* (SED II No. 73).

### 1.2.3. *ṱ

*ṱipr- ‘nail’ > Akk. *ṣupru*, Hbr. *ṣippōrän*, Syr. *ṭeprā*, Arb. *ḍifr-*, Gez. *ṣəfr*, Amh. *ṭəfər*, Mhr. *ḏfēr*, Soq. *ṭífer* (SED I No. 285);

*ṱill- ‘shadow’ > Akk. *ṣillu*, Ugr. *ṯl*, Hbr. *ṣēl*, JPA *ṭwlh*, Arb. *ḍill-*, Gez. *ṣəlālot*, Amh. *ṭəla*, Har. *č̣āy* (AHw. 1101, DUL 1002, HALOT 1024, DJPA 224, Lane 1915, CDG 555, AED 2083, EDH 52);

*nṱr ‘to look, to watch’ > Akk. *naṣāru*, Ugr. *nγr*, Hbr. *nṣr*, Syr. *nṭr*, Arb. *nḍr*, Sab. *nṯr*, Gez. *naṣṣara*, Mhr. *nəḍ́awr* (AHw. 755, DUL 624, HALOT 718, LSyr. 426, Lane 2810, SD 102, CDG 406, ML 283).

### 1.2.4. *s

*ʾsr ‘to tie’ > Akk. *esēru*, Ugr. *ʾsr*, Hbr. *ʾsr*, Syr. *ʾsr*, Arb. *ʾsr*, Sab. *ʾs$_3$r*, Gez. *ʾasara*, Amh. *assärä*, Jib. *ʾésɔ́r* (AHw. 249, DUL 114, HALOT 75, LSyr. 37, Lane 57, SD 8, CDG 44, AED 1664, JL 4);

*sās-, *sūs- ‘moth, worm’ > Akk. *sāsu*, Hbr. *sās*, Syr. *sāsā*, *sūstā*, Arb. *sūs-*, *sās-*, Amh. *šuš*, Har. *sūs*, Mhr. *sust* (SED II No. 198);

*ḫsr ‘to lose, to be deficient’: Ugr. *ḫsr*, Hbr. *ḥsr*, Syr. *ḥsr*, Arb. *ḫsr*, Min. *ḫs$_3$r*, Gez. *ḫasra*, Mhr. *ḫəsōr*, Soq. *di-ḥósir*, perhaps Akk. *ḫesēru* ‘to chip off’ (DUL 410, HALOT 338, LSyr. 248, Lane 736, LM 44, CDG 265, ML 449, LS 184, AHw. 329).

### 1.2.5. *z

*gzz ‘to cut, to shear, to divide’ > Akk. *gazāzu*, Ugr. *gzz*, Hbr. *gzz*, Syr. *gzz*, Arb. *ǯzz*, Sab. *gzz*, Tgr. *gäzzä*, Mhr. *gəz*, Soq. *gez*(*z*) (AHw. 284, DUL 315, HALOT 186, LSyr. 111, Lane 416, SD 53, WTS 596, ML 128, LS 105);

*ʿ*inz*- ‘goat’ > Akk. *enzu*, Ugr. *ʿz*, Hbr. *ʿēz*, Syr. *ʿezzā*, Arb. *ʿanz*-, Sab. *ʿnz*, Jib. *ʾɔz*, perhaps Cha. *anž* ‘heifer’ (SED II No. 35);

**zmr* ‘to emit musical sounds’ > Akk. *zamāru*, Hbr. *zmr*, Syr. *zmr*, Arb. *zmr*, Gez. *zammara* (AHw. 1508, HALOT 273, LSyr. 199, Lane 1250, CDG 639).

### 1.2.6. *ṣ

*ʾV*ṣb*Vʿ- ‘finger’ > Ugr. *ʾuṣbʿ*, Hbr. *ʾäṣbaʿ*, Syr. *ṣebʿā*, Arb. *ʾiṣbaʿ*-, Gez. *ʾaṣbāʿt*, Tgr. *ʧəbʿət*, Har. *aṭābiññа*, Jib. *ʾiṣbáʿ* (SED I No. 256);

**ṣbγ* ‘to soak, to dye’ > Akk. *ṣabû*, Hbr. *ṣbʿ*, Syr. *ṣbʿ*, Arb. *ṣbγ*, Gez. *ṣabḫa* (AHw. 1082, HALOT 998, LSyr. 620, Lane 1647, CDG 546);

**ṣyd*, **ṣwd* ‘to prowl, to hunt, to fish’ > Akk. *ṣâdu*, *ṣayyādu*, Ugr. *ṣd*, Hbr. *ṣwd*, *ṣayid*, Syr. *ṣwd*, *ṣaydā*, Arb. *ṣyd*, Mhr. *əṣtəyūd*, Soq. *ṣóde* (AHw. 1073, 1075, DUL 778, HALOT 1010, 1020, LSyr. 623, 626, Lane 1752, ML 369, LS 349).

### 1.2.7. *š

**lišān*- ‘tongue’ > Akk. *lišānu*, Ugr. *lšn*, Hbr. *lāšōn*, Syr. *leššānā*, Arb. *lisān*-, Sab. *ls*$_1$*n*, Gez. *ləssān*, Jib. *elšén*, Soq. *léšin* (SED I No. 181);

**šim*- ‘name’ > Akk. *šumu*, Ugr. *šm*, Hbr. *šēm*, Syr. *šmā*, Arb. *ʾism*-, Sab. *s*$_1$*m*, Gez. *səm*, Cha. *šəm*, Mhr. *ham*, Jib. *šum*, Soq. *šem* (AHw. 1274, DUL 882, HALOT 1548, LSyr. 784, Lane 1435, SD 126, CDG 504, EDG 545, ML 158, JL 262, LS 418);

**bšl* ‘to be ripe, to cook’ > Akk. *bašālu*, Ugr. *bšl*, Hbr. *bšl*, Syr. *bšl*, Arb. *bsl*, Sab. *m-bs*$_1$*l*, Gez. *basala*, Tgr. *bäšlä*, Amh. *bässälä*, Mhr. *bəhēl*, Jib. *béšəl*, Soq. *béhel* (AHw. 111, DUL 242, HALOT 164, LSyr. 99, TA 28 84, SD 32, CDG 109, WTS 283, AED 896, ML 45, JL 30, LS 83).

### 1.2.8. *ŝ

**kariŝ*- ‘stomach’ > Akk. *karšu*, Hbr. *kārēŝ*, Syr. *karsā*, Arb. *kariš*-, Gez. *karŝ*, Amh. *kärs*, Mhr. *kīrəŝ* (SED I No. 151);

*ʿ*aŝr*- ‘ten’: Akk. *ešer*, Ugr. *ʿšr*, Hbr. *ʿäŝär*, Syr. *ʿsar*, Arb. *ʿašr*-, Sab. *ʿs*$_2$*r*, Gez. *ʿaŝr-u*, Tna. *ʿassärtä*, Mhr. *ʾōŝər*, Jib. *ʿɔ́ŝɔr*, Soq. *ʿáŝer* (AHw. 253, DUL 188, HALOT 894, LSyr. 537, Lane 2052, SD 21, CDG 73, TED 1859, ML 32, JL 17, LS 331);

**ŝayb*(*-at*)- ‘grey hair’ > Akk. *šībtu*, Ugr. *šbt*, Hbr. *ŝēb*, Syr. *saybātā*, Arb. *šayb*-, Gez. *ŝibat*, Har. *šibät*, Mhr. *ŝayb*, Jib. *ŝub* (SED I No. 66).

### 1.2.9. *ṣ̂

*ʾ*arṣ̂*- ‘earth’ > Akk. *erṣetu*, Ugr. *ʾarṣ*, Hbr. *ʾäräṣ*, Syr. *ʾarʿā*, Arb. *ʾarḍ*-, Sab. *ʾrṣ̂*, Jib. *ʾərẓ̂* (AHw. 245, DUL 106, HALOT 90, LSyr. 51, Lane 48, SD 7, JL 4);

*rḥṣ̂ ‘to wash’ > Akk. *raḫāṣu*, Ugr. *rḥṣ*, Hbr. *rḥṣ*, Off. Arm. *rḥʿ*, Arb. *rḥḍ*, Sab. *rḥṣ̂*, Wol. *raṭä*, Mhr. *rəḥāẑ*, Soq. *ráḥaẑ* (AHw. 942, DUL 738, HALOT 1220, DNWSI 1072, Lane 1052, SD 116, EDG 528, ML 322, LS 398);

*ṣ̂bṭ ‘to seize’ > Akk. *ṣabātu*, Ugr. *m-ṣbṭ-m*, Hbr. *ṣbṭ*, Arb. *ḍbṭ*, Gez. *abaṭa*, Sod. *ṭäbbäṭä*, Mhr. *ẑáybəṭ*, perhaps Mnd. *abṭ* ‘to bind, take captive’, JBA *ʿbṭ* ‘to seize’ (AHw. 1066, DUL 585, HALOT 997, CDG 148, EDG 611, ML 472, DM 3, DJBA 840).

### 1.2.10. *ḫ

*naḫīr- ‘nostril’ > Akk. *naḫīru*, Hbr. *nəḥīrayim*, Syr. *nḥīrē*, Arb. *nuḫrat-*, Mhr. *nəḫrīr*, Soq. *náḥrīr* (SED I No. 198);

*warḫ- ‘moon, month’ > Akk. *warḫu*, Ugr. *yrḫ*, Hbr. *yārēaḥ*, Syr. *yarḥā*, Sab. *wrḫ*, Gez. *warḫ*, Amh. *wär*, Har. *wäḫri*, Mhr. *warḫ* (AHw. 1466, DUL 979, HALOT 438, LSyr. 309, SD 162, CDG 617, AED 1499, EDH 159, ML 430);

*ḫamiš- ‘five’ > Akk. *ḫamiš*, Ugr. *ḫmš*, Hbr. *ḥāmēš*, Syr. *ḥameš*, Arb. *ḫams-*, Sab. *ḫms*$_1$, Gez. *ḫams*, Tna. *ḥamməštä*, Mhr. *ḫáyməh*, Jib. *ḫīš*, Soq. *ḥámoš* (AHw. 317, DUL 396, HALOT 331, LSyr. 242, Lane 810, SD 61, CDG 262, TED 174, ML 443, JL 302, LS 181).

### 1.2.11. *ɣ

*ɣārib-, *ɣurăb- ‘raven’ > Akk. *āribu*, *ēribu*, Hbr. *ʿōrēb*, Syr. *ʿurbā*, Arb. *ɣurāb-*, Mhr. *yə-ɣəráyb*, Soq. *ʾáʿreb* (SED II No. 89);

*ɣby ‘to be thick’ > Akk. *ebû*, Ugr. *ɣb-n*, Hbr. *ʿābā*, Syr. *ʿbī*, Arb. *ʾaɣbā*, *ɣabiyy-*, *ɣabāʾ-*, Gez. *ʿabya* (AHw. 183, DUL 316, HALOT 777, LSyr. 507, Lane 2228, Dozy 2 201, CDG 55);

*ɣpr ‘to cover’ > Akk. *apāru*, Ugr. *ɣprt*, Arb. *ɣfr*, Gez. *ʿafara*, *māʿfart*, Mhr. *ɣəfūr*, Jib. *ɣɔ́fɔ́r* (AHw. 57, DUL 323, Lane 2273, CDG 58, ML 135, JL 84).

### 1.2.12. *ḥ

*ḥVmṯ- ‘lower belly’ > Akk. *emšu*, Ugr. *ḥmṯ*, Hbr. *ḥōmäš*, Gez. *ḥəms*, Amh. *əms*, Mhr. *ḥamṯ* (SED I No. 122);

*šaḥ(*a*)r- ‘dawn, morning’ > Akk. *šēru*, Ugr. *šḥr*, Hbr. *šaḥar*, JPA *šaḥrā*, Arb. *saḥar-*, Jib. *šḥor* (AHw. 1218, DUL 812, HALOT 1466, DJPA 545, Lane 1317, JL 261);

*niḥnu ‘we’ > Akk. *nīnu*, Hbr. *ʾănaḥnū*, Syr. *ḥnan*, Arb. *naḥnu*, Gez. *nəḥna*, Amh. *ənña*, Mhr. *nəḥā*, Soq. *ḥan* (AHw. 791, HALOT 71, LSyr. 242, LA 13 527, CDG 395, AED 1254, ML 291, LS 182).

### 1.2.13. *ʿ

*ʿaṯm- ‘bone’ > Akk. *eṣemtu*, Ugr. *ʿṯm*, Hbr. *ʿäṣäm*, Syr. *ʿaṯmā*, Arb. *ʿaḏm-*, Gez. *ʿaṣm*, Amh. *aṭənt*, Mhr. *ʾāḏəmēt* ‘back’ (SED I No. 25);

**tišʿ-* 'nine' > Akk. *tiše*, Ugr. *tšʿ*, Hbr. *tēšaʿ*, Syr. *tšaʿ*, Arb. *tisʿ-*, Sab. $ts_1$ʿ, Gez. *tasʿ-u*, Tna. *täšʿattä*, Mhr. *sɛ̄*, Jib. *sɔʿ*, Soq. *séʿeh* (AHw. 1362, DUL 880, HALOT 1802, LSyr. 838, Lane 306, SD 148, CDG 580, TED 1254, ML 338, JL 220, LS 289);

**tawliʿ(-at)-* 'worm' > Akk. *tūltu*, Hbr. *tōlēʿā*, Syr. *tawlʿā*, Amh. *təl*, Jib. *təbʿɔ́lɔ́t* (SED II No. 230).

### 1.2.14. **h*

**muhr-* 'foal' > Akk. *mūru*, Syr. *muhrā*, Arb. *muhr-*, Sab. *mhrt*, Tna. *məhir* (SED II No. 149);

**hadad-* 'thunder' > Akk. *adad*, *addu*, Ugr. *hd*, *hdd*, Arb. *hāddat-*, Tgr. *hadud*, *hədud*, Tna. *hadädä*, Mhr. *həd*, Jib. *hid* (Schwemer 2001, 34–58, DUL 334, Lane 2883, WTS 26, TED 50, ML 152, JL 94);

**ʾV-bhān-* 'thumb' > Akk. *ubānu*, Hbr. *bōhän*, Arb. *ʾibhām-*, Mhr. *hābɛ́n* (SED I No. 34).

### 1.2.15. **ʾ*

**ʾanp-* 'nose' > Akk. *appu*, Ugr. *ʾap*, Hbr. *ʾap*, Syr. *ʾappē*, Arb. *ʾanf-*, Gez. *ʾanf*, Har. *ūf* (SED I No. 8);

**šʾl* 'to ask' > Akk. *šâlu*, Ugr. *šʾil*, Hbr. *šʾl*, Syr. *š(ʾ)el*, Arb. *sʾl*, Sab. $s_1$ʾl, Gez. *saʾala*, Amh. *salä*, Mhr. *sōl*, Jib. *šɛ̄l*, Soq. *hoʾol* (AHw. 1151, DUL 795, HALOT 1371, LSyr. 748, Lane 1282, SD 121, CDG 480, AED 441, ML 338, JL 220, LS 139);

**ʾarḫ-* 'heifer' > Akk. *arḫu*, Ugr. *ʾarḫ*, Arb. *ʾarḫ-*, Tna. *ʾarḫi*, Soq. *ʾarḥ* (SED II No. 12).

## 1.3. Phonetic realization of PS consonants

### 1.3.1. The emphatics

#### 1.3.1.1. Phonetic realization of the 'emphatics' in modern Semitic languages

Two types of phonetic realization of the emphatic consonants are attested in modern Semitic:

(a) Glottalized stops and affricates are typical of ES (cf. Faber 1980, 124–130 for Amharic; Fre Woldu 1988 for Tigrinya). This realization has been known since the earliest European descriptions of modern ES, but opinion is divided as to whether it is original or imported from Cushitic (Cantineau 1951–1952, 92–93; Ullendorff 1955, 151–157; Faber 1980, 155–156).
Glottalized emphatics in Jibbāli, discovered by Fresnel in 1838 (Lonnet 1991, 68–69), were ignored for many decades (with the exception of Yushmanov 1930, 383). Glottalization in MSA (also outside Jibbāli) was rediscovered in Johnstone 1975b (with no mention of Fresnel, cf. Steiner 1977, 22; 1982b, 192) and is now

generally acknowledged in MSA linguistics (Lonnet−Simeone-Senelle 1983, 191 and 1997, 348−349; Lonnet 1993, 47). The existence of glottalized emphatics in Mehri has been recently put to doubt by Watson and Bellem (2010), for whom this articulation is feasible only for the velar *ḳ*. The present author's observations from his fieldwork on Soqotra are in agreement with this claim.

(b) In spoken Arabic, the emphatics have been variously described as pharyngalized, velarized, uvularized or backed (Faber 1980, 116−122, 168; Zemánek 1996, 1−15; Roman 1983, 148−155).

(c) Velarized or pharyngalized emphatics coupled with backing of the adjacent vowels and spread of the emphasis to the neighboring consonants have been described in Eastern Neo-Aramaic (Hoberman 1985; Odisho 1988, 49−50, 114−119; Fox 1997, 13−14; Younansardaroud 2001, 1963; Khan 1999, 21−24, 39−40; 2002, 27; 2004, 22−23; Talay 2008, 84−86). For Hoberman (1997, 316), 'the 'emphatic' co-articulation is identical, both phonetically and phonologically, to the same phenomenon which is familiar in Arabic'. Tsereteli's isolated report of 'abruptive' emphatics *ṗ*, *ṭ*, *ḳ* and *č̣* among Soviet Assyrians (1978, 37−38; reproduced in Dolgopolsky 1977−1999, 29; Bomhard 1988, 115; cf. Diakonoff 1991−1992, 63−64) raises questions of recent influence from Georgian or Armenian (cf. Krotkoff 1982, 11, Faber 1980, 135, Diakonoff 1991−1992, 63−64). Velarized emphatics are also typical of Ṭūrōyo (Jastrow 1993, 3−7) as well as of the Western Neo-Aramaic of Maʿlūla (Arnold 1990, 16).

Which of the two realizations has to be postulated for PS? The supporting arguments fall into two categories: evidence from ancient Semitic languages and structural evaluation of the PS consonantal system.

#### 1.3.1.2. Glottalized emphatics in Ancient Semitic Languages

Glottalized emphatics have been postulated for Akkadian. Thus, 'Geers' Law' stipulates that two etymological emphatics are not compatible within an Akkadian root: *ṣabātu* 'to seize' < **ŝbṭ*, *ḳatānu* 'to be thin' < **ḳṭn*, *kaṣāru* 'to bind' < **ḳṣr*, *siāḳu* 'to be narrow' < **ŝyḳ*, etc. (Geers 1945, GAG § 51e). Dissimilation of this type is more likely if the emphatics were glottalized (Faber 1980, 145−147; Huehnergard 1997, 438). The same is true of the dissimilation *ḳaḳḳadu* > *kaḳḳadu* 'head' and *ḳaḳḳaru* > *kaḳḳaru* 'land', mostly in OB and NA (Knudsen 1961).

The verb *našā'u* (**nŝ'*) 'to lift' displays peculiar behavior in MA and NA. Whenever *š* and ' are in contact, the outcome is spelled as ŞV: *it-ta*-ŞU 'they have brought' < *ittaš'ū* etc. (Parpola 1974). Since *š* was likely pronounced as [s] in Assyrian (see 1.5.1.4.), this process can be described as [s] + ['] = [s']. The ŞV spelling of [s'] indicates that *ṣ* was realized as [s'] (or, better, [c']) in Assyrian (Aro 1977, 8, Voigt 1986).

Forms of the verbs *maṣā'um* 'to be sufficient', *waṣā'um* 'to go out', *kaṣā'um* 'to be cold' and *nadā'um* 'to lay down' often avoid the expected broken spellings indicating a post-consonantal glottal stop: *i-ta-ṣa-am* 'he went out to me' instead of *i-ta-aṣ-a-am* or *i-dá* 'lay down!' instead of *id-a* (Kouwenberg 2003, unrecognized in Diakonoff 1991−1992, 62). In structurally similar forms of other verbs broken spellings are regular (*ta-am-a-am* rather than ***ta-ma-am* 'swear to me!'). The spelling *i-ta-ṣa-am* reflects the combination [s'] + ['] (= [s"]), simplified into [s'], whereas *i-dá* renders a glottalized [t'] emerging from [d] + ['].

Outside OA, glottalization may explain non-etymological gemination in forms like *ḫiṭṭu* 'sin' or *kuṣṣu* 'cold' ([ḫit'u] > [ḫitt'u], Huehnergard 1997, 437).

Akkadian emphatics have no backing effect on the neighboring vowels, which would be expected if they were pharyngalized (Knudsen 1961, 89–90, cf. Faber 1980, 146).

Pharyngalized realization of Akkadian emphatics has been inferred from the assimilation *-ḳt- > -ḳṭ-* in MA and NA (*iḳṭibi* 'he said', GAG §§ 29e, 96f), but the relevance of this feature has been dismissed (Faber 1980, 146; Kouwenberg 2003, 84; cf. Huehnergard 1997, 438 for a possible CS influence).

Evidence from ancient WS is scarce. According to Faber (1980, 140–141), the assimilation **-ṣt- > -ṣṭ-* in the Dt stem in Hebrew (*hiṣṭaddēḳ* 'he declared himself righteous') suggests backing rather than glottalization. The same assimilation is attested in Aramaic (*yiṣṭabbaʿ* 'he will be moistened' in Da 4:12, Bauer / Leander 1927, 33) and in Arabic (Fischer 1987, 25–26).

### 1.3.1.3. Structural arguments for glottalization in PS

There are structural arguments in favor of glottalization and against backing in PS:

(a) Glottalization is cross-linguistically common, whereas pharyngalization and velarization are rare (Cantineau 1951–1952, 92; Faber 1980, 164–165).
(b) The triadic organization of stops and affricates agrees with the glottalic hypothesis: while backed consonants can be both voiceless and voiced, glottalized consonants can only be voiceless (Moscati 1954a, 25; Dolgopolsky 1977, 3, 1999, 29; Faber 1980, 157; Bomhard 1988, 116).
(c) Transformation of backing into glottalization is difficult, but the reverse is easily conceivable (Haudricourt 1950; Cantineau 1951–1952, 93; Moscati 1954a, 26; Dolgopolsky 1977, 6–7; Faber 1980, 160–162; Tropper 2000a, 97).
(d) Lack of reliably reconstructed emphatic labial **ṗ* (cf. 1.4.1.) agrees with the (physiologically motivated) cross-linguistic rarity of the glottalized bilabial stop (Martinet 1953, 69–70; Bomhard 1988, 116).

In view of these arguments, glottalized emphatics are usually postulated for PS (Haupt 1890, 252–254; Bergsträsser 1983[1928], 4; Vilenčik 1930, 89–90; Cantineau 1951–1952, 93; Martinet 1953; Moscati 1964, 23–24; Dolgopolsky 1977; Faber 1980, 154–167; Diakonoff 1988, 35; Bomhard 1988, 115–117; Stempel 1999, 64–67; objections in Garbell 1954, 234–236 and Lipiński 1997, 105–106 are mostly groundless). Its shift to backing has been considered a CS innovation (Faber 1980, 162–163; cf. Huehnergard 2005a, 165–166).

### 1.3.2. The affricate hypothesis and **š*

The traditional PS reconstruction has no affricates, but according to a growing consensus this realization is to be ascribed to at least some of the traditional sibilants. Three varieties of the 'affricate hypothesis' can be detected: narrow, middle and broad (Steiner 1982a, 1–5). Within the narrow variety, the emphatic **ṣ* becomes [ʂ] The middle variety extends to the non-emphatic sibilants: **s* and **z* become [ʦ] and [ʣ]. The broad variety subsumes lateral sibilants and interdentals.

#### 1.3.2.1. The narrow variety of the affricate hypothesis

The narrow variety is the most persuasive and popular hypothesis. Its classic exposition is Steiner 1982a.

##### 1.3.2.1.1. Geez

PS *ṣ appears as a glottalized affricate [ç] in the traditional pronunciation of Geez. As shown by Cardona (1968, 8−9), Steiner (1982a, 82−83) and Podolsky (1991, 18), this pronunciation is assured already for the Aksumite period by Greek renderings with τ and τζ for the toponym *ṣəyāmo* (RIÉ 188:4) = Τιαμῶ (RIÉ 270:4), Τιάμαα (RIÉ 277:6), Τζιαμω (Bernard/Drewes/Schneider 1991, 380) and the royal name *'l 'ṣbḥ* (RIÉ 191:7−8, 192:7), referred to as 'Ελατζβάας by Cosmas Indicopleustes (Wolska-Conus 1968, 369). In modern ES, the affricate realization of *ṣ* is (*contra* Ullendorff 1955, 112, 117−118) assured by experimental phonetics (Palmer 1956, 146; Sumner 1957, 5−9). Besides, a hushing affricate *ç̌* is attested throughout modern ES (Ullendorff 1955, 129−157; Podolsky 1991, 34−47) as an outcome of palatalization of *ṣ (cf. 1.5.4.2.). In Southern ES, *ṣ usually shifts to *ṭ* unless palatalized (Strelcyn 1968; Ullendorff 1955, 117−123; Podolsky 1991, 22−24).

##### 1.3.2.1.2. Hebrew traditions

The affricate צ in (pre-)modern traditions of Hebrew has been extensively dealt with in Steiner 1982a, 11−40. The grapheme צ renders affricates of early New Persian (צי for *čē* 'what', צמה for *ǯāmah* 'material', Steiner 1982a, 13−15), Karaim and Old Osmanli Turkic (נוצון for *núčún* 'why', צלבי for *čelebi* 'gentleman', ibid. 19−20), Old Italian (צנמו for *cennamo* 'cinnamon', לנצא for *lancia*, *lanza* 'lance', ibid. 25), Old Czech (פיוצי for *piječvicě* 'leeches', צטוירט for *čtvrt* 'quarter', ibid. 27), Middle High German (הולצ for *holz* 'wood', ציט for *zit* 'time', ibid. 27−28), and Old French (נוציש for *noces* 'nuptials', בירציל for *bercel* 'cradle', ibid. 30). Similarly, Hebrew צ was rendered by the Old French affricates *c*, *z* (*cedek* for צדק, *arez* for ארץ, ibid. 28−29). In the Cyrillic alphabet, the Slavic affricates [c] and [č] are rendered by the graphemes Ц and Ч borrowed from צ and ץ respectively (ibid. 17−18).

##### 1.3.2.1.3. Pre-medieval Hebrew and Phoenician/Punic

There is some evidence for the 'affricated *ṣade*' in pre-medieval Hebrew and Phoenician / Punic.

In Phoenician personal names of Egyptian origin, *ṣ* renders the Egyptian affricate *ḏ* (Muchiki 1999, 47−50, cf. ibid. 53 for *ṯ*): *ḥrwṣ* = *ḥr-wḏ(ꜣ)* 'Horus is prosperous', *ṣḥ'* = *ḏ(d)-ḥ(r)* 'The face speaks', *ṣḥpmw* = *ṯ(ꜣy)-ḫp-(i)m.w* 'Apis can seize them', *ṣknsmw* = *ṯ(ꜣy)-ḫns(.w)-(i)m.w* 'Khons can seize them' (Muchiki 1999, 24, 41; Benz 1972, 192−193).

The same is true of Egyptian proper names and loanwords in Biblical Hebrew (Muchiki 1999, 261, 263–264, 267): *ṣī* 'ship' < *ḏ(ʒ)y* (HALOT 1020), *ṣāpənat paʿnēaḥ* (the Egyptian name of Joseph in Gn 41:45), probably = *ḏf(ʒ.ỉ)-nṯ(r) p(ʒ)-ʿnḫ* 'My provision is god, the living one', *ṣōʿan* 'Tanis' (HALOT 1042) = *ḏʿn(.t)* (cf. already Olshausen 1879, 568–569).

The name of the Hebrew letter צ (*ṣādē*) appears as τιαδη in the Vatican codex of LXX (Cantineau 1950, 88; Steiner 1982a, 40–41; Beyer 1994, 37).

The Punic term **ḥāṣīr* 'plant, herb' (cf. Hbr. *ḥāṣīr*, HALOT 343–344) is transcribed as αστειρ, ατειρ, ασιρ and *atir* in Greek and Latin (Löw 1881, 404–405; Steiner 1982a, 60–61; Friedrich/Röllig 1999, 26). The same applies to the Punic plant name αμουτιμ, which corresponds to **ḥămūṣīm* (Löw 1881, 402; Steiner 1982, 61–62).

In Latino-Punic inscriptions from Tripolitania, *ṣ* is rendered by a special sign (conventional transcription *ç*) which represents a ligature of *s* + *t* (Cardona 1968, 10; Steiner 1982a, 63; Friedrich/Röllig 1999, 28; cf. Kerr 2007, 81–85).

According to Cardona (1968, 11), affricated realization of Punic *ṣ* can be inferred from Sardinian *mittsa*, *mintsa* 'spring, fountain', going back to a form similar to Hbr. *mōṣā(ʾ)* 'source' (Wagner 1957, 105–106; Friedrich 1957, 223; cf. Steiner 1982a, 63–64).

The letters *san* and *sampi* of early Hellenic scripts are possibly derived from צ and render sounds which, on etymological grounds, are to be interpreted as affricates (Steiner 1982, 65; Diakonoff 1991–1992, 51; cf. Brixhe 1991, 324–335; Krebernik 2007, 129–130). Diakonoff surmises the same origin for ψ (*psi*) and believes that ψ renders Semitic **ṣ* in γύψος 'gypsum', borrowed from a Semitic source like Akk. *gaṣṣu* or Syr. *gaṣṣā* (Frisk 1960, 336; CAD G 54, LSyr. 129, for *-i-* cf. Arb. *ǯiṣṣ-*, Lane 428). According to Steiner (1982a, 66), the use of double σσ for *ṣ* in βύσσος 'linen' (cf. Hbr. *būṣ*, HALOT 115; Frisk 1960, 278) and κασσία 'cassia' (cf. Hbr. *ḳəṣīʿā*, HALOT 1122) points to an affricate *ṣ* in the source language, as σσ is the reflex of etymological affricates in early Greek. The name of the Phoenician city known as *Ṣumur* in EA and *Ṣimirra* in NA is rendered as ξίμυρα by Strabo (Wild 1973, 284, Steiner 1982, 69). Note, finally, *ṣ* – στ in Greek στύραξ 'storax', borrowed from a WS source like Hbr. *ṣŏrī* (Frisk 1960, 814; HALOT 1055; cf. Vitestam 1987–1988; Sima 2000, 270).

#### 1.3.2.1.4. Ugaritic

Ugr. *mḫṣ* 'to kill' is realized as *mḫš* before the 1 sg. suffix *-t*: *mḫšt* 'I killed' (DUL 540–541). As seen already by Held (1959), this phenomenon is inseparable from the shift *marṣu* > *maruštu* in Akkadian (cf. 1.3.2.2.1) and should be interpreted as de-affrication of [ç] before *t* (Tropper 2000a, 105–106).

#### 1.3.2.1.5. Aramaic

Evidence for an affricate *ṣ* in Aramaic is assembled in Steiner 1982, 45–59. Aramaic loanwords and proper names with *ṣ* are spelled with the affricate *c* in Old Armenian (Hübschmann 1892, 229; Cardona 1968, 5; Steiner 1982a, 47–48; Dolgopolsky 1999, 32): *com* 'fast' (Syr. *ṣawmā*, LSyr. 623, Hübschmann 1892, 239; 1897, 306), *crar* 'bundle'

(Syr. *ṣrārā*, LSyr. 636, Hübschmann 1892, 239, 1897, 306), *cur* 'Tyre' (Syr. *ṣūr*, PS 3388, Hübschmann 1897, 293), *nacr-ac$^{h}$i* 'Christian' (Syr. *nāṣrāyā*, LSyr. 444, Hübschmann 1892, 245; 1897, 312).

The Aramaic name of the letter ܨ appears as *çadey* in early Georgian manuscripts (Steiner 1982a, 45−47).

Aramaic-based Middle Iranian orthographies use ܨ to render *č* (Cardona 1968, 5; Steiner 1982a, 52−53; Skjærvø 1996, 516). In Aramaic loanwords in Middle Iranian, *č* renders *ṣ* (GVG 208; Cardona 1968, 5; Steiner 1982a, 55): Christian Sogdian *člyb'*, NP *čalīpā* 'cross' (Syr. *ṣlībā*, LSyr. 629), MP *gač* 'lime' (Syr. *gaṣṣā*, LSyr. 129). And *vice versa*, *č* is rendered by *ṣ* in Iranian loanwords in Aramaic (Olshausen 1879, 570; Vilenčik 1931, 506; Steiner 1982a, 54; Ciancaglini 2008, 81): JBA *ṣhr* / *ṣḥr* 'four' (MP *čahār*, Steiner 1982a, 53; cf. DJBA 514), Syr. *'eṣārē* 'condiments, spices' (NP *āčār*, LSyr. 44; Ciancaglini 2008, 115), *dārṣīnī* 'cinnamon' (NP *dār-čīnī*, LSyr. 168; Ciancaglini 2008, 158), *ṣāngā* 'cymbal' (NP *čang*, LSyr. 632; Ciancaglini 2008, 244), *ṣandal* 'sandalwood' (NP *čandal*, LSyr. 633; Ciancaglini 2008, 245), Mnd. *ṣinga* 'claw' (NP *čang*, MD 394).

In Steiner 1982a, 57, the letter ܨ rendering *č* of Central Asian Turkic is described (*yytynṣ* = *yitinč* 'seventh', *syṣḳ'n* = *sïčqan* 'mouse').

PS **ṣ* is rendered by *ts* in the Aramaic texts of Papyrus Amherst 63 (Steiner/Nims 1983, 263; Kottsieper 2003, 91). Steiner 1982a, 57−59 deals extensively with *tspʾnʾ* designating the divine mountain Ṣāpōn (cf. Vleeming / Wesselius 1985, 55; Hoch 1994, 409). More examples are found in DNWSI 1252−1266: *tsyryʾ* (18:5) 'the emissaries' (DNWSI 1263; = Hbr. *ṣīr*, HALOT 1024), *nʾtsyn* (20:4) 'quarreling' (DNWSI 1261; = JPA *nṣy*, DJPA 359), *tswʾrtʾhn* (6:15) 'their necks' (DNWSI 1263; = Syr. *ṣawrā*, LSyr. 625), *tsʾtʾkʾ* (10:12) 'righteous' (DNWSI 1263; = Hbr. *ṣaddīḳ*, HALOT 1001). This spelling agrees with Arm. *ṣ* = Eg. *ḏ* in Egyptian personal names and titles (Steiner 1982a, 59): *wṣḥwr* = *wḏ*(*ʾ*)-*ḥr* 'May Horus be prosperous', *pḥyḳṣṣ* = *p*(*ʾ*)-*ḫy*-(*r*-)*ḳ*-(*ʾy*)-*ḏ*(*ʾ*)-*ḏ*(*ʾ*) 'He who ascends to the high head', *ṣmḥw* = *ḏ*(*d*)-*mḥ*(*y.t*) 'the North speaks', *psḥmṣnwty* = *p*(*ʾ*)-*sḫ*-*mḏ*(*ʾ.t*)-*nṯ*(*r*) 'The scribe of the god's book(s)' (Muchiki 1999, 77, 110, 140, 170).

In the Aramaic incantation from Wadi Ḥammamat, Aramaic *ṣ* is rendered by the Egyptian affricate *ṯ*: *ṯy.t* = *ṣydt* 'Huntress' (Steiner 2001, 267).

The Old Persian rendering *n-b-u-ku-*(*u-*)*-d-r-č-r* of the Akkadian royal name *Nabû-kudurrī-uṣur* has been used as an argument for an affricate *ṣ* in Akkadian (Olshausen 1879, 568−569; Haupt 1890, 262; Vilenčik 1930, 93; Cardona 1968, 5; Diakonoff 1980, 10), but an Aramaic intermediary is likely (Steiner 1982a, 50, 70−71).

### 1.3.2.1.6. Arabic

As observed by Vilenčik (1931, 505) and Cardona (1968, 11−12), Arabic *ṣ* renders *č* in loanwords and proper names from a variety of Oriental languages. Persian loanwords are prominent in Steiner 1982a, 75−77: *ṣanār-* 'plane tree' < *čanār*, *ṣarm-* 'hide' < *čarm*, *ṣawlaǯān-* 'polo stick' < *čawgān*, *ṣīn-* 'China' < *čīn-* (Eilers 1971, 590, 607−608). For Steiner (1982a, 76, 79−81), most of this evidence is inconclusive because of the possibility of an Aramaic intermediary.

Outside the Iranian domain, note perhaps *ṣūfu l-baḥri* 'sea-weed' (Lane 1748), which has been considered a loanword from Coptic ϧοουϥ 'papyrus' (Wb. V 359, Steiner 1982:76; for Eg. *ṯwfy* see further Muchiki 1994:252, Ward 1974).

According to Yushmanov (1998[1940], 144), alternations between *ṣ* and *k*, *q*, *ǯ* as the third root consonant observed in Colin 1934 (*trṣ* / *trǯ* 'to be strong', LA 7 11, TA 5 438 or *bḫṣ* / *bḫq* 'to pick out (one's eye)', LA 7 4, 10 15) may point to an affricate *ṣ*, which would be phonetically close to the affricate *ǯ* and palatalized (> affricate) allophones of *k* and *q*.

Egyptian Arabic ص may render Coptic affricates *č* and *ǯ*: *baṣrōṣ* 'oats' < πι-ϧρωϧ, πε-σροσ 'seed', *ṣīr* 'salt fish' < ϧιρ (Behnstedt 1981, 84; Vycichl 1983, 331)

Hypothetic affricate realization of ص contrasts with its description by native grammarians (notably, Sībawayhi), to whom only a fricative ص was known (Steiner 1982a, 79).

#### 1.3.2.1.7 Latin *-st-* and Greek -στ- rendered as *ṣ* in Hebrew, Aramaic and Arabic

Hebrew, Aramaic and Arabic *ṣ* may render Latin *-st-* and Greek -στ- (Cardona 1968, 11): Arb. *qaṣr-* 'castle' < Greek κάστρα < Latin *castra* (Jeffery 1938, 240−241) or Arb. *ṣirāṭ-* < Greek στρᾶτα < Latin *strata* (Jeffery 1938, 195−196). For Steiner (1982a, 42), these examples are irrelevant in view of the similar *t*-excrescence in such transcriptions as Μεστραιμ and Βόστρα for *misrayim* and *bosrā* (Vitestam 1987−1988, 33), but the similarity is only partial: in *castra* and *strata*, *-t-* is already present in the source-word and disappears rather than emerges in the Semitic forms. Since in all pertinent examples *st* = *ṣ* appears before *r*, Steiner's doubts may still be not unfounded, but it is remarkable that a realization [st] for ص has been described for some varieties of Yemenite Arabic (Behnstedt 1987, 7−9; Watson/Bellem 2010, 351).

#### 1.3.2.1.8. Egyptian *ḏ* is rendered by ṢV signs in Neo-Assyrian and Neo-Babylonian

Egyptian *ḏ* is rendered by ṢV signs in NA and NB Akkadian (Ranke 1910, 93): ṢI-ʾ-*nu* = *ḏ*ʿ*n* 'Tanis' (Ranke 1910, 34; Borger 1996, 20; Vergote 1973, 97−98), ṢI-*ḫa-a* = *ḏ*(*d*)-*ḥ*(*r*) (Ranke 1910, 34; Borger 1996, 21; Vergote 1973, 98), *u*-ṢI-*ḫa-an-ša* = *wḏ*ꜣ-*ḫnsw* (Ranke 1910, 36; Johns 1901, 537), *ga*-ṢU-ṢU = *ḳ*ꜣ*j*-*ḏ*ꜣ*ḏ*ꜣ (Vittmann 1984, 65), ṢU-*u-a*-ṢU = *ḏ*(*d*)-*w*ꜣ*ḏj*(*.t*) (Ranke 1910, 34).

### 1.3.2.2. The narrow variety of the affricate hypothesis

The narrow variety proven (*contra* Moscati 1964, 33), structural considerations may prompt one to think that if **ṣ* was an affricate, the non-emphatic members of the **s* − **ṣ* − **z* triad were affricates as well. Steiner (1982a, 84−89) rightly warns against this extrapolation. If the PS emphatic were glottalized (1.3.1), an affricate realization of **ṣ* is nearly inevitable given the cross-linguistic rarity of glottalized sibilants (Martinet 1953, 71; Steiner 1982a, 84−89) and has no bearing on the phonetic identity of **s* and **z*. Affrication can be genuine for the whole triad: its preservation in the 'emphatic' member being secured by glottalization (Vilenčik 1930, 92; Martinet 1953, 71−72), but

the reverse is also possible: glottalization may secondarily induce affrication into an originally fricative sound (cf. Voigt 1986, 55–56).

The middle variety must therefore be supported by independent evidence.

#### 1.3.2.2.1. Akkadian

The affricate interpretation of Akkadian *s*, *z* and *ṣ* is now generally accepted (W. Sommerfeld in GAG § 30). Its pillars are laid by Diakonoff (1980; 1991–1992, 36–55) and Faber (1985a), followed by Girbal 1997, Tropper 1996 and Streck 2006. The available evidence can be subdivided into internal and external sources.

Internal evidence comes from phonotactic rules affecting the sibilants in early Akkadian orthography.

(a) When pronominal enclitics in *š-* are attached to forms ending in a dental, the outcome is spelled as (VZ)ZV: *mu*-ZA/*mu*-UZ-ZA 'her husband' < **mut-ša*, *aš-ša*-ZU/*aš-ša*-AZ-ZU 'his wife' < **aššat-šu*, *il-ma*-ZI 'he knew her' (all examples, after Streck 2006, 228–230, are from CḪ). As observed in Streck (2006, 231–232) and Westenholz (2006, 253, 258), the same spelling characterizes the combinations of *š-* with word-final *s*, *z* and *ṣ* (*iḫ-ḫa*-AZ-ZI 'he will take her' < **iḫḫaz-ši*, Streck 2006, 232).
It fell to Diakonoff (1980, 11 and 1991–1992, 52) and Faber (1985a) to explain this phenomenon in terms of the affricate hypothesis: the combination dental + sibilant becomes an affricate and is spelled with the corresponding signs (cf. already Goetze 1958, 148; Hecker 1968, 63). Since double spellings (like *mu*-UZ-ZA) are common in some OB corpora, the affricate was probably geminated ([mucca]), although the origin of the doubling is uncertain (Girbal 1997, Streck 2006, 230).
As observed by Goetze (1958, 142–143; cf. Westenholz 2006, 253), when pronominal suffixes in *š-* are attached to forms ending in *-š* in the 'northern' OB orthography, the outcome may appear as ZV (*er-re*-ZA 'her tenant farmer' < **errēš-ša*, CḪ, Streck 2006, 239) instead of SV, which is more common in such cases (*lu-la-bi*-SI 'I will clothe her' < **lulabbiš-ši*, Sippar, Westenholz 2006, 259). The emergence of an affricate from the contact of two plain sibilants ([šš] or [ss] > [c(c)]) is hard to explain (Buccellati 1997, 29; Streck 2006, 242).

(b) Before the feminine suffix *-t-*, there is a shift of *ṣ*, *s* and *z* to *š*: *marṣu* 'sick', fem. *maruš-t-u*, *naplasu* and *naplaš-t-u* 'look, glance', *manzazu* and *manzaš-t-u* 'position'. Since the sign ÁŠ used in such cases belongs to the SV series (Streck 2006, 216–217), the outcome of the shift is actually *-st-* rather than *-št-*. This phenomenon has been plausibly interpreted by Diakonoff (1991–1992, 53) as de-affrication: [$^{t}$st], [$^{t}$ṣt], [$^{d}$zt] > [st] (cf. already Knudsen 1982, 7 as well as Tropper 1996, Girbal 1997, Streck 2006, 216–218). Outside this morphological position, cf. *eldu* (= **ešdu*) 'reaped' < *eṣēdu* 'to harvest' (CAD E 338). In Knudsen 1961, 7 and Streck 2000, 230, the same explanation is proposed for the WS onomastic element *ia*-AŠ-*du-uḳ*/*ia*-ÁŠ-*du-uḳ* (instead of the expected *ia*-AZ-*du-uḳ*) < **ṣdḳ* 'to be just'.

(c) According to Diakonoff (1991–1992, 52), Tropper (1996, 648) and (Streck 2006, 218), assimilation of the reflexive marker *t* to the first radical *ṣ*, *s* and *z* (*issaḫar* 'he turned') favors the affricate realization of these consonants. While the [$^{t}$st]

cluster in *[i-ᵗs-ta-ḫar] is certainly unwelcome, the assimilation [ᵗst] > [ᵗss] is (*contra* Diakonoff) hardly a natural way of resolving such a cluster (as observed by Streck, such a development would be radically divergent from the phonetically justified shift [ᵗst] > [st] discussed in section b). More attractive is, therefore, the reconstruction *[i-t-ᵗsaḫar], with the *t*-marker prefixed rather than infixed (as against *i-p-taras* in the regular paradigm; the contrast is explicit in the infinitive *ti-ṣbutum* vs. *pi-t-rusum*, GAG § 18a). Within such a reconstruction, the assimilation *[i-t-ᵗsaḫar] > [iᵗᵗsaḫar] is indeed quite natural. It is thus the unusual prefixed position of *t* − be it an archaism or a secondary metathesis (Diem 1982, 73−74; Huehnergard 1997, 440−441) − that is relevant for the affricate hypothesis: verbs *primae ṣ*, *s* and *z* behave like verbs *primae d* or *ṭ* (cf. *i**dd**akaš* 'it separated iself'', ***ti**-dkušat* 'it is separated', CAD D 34), with which they share the dental onset, but differ from verbs *primae š* (cf. *i-š-**ta**-pak* 'he poured', *ši-**t**-pukum* 'to pour'), which is a plain sibilant (cf. Streck 2006, 227−228, 241).

(d) The shift *š* > *l* discussed in 1.3.3.14. is best known to occur before dentals, but also affects *šs* and *šz*: *ulziz* (< *ušziz*) 'he established', *ilsi* (< *išsi*) 'he shouted' (GAG § 30l). Since the lateral realization of *š* is elsewhere conditioned by the following dental, its presence before *s* and *z* favors their affricate realization (a dental onset).

Some of the above phenomena are attested already in Sargonic (Hasselbach 2005, 143−144), whereas the OA picture is largely identical to that of OB (Hecker 1968, 59−66).

External evidence for the affricate realization of the ZV series comes from non-Semitic languages which used Akkadian cuneiform.

The best known example is Hittite (Albright 1946, 318; Haudricourt 1951−1954, 37−38; Martinet 1953, 71; Diakonoff 1980, 10 and 1991−1992, 42−43), where the affricate value [c] for ZV is assured by the rules of IE historical phonology (Friedrich 1974, 32, Vanséveren 2006, 45−46).

The ZV series renders the affricate *t̲* in Egyptian words in EA: *pa*-ZI-*t*[*e*] 'vizier' (EA 71:1) < *p*(*ȝ*)-*t̲*(*ȝ*)*t*(*y*) (CAD P 221, Muchiki 1999, 300), ZA-*ab-na-ku-u* 'a vessel' (EA 14 III 54) < *t̲*(*ȝ*)*b-n-k*(*ȝ*) (CAD Z 9, Ranke 1910, 20, Vergote 1973, 101, Muchiki 1999, 303).

The signs ZA, ZÍ, AZ, IZ render the Old Iranian affricates *č* and *ǯ* in Elamite (Paper 1955, 28−29; Tavernier 2010), *da*-ZA-*ra*, *da*-IZ-ZA-*ra*(*-um*) = *tačara-* 'palace', *ha-ra-an*-ZA-*na-um* = *āranǯanam* 'color', *ba*-ZÍ-*iš* = *bāǯiš* 'tax' (Tavernier 2007, 36). An affricate value of the ZV series in Akkadian has been often deduced from this practice (Vilenčik 1931, 506; Diakonoff 1980, 10 and 1991−1992, 44; cf. Steiner 1982a, 49−50, 71−72).

### 1.3.2.2.2. Early Canaanite

Early Canaanite reflexes of **s*, **z* and **ṣ* are rendered by the Egyptian graphemes *t̲* (for **s*) and *d̲* (for **z* and **ṣ*):

*ʾa*≻*t̲i*$_2$≻*ra* 'prisoner' − Hbr. *ʾāsīr*; *ku*≻*t̲i*$_2$ 'cup' − Hbr. *kōs*; *ku*≻*t̲i*$_2$≻*ta* 'cloth' − Hbr. *kəsūt*; *t̲u*≻*pi*$_2$≻−*r* 'scribe' − Hbr. *sōpēr*; *t̲i*$_2$≻*pa*≻*ra* 'bowl' − Hbr. *sēpäl*; *t̲*≻*r*≻*r*≻*t* 'siege ramp' − Hbr. *sōləlā*; *t̲u*$_2$≻*ru*$_2$≻*ta* 'groats' − Hbr. *sōlät* (Hoch 1994, 45, 338−339, 341, 364, 368−369, 369−370; HALOT 73, 466, 488, 767, 764, 757, 758);

*ḥa≠fi≠ḏa* ‘to hurry’ – Hbr. *ḥfz*, Arb. *ḥfz*; *ḫi≠ḏi*$_4$*≠ru*$_2$*≠ta* ‘sow’ – Hbr. *ḥăzīr*, Arb. *ḫinzīr-*; *ḏi*$_3$*≠tu* ‘olive’ – Arb. *zayt-*, Hbr. *zayit* (Hoch 1994, 225, 254, 395; HALOT 339, 302, 268; Lane 601, 732, 1274);

*ḳa≠ḏa* ‘gypsum’ – Akk. *gaṣṣu*, Arb. *ǯiṣṣ-*; *ḏa≠b≠ga≠ba*$_3$*≠ḳa* ‘dunking, soaking’ – Arb. *ṣbγ*, Hbr. *ṣbʿ* (Hoch 1994, 307–308, 383–384; AHw. 282; Lane 428, 1647; HALOT 998).

Since Eg. *t̲* and *ḏ* were affricates ([č] and [ǯ] or [č] and [č̣] respectively, Vergote 1945, 48–57; Vycichl 1990, 45–47, 65–66; Schenkel 1990, 39–40; cf. Hoch 1994, 408, 429–430), the Egyptian spellings provide a solid piece of evidence for an affricate realization of *s* and *z* in early Canaanite (Albright 1928, 232 and 1946, 318; Vilenčik 1930, 91–92; Steiner 1982a, 68–69; Hoch 1994, 408).

Some time later, the affricate realization of Canaanite *s* [c] and *z* [ʒ] was lost. For Tropper (1994, 22; 1995b, 511), Phoenician ש as the rendering of the ‘general sibilant’ of various non-Semitic languages (Friedrich/Röllig 1999, 27–28) means that ס was unsuitable for this purpose and, hence, still an affricate until ca. mid-3rd century B.C. (cf. already Garbini 1971, Gumpertz 1942, 115; Garbell 1954, 237). However, as pointed out in Albright (1928, 232), Steiner (1982, 68–89) and Dolgopolsky (1999, 61) the use of Egyptian *s* (instead of earlier *t̲*) to render Canaanite *s*, attested since ca. 1000 B.C., suggests that already at the turn of the 1st millennium B.C. the affricate realization of ס was lost (cf. Woodhouse 2003, 273). The explanation of the Phoenician picture is, therefore, to be sought in the phonetic nature of the ‘general sibilant’ of the non-Semitic languages in question, probably closer to ש [š] than to ס [s] (cf. Lipiński 1997, 122).

#### 1.3.2.2.3. Modern South Arabian ‘nine’

Throughout MSA, *t-* in the reflexes of PS **tišʿ-* ‘nine’ is lost: Mhr. *sɛ̄*, Jib. *sɔʿ*, Soq. *séʿeh* (ML 338, JL 220, LS 289). Incidentally, these forms display the shift PS **š* > *s*, which is unusual for the basic strata of the MSA vocabulary, where *š*, *s̃* or *h* are expected (cf. 1.5.5.). Taken together, these two peculiarities point to *š* = [s] and *s* = [c] in proto-MSA (Testen 1998, SED I p. XCI and cf. already Yushmanov 1934, 102): PS *[tisʿ-] > proto-MSA *[tsaʿ] (*[caʿ]) > Jib. *sɔʿ*. Neat structural parallels are found in Neo-Aramaic, where the numeral ‘nine’ exhibits *č* (otherwise atypical for the genuine lexicon of these languages) instead of *tš*: Tur. *ča*ʿ (Tezel 2003, 122–123), Jewish Neo-Aramaic (Sulemaniyya, Köy Sanjak) *ʾičʿa* (Khan 2004, 596; Mutzafi 2004, 213), M. Mnd. *ečča* (Macuch 1965, 20). Tigre *sə*ʿ ‘nine’ (WTS 311), obviously explainable in the same way, is not relevant for the affricate hypothesis since **š* and **s* are not distinguished in ES.

#### 1.3.2.2.4. West Semitic loan words in Armenian

According to Dolgopolsky (1999, 33), in the older stratum of Semitic loanwords in Armenian the reflexes of PS **s* and **z* appear as affricates: *cʰecʰ* ‘moth’ (Hbr. *sās*, Syr. *sāsā*, SED II No. 198, cf. Hübschmann 1892, 251 and 1897, 317), *ʒètʰ* ‘olive, oil’ (Hbr.

*zayit*, Syr. *zaytā*, HALOT 268, LSyr. 195, Hübschmann 1892, 243 and 1897, 309−310), *ʒivt*$^{h}$ 'pitch' (Hbr. *zäpät*, Syr. *zeptā*, HALOT 277, LSyr. 203, cf. Hübschmann 1897, 185, 310), *xənžor* 'apple' (Syr. *ḥazzūrā*, LSyr. 226, cf. Hübschmann 1892, 238; 1897, 305).

#### 1.3.2.2.5. Letter of the Greek alphabet

The Greek letter Σ for [s] goes back to ש rather than ס, which is unexplainable if the traditional values [š] and [s] for ש and ס are maintained. Similarly unclear is ס as the source of Ξ [ks]. Conversely, the values [s] and [c] for ש and ס provide a suitable background for both adaptations (Diakonoff 1991−1992, 51; Tropper 1995b, 510; Krebernik 2007, 128−129, 156).

#### 1.3.2.2.6. Punic

For Cardona (1968, 10) and Tropper (1999, 735), the use of σδ and *sd* in the Greek and Latin renderings of the Punic name *ʿzrbʿl* (Ασδρουβας, (*H*)*asdrubal*, Friedrich / Röllig 1999, 45) points to an affricate *z* ([ʒ]) in the source-form. This is probably not the case (Steiner 1982, 41−43; Dolgopolsky 1999, 153): the dental 'excrescence' in such cases is conditioned by *r* and seems to affect manifest plain sibilants as well ('Ισραήλ = *yiŝrāʾēl*).

#### 1.3.2.2.7. Arabic

There is no evidence for an affricate س in Arabic (Steiner 1982a, 7−8, 81). *Contra* Corriente 1976, 76, Old Spanish affricates *ç* and *z* rendering س do not prove that it was an affricate, since Old Spanish *s*, phonetically far removed from [s], was unsuitable to render a plain hissing sibilant.

Summing up, there is sufficient independent evidence for the affricate realization of PS **s* and **z*. The middle variety can be considered proven, as witnessed by its growing authority in modern Semitic linguistics (Cantineau 1960[1941], 46; Dolgopolsky 1999, 27−28, 32−35; Stempel 1999, 51−54; Tropper 2000a, 102; Huehnergard 2004, 142−143).

### 1.3.2.3. The phonetic interpretation of **š*

The middle variety bears on the phonetic interpretation of **š*. As soon as **s* becomes an affricate, there emerges an unusual phonological system, with [š] as the widely used 'general sibilant' and [s] missing altogether. Cross-linguistic improbability of such a system (Faber 1980, 211−213; Dolgopolsky 1999, 33) prompts one to interpret **š* either as a hissing [s] (Garbini 1984, 54−55), or an intermediate hissing-hushing alveolar phone typical of languages with only one plain sibilant, such as Peninsular Spanish, Modern Greek or Finnish (Yushmanov 1998[1940], 153; Martinet 1953, 73; Faber 1986,

169; Krebernik 2007, 129). Furthermore, according to Faber (1985b, 67−72) the shift [s] > [h] (cf. 1.5.6.) is more plausible than [š] > [h].

This reinterpretation contradicts the joint evidence of Neo-Aramaic and MSA (where the realization [š] for **š* is attested synchronically), as well as the most widespread reading tradition of **š* in Biblical Hebrew and the widely accepted phonetic reconstruction of **š* in OB Akkadian (cf. 1.5.1.3.). The contradiction is usually solved by postulating an independent push-chain shift triggered by de-affrication of **s* [c]: the natural outcome of de-affrication is [s], which can either merge with the old [s], or displace it from its original phonetic slot to a hushing [š] (Faber 1980, 202−203, 219, 224−225; 1985b, 66, 82−83, 86, 108−112; Voigt 1987, 56−57).

The shift [s] > [š] is to be postulated for Hebrew, Aramaic, MSA and OB Akkadian. The merger of [s] and [c] took place in ES and Arabic.

In Arabic, the outcome of the merger was likely a hissing-hushing sibilant rather than a pure [s] (Martinet 1953, 73; Murtonen 1966, 138; less probably a pure [š] advocated in Beeston 1962a and Lipiński 1997, 124; cf. Voigt 2001−2002, 169). This realization is probably reflected in the Maghrebi tradition of the *Abjad* alphabetic order, where س (traditional [s]) corresponds to Hebrew / Aramaic ש [š] rather than to ס [s]. The latter's equivalent is the emphatic ص [ṣ], whereas ش (traditional [š]) is relegated to the end of the list (McDonald 1974). The same correspondences (س − ש vs. ص −ס) are common in early Aramaic borrowings into Arabic (Murtonen 1966, 137−138; McDonald 1974, 41; contrast Blau 1970, 100−104 and Diem 1980, 75−82). Last but not least, it was Aramaic ש (rather than ס) that gave origin to the Arabic letter س (McDonald 1974, 41).

### 1.3.2.4. Problems of the push-chain solution

The main problem of the otherwise highly persuasive push-chain shift solution is that [š] sometimes coexists with a still affricate [c]. Thus, in the Southern OB norm, the reflex of **s* was still an affricate [c], but the 'general sibilant' is the same as in the rest of OB, viz. [š] (cf. 1.5.1.3.). Similarly, the 'general sibilant' of early Canaanite is rendered by Egyptian *š*, presumably identical to its Coptic reflex [š], but, incidentally, there is clear Egyptian evidence for an affricate **s* [c] (cf. 1.3.2.2.2.). It means that the presence of an affricate **s* [c] does not necessarily presuppose a hissing **š* [s] in the reconstructed sibilant systems of ancient Semitic languages, *contra* Knauf (1994, 118), Voigt (1998, 181) and Sima (2001, 251) who oppose the 'affricate' Sabaic system *[s] − *[ŝ] − *[c] to the 'de-affricate' Hadramitic system *[š] − *[ŝ] − *[s] (cf. the Minaean system *[š] − *[ŝ] − *[c] unanimously accepted by Knauf, Voigt and Sima).

As an alternative to the push-chain shift solution, a reverse sequence of events is tentatively postulated in Dolgopolsky (1999, 60−61), where the shift [s] > [š] is ascribed to the common WS stage and thought to trigger the de-affrication [c] > [s] independently in individual WS languages (cf. also Stempel 1999, 53). But this solution is even more problematic: there is no reason for the spontaneous shift [s] > [š] in PWS; SV spelling of the 'general sibilant' in WS personal names in OB Akkadian sources (cf. 1.5.2.1.) is not compatible with [s] > [š] already in PWS; de-affrication must have started many centuries after the emergence of its alleged trigger; a fully identical shift [s] > [š] in OB Akkadian is disregarded.

### 1.3.2.5. Secondary emergence of affricates?

Reliable PS reconstructions with **s* [c] in the basic lexicon are not many, and those with **z* [ʒ], exceedingly rare (Faber 1985b, 118−129). PS **ṣ* [ç] is not treated by Faber, but its rarity is even more conspicuous (Stempel 1999, 51−52). Faber's claim about the secondary emergence of these phonemes at some pre-PS stage is, therefore, theoretically sound, even if difficult to substantiate.

### 1.3.2.6. The broad variety of the affricate hypothesis

The broad variety extends the affricate articulation to the traditional interdentals and lateral sibilants. Thus, Vilenčik (1930, 93) reinterprets **ṯ* − **ṱ* − **ḏ* as hushing affricates **č* − **č̣* − **ǯ* (so also Martinet 1953, 46; Diakonoff 1980, 9−10 and 1991−1992, 6; Roman 1983, 697−705; Stempel 1999, 46−50; cf. Cuny 1908, 16). A different (but still affricate) realization for the same triad is postulated in Voigt (1979, 98; 2001−2002, 173−176). Cantineau (1960[1941], 54), Martinet (1953, 71, 77), Voigt (1979, 104), Diakonoff (1980, 9, 1991−1992, 6) and Stempel (1999, 59) reinterpret the lateral sibilants **ś* and **ṣ́* as lateral affricates **ĉ* and **č̣́*.

The broad variety has been mostly supported by structural arguments: if the PS emphatics were glottalized (cf. 1.3.1.), an emphatic lateral sibilant or interdental becomes improbable (Steiner 1977, 156). The affricate realization is then extrapolated on the non-emphatic members of each triad.

The available material evidence mostly pertains to the emphatic lateral **ṣ́*. Its reflex is realized as an affricate in Jibbali (cf. 1.3.3.1.), whereas Μάτλια = 𐩵𐩺𐩸 (cf. 1.3.3.24.) suggests an affricate realization of *ṣ́* in early Geez (Weninger 1998, 14: '*ḍ* = τλ'). In fact, Greek τλ does not necessarily render affrication, since *tl* is well attested in foreign spellings of non-affricate lateral sibilants as well (Steiner 1977, 18, 23). Rodinson (1981, 104−111) spends considerable attention to ι in the Greek form (with no trace in the Geez original) and believes that τλι renders palatalization (*mouillure*) due to a 'latent' *y*. For Rodinson, τλι in Μάτλια is a forerunner of *č̣́* in modern toponyms presumably related to 𐩵𐩺𐩸 (such as *Dämba Məčč̣́*), but it is more likely that ι in τλι renders affrication (cf. τι in τιαδη = *ṣādē*, cf. 1.3.2.1.3.).

According to Streck (2006, 245−247), the 'general sibilant' *š* in Akkadian was realized as a lateral affricate [ĉ]. This reconstruction explains why the combination 'dental + *š*-' yields a double Z (VZ-ZV = [cc]) in the script (Buccellatti 1997, 29): if *š* was an affricate, gemination of the dental onset becomes self-evident (Streck 2006, 245). At the same time, this reconstruction creates an unusual phonological system with no plain sibilants at all and the lateral affricate *ĉ* as one of the most frequent phonemes.

### 1.3.3. The lateral hypothesis

The necessity of reconstructing two lateral sibilants − the unvoiced **ś* [ɬ] and the emphatic **ṣ́* [ɬʾ] − has been demonstrated in Steiner 1977 and 1991. Although the lateral interpretation of the traditional **ś* and **ḏ* (GVG 128; Moscati 1964, 28, 34) is older than 1977 (Cantineau 1960[1941], 54−55 and 1951−1952, 84−87; Diakonoff 1965,

20–22), Steiner's contribution was decisive for the hypothesis' wide recognition today (Bomhard 1988, 128–129; Lipiński 1997, 129–132; Dolgopolsky 1999, 18; Stempel 1999, 56–60).

#### 1.3.3.1. Modern South Arabian

The unvoiced lateral **ŝ* is preserved in MSA (Lonnet / Simeone-Senelle 1997, 348). The reflex of **ŝ́* also preserves its lateral articulation throughout MSA, although its exact realization has been controversially described. According to Johnstone (ML XII, HL XIII, JL XIV, 1984, 390), **ŝ́* has become a non-emphatic voiced lateral sibilant *ẑ* in Mehri (but cf. Watson/Bellem 2010, 346) and Soqotri and a non-emphatic voiced lateral affricate *ʒ̂* in Jibbali (for the non-emphatic affricate in Mehri see also Lonnet/ Simeone-Senelle 1983, 197). The non-emphatic realization of **ŝ́* in Jibbali was observed already by Fresnel (Lonnet 1991, 69; Yushmanov 1930, 384; Steiner 1977, 2, 13, 41), but according to Dolgopolsky (1994, 5, 1999, 30–31) the Jibbali phone is clearly glottalized. The Soqotri reflex of **ŝ́* is reported to be an ejective in Simeone-Senelle 1996, 312–313. A special feature of Central Jibbali is the voiced *ẑ* as a palatalized allophone of *l* (JL XIV), correctly described by Fresnel (Lonnet 1991, 64–65; Yushmanov 1930, 385; Steiner 1977, 14, 21, 32–34).

#### 1.3.3.2. Arabic ض according to the native grammarians

A major fundament of the lateral theory is the lateral pronunciation of Arabic ض (*ḍād*) in the native grammatical tradition (Steiner 1977, 57–67 and 1991, 1503; Versteegh 1999, 273–274). Steiner deals extensively with the description of ض by Sībawayhi, for whom ض is articulated *min bayni ʾawwali ḥāffati l-lisāni wa-mā yalīhi mina l-ʾaḍrās* 'between the beginning of the tongue's edge and the corresponding molars' (Bravmann 1934, 52; Cantineau 1960[1941], 55; Steiner 1977, 60; cf. Roman 1983, 170–176).

#### 1.3.3.3. Early North Arabian

The earliest piece of evidence for a lateral **ŝ́* in a North Arabian idiom comes from the name of an Arabian deity whose image was restored to the Arabs by Esarhaddon (Moscati 1964, 28; Steiner 1977, 92–94). This name, spelled as *ru-ul-da-a-a-u* in cuneiform (Borger 1956, 129), was identified by Ryckmans (1956, 1) and Borger (1957) with the North Arabian theonym *rḍw* / *rḍy* (Teixidor 1977, 70), vocalized as *ruḍa*$^{n}$ in later sources (Lane 1100). Borger successfully explained the correspondence *ld* – *ḍ* by the lateral articulation of *ḍ*. According to Teixidor 1977, 69, the same prototype is behind the theonym *Orotalt* reported by Herodotus (Steiner 1991, 1503–1504).

#### 1.3.3.4. Arabic loanwords

Lateral ض is reflected in Arabic loanwords in several geographic areas (Steiner 1977, 68–91, Yushmanov 1926, 43):

(a) Arabic ض is rendered as *dl* or *l* in three Arabisms in Spanish (Colin 1930, 101, Cantineau 1960[1941], 56, Giese 1964, Steiner 1977, 68−73, Corriente 1977, 46, 1989, 97−98, Versteegh 1999, 277−278, cf. Roman 1983, 194−199): *alcalde* 'judge, mayor' < *ʾal-qāḍ(ī)*, *albayalde* 'white lead' < *ʾal-bayāḍ*, *arrabal* (Portuguese *arrabalde*) 'suburb' < *ʾar-rabaḍ* (Corominas 1987, 127, 116, 345). According to Corriente 1989, 98, ظ is rendered by *l* in Andalusian Arabic *nicayál* / *cayált* 'to spend the summer' = *qāyaḍa* (Lane 2579), which implies a merger of ض and ظ into one lateral sound in the source-dialect.

(b) Arabisms with *ḍ* > *dl* or *l* are found in Malay (Steiner 1977, 75, Versteegh 1999, 280−283): *dloha* 'morning' (Favre 1875, 826, Wilkinson 1955, 700) < *ḍuḥā*, *dla'if* / *la'if* 'weak' (Favre 1875, 826, Wilkinson 1955, 639) < *ḍaʿīf*. The same is true for etymological *ḏ* (ظ): *lalim* / *dlalim* 'tyrannical' (Wilkinson 1955, 643, Favre 1875, 831) < *ḏālim*, *dlil* 'shadow' (Favre 1875, 831) < *ḏill* (Steiner 1977, 75).

(c) Lateral ض is common in Arabic loanwords in West African languages, such as Hausa, Kanuri and Fula (Steiner 1977, 81−89, Versteegh 1999, 278−279): Hausa *la̲ʾīfi̲* 'impotent' (Bargery 1934, 712; Abraham 1962, 608) < *ḍaʿīf*, *la̲mīri̲* 'personal pronoun' (Bargery 1934, 718; Abraham 1962, 613) < *ḍamīr*, *la̲rūra̲* 'necessity' (Bargery 1934, 721; Abraham 1962, 615) < *ḍarūra*, *haila̲* 'menstruation' < *ḥayḍ* (Bargery 1934, 436; Abraham 1962, 361).

(d) In East Africa, Arabisms with *ḍ* > *l* are found in Somali (Steiner 1977, 90; cf. Reinisch 1903, 12): *árli* 'country' < *ʾarḍ* (Reinisch 1902, 38; Agostini 1985, 24), *hayl* 'menstruation' < *ḥayḍ* (Reinisch 1903, 230; Agostini 1985, 630), *ráalli* 'content' < *rāḍī* (Agostini 1985, 510, *rálli* 'grace, favour' in Reinisch 1902, 323), *laʿíf* 'weak' (Reinisch 1902, 272; Agostini 1985, 382), *faral* < *farḍ-* 'religious precept' (Agostini 1985, 219; cf. Reinisch 1902, 155).

The attestations of *ld*-Arabisms in Spanish range from 1062 (*alcalde*) to 1439 (*albayalde*), but the lateral ض was hardly preserved until these very late dates: the relevant words must have entered the spoken language much earlier (Steiner 1977, 71). Most *dl*/*l*-loanwords in Malay are recorded from the 19th century onwards (Steiner 1977, 74−80), in earlier sources ض is usually represented by *d*. This suggests a source-dialect which preserved a lateral ض (< ض + ظ) until quite recently. As for the small group of more ancient Arabisms with ض > *l* (*hil* 'menstruation' < *ḥayḍ*, *ramalan* 'Ramadan' < *ramaḍān*, Steiner 1977, 76−77), they must be due to earlier contacts with Southern Arabia (van den Berg 1886, 102). The same is true of Arabic loanwords with *dl*/*l* for ظ/ض in Southern Mindanao and Sulu (*lad* 'the letter ض' < *ḍād*, *ramadlan* 'Ramadan' < *ramaḍān*), which must go back to an early Malay intermediary (Steiner 1977, 78−79). The relevant Arabisms in West African languages are almost impossible to date (cf. Steiner 1977, 83−84).

The geographical source of diffusion of the lateral ض seems to be South Arabia (Corriente 1977, 46; Garbini 1984, 149−150; Versteegh 1999, 284; 2006, 545). The Yemenite roots of Andalusian Arabic are widely acknowledged (Colin 1930, 101−102; Corriente 1989, Steiner 1977, 71−72; Rodinson 1981, 103). In Malay, introduction of the lateral ظ/ض in recent loanwords is due to the influx of Hadrami immigrants, which does not predate the 19th century (van den Berg 1886, 105−122; Steiner 1977, 76), whereas the earlier stratum must derive from a South Arabian source as well (Colin 1930, 102; Steiner 1977, 78; Versteegh 1999, 280). The South Arabian origin of *l*-Arabisms in Somali is a feasible probability. Steiner's evidence for the South Arabian origin of

ض > *l* in West Africa (1977, 87−88) is slim, but a South Arabian origin of sub-Saharan Bedouin Arabic, from which this feature possibly derives, has been advocated in Kampffmeyer 1889 and Corriente (1977, 46; 1978b, 155).

#### 1.3.3.5. *l*/*ḍ* lexical doublets

Laterality of *ḍ* is assured by *l*/*ḍ* lexical doublets collected in Corriente 1978b (cf. Colin 1930, 102−103; Yushmanov 1998 [1933−1934], 84; [1940]148−149; Cantineau 1960 [1941], 55−56; Steiner 1977, 95−98). Corriente's impressive evidence leaves some questions unanswered (Steiner 1977, 95−96). Are we always faced with the shift *ḍ* > *l*, as in *ḍdd* (III) → *ldd* 'to overcome in litigation' (Lane 1775, 2656) or does *l* also shift to *ḍ*, as in *lhb* 'to flame, to blaze' → *ḍhb* 'to roast' (Lane 2674, 1807)? Can we differentiate between widely attested roots (like *lmm* − *ḍmm* 'to collect, to gather', Lane 3013, 1801) and (dialectal) occasionalisms (like *'ilṭažaʿa* instead of *'iḍṭažaʿa* 'he lay down on his side' or *ǯaḍd-* instead of *ǯald-* 'hard', Kofler 1940, 97)? Are there any phonetic conditions triggering the emergence of the doublets, as seems to be the case in *'ilṭažaʿa* and *ǯald-*, where *ḍ* is preceded by a dental stop?

#### 1.3.3.6. Incompatibility of *ḍ* and *l*

Since Cantineau 1960[1946], 200, laterality of *ḍ* has been tested by its (in)compatibility with *l*. Cantineau (and Fischer 1968, 59) raised doubts over laterality because the incompatibility between *ḍ* and *l* is not absolute, but Greenberg's more elaborate results (1950) prompt one to reconsider the issue: roots combining *ḍ* and *l* are 11, as against 22,9 statistically expected. For Greenberg, these data 'do not lend much support to the lateral theory' but, as shown by Steiner (1977, 109−110), they actually do: compare the statistics for *l* + *ṣ* (40 attested vs. 32 expected) or *ḍ* + *n* (29 attested vs. 22 expected). Destructive criticism of Steiner's results in Beach / Daniels (1980, 220) and Beeston (1979, 267) is unfounded (cf. Steiner 1991, 1504−1506).

#### 1.3.3.7. Arabic dialects

Lateral ض is lost in most Arabic dialects, where it merges with ظ (for Arab grammarians' descriptions of this merger, cf. Steiner (1977, 71), Versteegh (1999, 275), Brown 2007; for North Yemenite dialects where they are still kept apart v. Behnstedt (1987, 5−6). The outcome of the merger is either [ḍ] or [ḍ̠], the former in 'urban' dialects and the latter, in 'Bedouin' / 'rural' ones (Cantineau 1960[1941], 56; Fischer 1968, 55; Corriente 1978a, 50−51; Brown 2007, 335−336). The opposition ض [ḍ] vs. ظ [ḍ̠] in the reading tradition of Classical Arabic is thought to be artificial and irrelevant for the original pronunciation of ض (Fischer 1968, 55; Steiner 1977, 36−37).

Lateral ض has been reported for Arabic dialects of South Arabia, such as Hadramaut, Dathina and Dhofar (Cantineau 1960[1941], 56; Landberg 1901, 637; van den Berg 1886, 239; Rhodokanakis 1911, 82; Steiner 1977, 18−19, 23), although it seems that Arabic dialects of the area were not always properly distinguished from MSA (cf.

Steiner 1977, 15). Preservation of laterality may be due to the phonological conservatism of these dialects, but substratum / adstratum MSA influence is also conceivable (cf. Corriente 1978a, 50, 52; Versteegh 1999, 284; Brown 2007, 343−345). Several examples of *l* for ض are found in the wordlists of sub-Saharan Bedouin dialects in Kampffmeyer (1889, 148−163: *lúfdu* 'frog', *mắrāla* 'sick' = *ḍifdiʿ*-, *mrḍ*), where *r* and *ṛ* (= غ) for ض are also attested (*ráifu*, *raif* 'guest', *ắbiar* 'white' = *ḍayf*-, *ʾabyaḍ*-, *báiṛ* 'egg' = *bayḍ*-), see further Kampffmeyer 1889, 196, 204. Lateral ض in the reading tradition of Classical Arabic has been reported for Mauritania and Turkey (cf. Cohen 1963, 11; Rabin 1951, 33; Brown 2007, 337−338; Versteegh 1999, 276−277).

### 1.3.3.8. Phonetic realization of ش according to Arab grammarians

PS **ŝ* yields ش in Arabic. Its exact phonetic nature as described by Arab grammarians has been hotly debated (Bravmann 1934, 49−52; McDonald 1974, 42−43; Beeston 1962a, 223−224; 1979, 267; Faber 1980, 183−186; Roman 1983, 144−147). For Corriente (1976, 76; 1978a, 50−51), both ض and ش 'are clear laterals' in Sībawayhi's description, whereas Steiner (1977, 99, 101) believes that 'Sībawayhi ... knows nothing of a lateral ش' and 'everyone agrees ... that it [Sībawayhi's account of ش] does not describe a lateral' (see also ibid. 36, 54, 66).

### 1.3.3.9. Further evidence for the lateral ش in early Arabic

According to Steiner (1977, 95, following Cantineau 1960[1941], 63), a direct piece of evidence for the lateral ش in early Arabic comes from the pair of doublets *qišdat*- / *qildat*- 'sediment of butter' (LA 3 433, 451) reported by 9th century Arab grammarian al-Kisāʾī. The same scholar relates that Rabīʿites and Yemenites 'make *šīn* into a *ḍād*' (*yaǯʿalūna š-šīna ḍādan*, Kofler 1940, 92; Steiner 1977, 99−101). Laterality of ض being established, one can infer from this report that ش in Rabīʿites' and Yemenites' speech shared with it this feature. For Steiner, lateral ش in the speech of the 'Mesopotamian tribe of Rabīʿa' (cf. Kindermann 1995, 353) demonstrates that it is not bound to South Arabia, but cf. Beeston 1979, 267 for whom Rabīʿa is a 'southern' dialect.

### 1.3.3.10. *ḍ* > *š* in the Koran

Cantineau (1960[1941], 46), Corriente (1976, 76) and Roman (1983, 203−204) report the reading tradition *li-baʿš šaʾnihim* for *li-baʿḍi šaʾnihim* in the Koran (24:62). The assimilation *ḍ* > *š* points to a close phonetic similarity between ش and ض, since ض does not assimilate to any other consonant.

### 1.3.3.11. *ḍ*/*š* lexical doublets

Phonetic proximity between ش and ض is deduced from *ḍ*/*š* lexical doublets (Steiner 1977, 102−107). Already Rabin (1951, 33) explained *ʿillawḍ*- / *ʿillawš*- 'jackal' (cf. LA

6 385, 7 216) and *nāḍa* / *nāša* 'to carry' by the laterality of ش and ض. Both lexemes are traditionally associated with Yemen (but cf. al-Selwi 1987, 162, 210), which restricts their validity for Classical Arabic (Fischer 1968, 59). However, more examples with no apparent Yemenite connections are found in Yushmanov (1998[1933–1934], 84; [1940], 148–149), Maizel (1983, 159), Fischer (1968, 59–60), Kuryłowicz (1972, 28–29) and Steiner (1977, 105). The relevance of these doublets is uneven (Steiner 1977, 103–105), and the queries raised in 1.3.3.5. are also valid here: the direction of the shift has not been clarified (*ḍ* > *š* seems to be typical, as in *bayyaḍa* / *bayyaša* 'to whiten', Lane 282, LA 6 323); semantically close, but clearly independent lexemes (*šarr-* 'evil' – *ḍarr-* 'harm', Lane 1524, 1776 or *mšy* 'to walk' – *mḍy* 'to pass', Lane 3020, 3021) are not separated from occasional deviations (*šummaḫr-* / *ḍummaḫr-* 'corpulent; arrogant', LA 4 497, 569); conditions triggering the shifts are not investigated. Steiner (1977, 105) is, nevertheless, correct to assert that 'there are enough unassailable doublets to justify a claim that ض and ش were phonetically similar'.

### 1.3.3.12. *š*/*l* lexical doublets

A more straightforward set of doublets, viz. *š*/*l*, can be found in Yushmanov (1998 [1933–1934], 84 and [1940], 148–149): *šakis-* / *lakis-* 'stubborn' (LA 6 523), *kšḥ* 'to bear enmity' / *klḥ* 'to look fierce' (WKAS K 205, 315), *ṭašš-* / *ṭall-* 'fine rain' (Lane 1853, 1862).

### 1.3.3.13. Incompatibility of ش and *l*

Laterality of ش is deduced from its incompatibility with *l* (Steiner 1977, 108–109; cf. Cantineau 1951–1952, 87 and 1960 [1946], 200): 19 existing roots vs. 40,2 statistically expected, sharply contrasting with *š* and *n* (50 attested vs. 39 expected) or *l* and *s* (63 attested vs. 51 expected).

The repeatedly observed absolute incompatibility between *š* and *ḍ* (Cantineau 1951–1952, 87; 1960 [1946], 200; Kuryłowicz 1972, 28; Stempel 1999, 58) has no bearing on the lateral hypothesis, as *ḍ* is not compatible with other sibilants either (Steiner 1977, 5–6; Roman 1983, 205–206): thus, the only root with *ḍ* and *s* in Arabic is the primary noun *ḍirs-* 'molar tooth' (Greenberg 1950, 174).

### 1.3.3.14. The shift *št* > *lt* in Akkadian

A remarkable argument for the laterality of **ŝ* comes from the shift *št*, *šd*, *šṭ* > *lt*, *ld*, *lṭ* in Akkadian (Yushmanov 1998[1940], 149; Gumpertz 1942, 114; Diakonoff 1965, 22; 1980, 11; Steiner 1977, 144–148; Swiggers 1980; Streck 2006, 238, 243–251). Regular from MB on, this shift may have some precedents in OB (*il-ta-nu-um* 'north', *líl-di* 'butter', *gi-il-tu-ú* 'cross-bar'; Lieberman 1977, 8; Streck 2006, 238, contrast Keetman 2009, 449–451) and is attested already in Ebla (Krebernik 1982, 200, 217; Conti 1990, 14). The Ebla examples are disregarded in Keetman 2006, 370–377 (but cf. now Keetman 2009), whose thesis about the non-genuine (presumably Chaldaean) origin of the

*št* > *lt* shift in Akkadian is unacceptable (Streck 2008, 251). Laterality of *š* in Akkadian is the best (perhaps the only) way of explaining this shift (Hoch 1994, 404 *contra* Faber 1985b, 88), but its implications are rather problematic: PS **ŝ* must have absorbed **š* (more frequent and less marked), producing a peculiar consonantal system with the lateral *ŝ* as the 'general sibilant' (Diakonoff 1988, 38), but no *s* or *š* whatsoever (Beach/Daniels 1980, 221; Keetman 2006, 270; cf. Steiner 1977, 146 and Faber 1985b, 73). As a palliative, a positional distribution has been postulated, with **ŝ* absorbing **š* before dentals, but *vice versa* elsewhere (Steiner 1977, 146–147; Fales 1978, 97; Streck 2000, 217). The lateral allophone must have also been preserved after *l*, as shown by the assimilation *lš* > *šš* in *a-ap-pa-aš-šu* < *appal-šu* 'I will satisfy him' or *a-ka-šu* < *akal-šu* 'his bread' (Swiggers 1980; Streck 2006, 238).

### 1.3.3.15. Lateral traces of Proto-Semitic **ŝ́* in Akkadian

Steiner (1977, 158, cf. SED I p. LXXIII) tentatively proposed that PS **ŝ́* also left a lateral trace in Akkadian, supposedly reflected in the shift **ṣt* > *lt* in such examples as *marṣu* 'sick', fem. *marultu* (< PS **mrŝ́*) or *emṣu* 'sour', fem. *emiltu* (< PS **ḥmŝ́*). The improbability of this hypothesis was recognized by Steiner himself: there is no direct shift from **ṣt* to *lt*, but rather a three-stage development **ṣt* > *št* > *lt* (**maruṣtu* > *maruštu* > *marultu*), which affects every *ṣ* independently of its origin, cf. *ḫālištu* 'female wool-comber' (CAD Ḫ 43) < PS **ḫlṣ* (Arb. *ḫlṣ* 'to be free from admixture', II 'to clarify', Lane 785).

There may be a different piece of evidence for a lateral *ŝ́* in early Akkadian. Akk. *arallû* 'Netherworld' (CAD $A_2$ 226) goes back to Sumerian arali (PSD $A_1$ 136–140), with no transparent internal etymology. Could the Sumerian word be borrowed from an early Semitic **'arŝ́-* 'earth', whose reflexes commonly denote the Netherworld in Akkadian, Ugaritic and Hebrew (CAD E 308, DUL 106, HALOT 91)? Phonetically, PS **'arŝ́-* > Sum. arali would be very close to Arb. *'arḍ-* > Somali *árli* 'country' (cf. 1.3.3.4.). The OB *e*-form *erṣetum* is clearly not a suitable source for the borrowing, but the Sargonic *a*-form *ar-ṣa-tim* (Westenholz 1974, 98) is much more so. The feminine marker *-t-* in Akk. *erṣetum* is a secondary addition (Lipiński 1997, 230), cf. *napiš-t-um* 'soul' < PS **napš-*, *eṣem-t-um* 'bone' < PS **ʿaṯm-*, *iš-āt-um* 'fire' < PS **'iš-* and the corresponding forms without *-t-* in the personal name *tu-tá-na-ap-šum* 'She has found life' (George 2003, 153), *eṣem-ṣēru* 'backbone' (CAD E 343) and the theonym *išum* (Roberts 1972, 40–41).

### 1.3.3.16. Incompatibility between *ŝ* and *l* in Hebrew

Low compatibility between *ŝ* and *l* in Hebrew has been considered as proof of the laterality of *ŝ* (Koskinen 1964, 45–47, followed by Kuryłowicz 1972, 28), but the difference between the attested and the expected number of roots with *ŝ* and *l* (5 vs. 10,7) is hardly relevant statistically (Steiner 1977, 6).

### 1.3.3.17. Proto-Semitic *ṣ̂ḥḳ ‘to laugh’

Close proximity between *ṣ̂ and *ŝ is deduced from the history of the PS root for ‘to laugh’ (Steiner 1977, 110−120; Hetzron 1972, 37; Kuryłowicz 1972, 29; cf. Diakonoff 1965, 22). This root, reconstructible as *ṣ̂ḥḳ (SED I No. 69$_{v}$, following Steiner 1977, 119), displays a complex evolution. Ugr. *ṣḥḳ* and *ṯḥḳ* (DUL 782), Hbr. *ṣḥḳ* (HALOT 1019) and Gaf. *ṣaḳä* (Leslau 1956, 236) are immediately traceable to the prototype. More often, one of the two types of dissimilation (*ṣ̂ḥḳ > *ṣ̂ḥk or *ṣ̂ḥḳ > *ŝḥḳ) is attested: Mnd. *ahk* (MD 9), Arb. *ḏḥk* (Lane 1771), Mhr. *ẑəḥāk* (ML 475, v. JL 325, LS 361 for other MSA) vs. Hbr. *ŝḥḳ* (HALOT 1315), Htr. *šḥḳ* (DNWSI 1121; cf. Beyer 1998, 74, 185), Mnd. *shḳ* (MD 320), Gez. *ŝaḥaḳa* (CDG 528). As shown by Hbr. *ŝḥḳ* and Gez. *ŝaḥaḳa*, the outcome of the second type of dissimilation is *ŝ* − the non-emphatic partner of the lateral emphatic *ṣ̂*.

Both dissimilated forms might be traced to common prototypes already in PS (Diakonoff 1965, 22; Hetzron 1972, 37). This would assure the laterality of *ŝ in PS, but not in individual Semitic languages. If, conversely, dissimilation took place independently in Hebrew, Mandaic and ES, a lateral *ŝ* must have existed in these languages, too. Within the Biblical corpus, both *ṣ̂ḥḳ* and *ŝḥḳ* are attested, most of the *ŝ*-forms being comparatively recent (Steiner 1977, 116−117; cf. Blau 1982, 4−5). Does it mean that the emphatic lateral *ṣ̂* still existed as an independent phoneme in Biblical Hebrew behind the polyphonic grapheme צ (Steiner 1977, 112, 117)? Such an explanation is, at any rate, unsuitable for the *ṣ̂ḥḳ / *ŝḥḳ doublet pair in Mandaic (Steiner 1977, 115): already in proto-Aramaic *ṣ̂ became [kx’] (cf. 1.5.2.7.2), from which no sibilant *ŝ* could have evolved via dissimilation.

### 1.3.3.18. θάλσαμον

The laterality of *ŝ is suggested by Greek βάλσαμον, which denotes the tree *Commiphora opobalsamum* and its aromatic sap. The Semitic origin of βάλσαμον is clear (Frisk 1960, 217), but the origin of λ has long remained puzzling (Masson 1967, 77−78): no *-l-* is apparent in Hbr. *bōŝäm*, *bāŝām* (HALOT 163), Syr. *besmā* (LSyr. 80) or Arb. *bašām-* (Lane 209). As suggested by Steiner (1977, 123−129, following Gumpertz 1942, 114), -λσ- renders a lateral *ŝ*, which finds now a splendid confirmation in the Neo-Babylonian spelling *ba-al-tam-mu* (Jursa 2009, 156−157). Steiner asserts that the source-language of βάλσαμον was Hebrew or Phoenician (which implies a polyphonic שׂ in the Phoenician alphabet; Steiner 1977, 129; Dolgopolsky 1999, 18, 30), but does not exclude a South Arabian origin (cf. Beach/Daniels 1980, 221; Lipiński 1997, 129).

### 1.3.3.19. Jewish Babylonian Aramaic *ʿarslā*

JBA *ʿarslā* ‘hammock’ (DJBA 165) / ‘watching hut’ (Steiner 1977, 132−135) is identified with PS *ʿarŝ- ‘bed’ in Steiner (1977, 130−136), represented by Akk. *eršu*, Ugr. *ʿršˇ*, Hbr. *ʿäräŝ*, Syr. *ʿarsā* ‘bed’ (CAD E 315, DUL 185, HALOT 889, LSyr. 549) and Arb. *ʿarš-* ‘booth, shed; throne’ (Lane 2000). As suggested by Steiner, *-sl-* in *ʿarslā* is due to a meta-analysis of a lateral *ŝ*.

A similar process may explain the origin of the pan-Aramaic verbal root **slḳ* 'to go up' (Kogan 2005b, 525). Since Arb. *tasallaqa* 'to climb' is highly isolated and probably not genuine (LSyr. 477, *contra* Nöldeke 1903, 419), Common Arm. **slḳ* can be plausibly compared to PS **ŝḳy* 'to be high' (Haupt 1910, 712−713), represented by Akk. *šaḳû* 'to grow high' (CAD $Š_2$ 19) and Arb. *šqy* 'to grow', *šāqi*$^n$ 'high, inaccessible' (LA 14 539).

### 1.3.3.20. The ethnonym *Kaldu*

For Steiner (1977, 137−143; cf. Yushmanov 1998 [1940], 149), the Akkadian name of the Chaldaeans, *kaldu* (Edzard 1976−1980, 291−297), suggests that *ŝ* was a lateral in the Chaldeans' native tongue. Steiner's treatment of the Chaldean problem was criticized by Beeston (1979, 265−267; cf. Steiner 1991, 1507−1509 and Keetman 2006, 373−377), but the dilemma is linguistic rather than historical: does the *-l-* of *kaldu* render the Chaldean lateral *ŝ*, or does it represent the genuinely Akkadian shift *šd* > *ld* (Steiner 1977, 141; Edzard 1976−1980, 296; Keetman 2006, 372−373)? The proto-form **kašdu* is not attested (*contra* Gumpertz 1942, 114), and it may be doubted that the shift *šd* > *ld* was still operative when Akkadian speakers became acquainted with Chaldeans (Edzard 1976−1980, 296). Still, at least one Aramaic loanword in NA and NB − *kinaštu* / *kinaltu* 'priesthood' (CAD K 369) − is indeed affected by the shift (Keetman 2006, 373).

### 1.3.3.21. Early Aramaic theonyms in *ilt-*

The early Aramaic theonym *il-te-eḫ-ri-* (Zadok 1977, 42) goes back to PS **ŝahr-* 'moon': Syr. *sahrā*, Arb. *šahr-*, Sab. $s_2hr$ (LSyr. 462, Lane 1612, SD 132). Similarly, *il-ta-meš-* (Zadok 1977, 39−42) reflects PS **ŝamš-* 'sun' (peculiarly, in its Arabian rather than NWS form, viz. with *ŝ-* instead of *š-*, cf. Beyer 1984, 102, 715). The onomastic element *il-ta-gi-bi* has been identified (Zadok 1977, 103; cf. Lipiński 1975, 104−108) with Hbr. *ŝgb* 'to be exalted' (HALOT 1305). According to Zadok (1977, 42, 102−103), the segment *il-* represents PS **'il-* 'god', either as the subject of a nominal sentence (*il-ta-gi-bi* 'god is exalted'), or as an incorporated element of the theonym itself ('*'il* + **Śahr*'). Within this approach, early Aramaic *ŝ* in these forms is rendered by *t* (Lipiński 1975, 104−108; Zadok 1976, 229−230; Beyer 1984, 100). For Fales (1978; followed by Steiner 1991, 1506 and Lipiński 1997, 130), it is rather *ilt-* that is a complex rendering of a lateral *ŝ*, alternating with *t*-spellings like *te-ri-*, *tam-meš-* and $ta_5$*-gi-bi*. Fales' attractive hypothesis is not compelling for IL-*ta-meš-* and IL-*te-eḫ-ri-*, since incorporation of **'il-* 'god' into theonyms is well attested in the cuneiform tradition (Schwemer 2001, 32−33) and easily explains the 'phonetic' spellings with IL instead of the expected ÌL = DINGIR (which predominate elsewhere in theophoric names in Zadok 1977, 361−363). It is more persuasive for *il-ta-gi-bi* (Fales 1978, 92−93), but no full certainty is possible in this case either.

#### 1.3.3.22. The Moabite name *ka-ma-as-ḫal-ta-a*

The NA rendering *ka-ma-as-ḫal-ta-a* of a Moabite personal name is interpreted as **Kamoš-ʿaŝā* '(the god) Kamosh has made' in Knauf/Maáni (1987, 93; accepted in Lipiński 1997, 129; Berlejung 2000, 600). The verb *ʿŝh* 'to do, make', actually attested in Moabite (DNWSI 890), is common in Hebrew theophoric names (BDB 795), and NA *ḫ* does render WS ʿ (Zadok 1977, 245–247). Knauf's interpretation is thus attractive. The use of *-lt-* for *ŝ* points to the lateral sibilant as an independent phoneme in Moabite.

#### 1.3.3.23. Μάτλια

As demonstrated by Rodinson (1981) and Weninger (1998), the Greek rendering Μάτλια for the place name 𐩥𐩣𐩨 in epigraphic Geez (RIÉ 185 I 15, II 16, 185bis I 16, II 14 for Geez, 270:26, 270bis:22 for Greek; read differently and therefore unrecognized in Littmann 1913, 8–17) is clear proof of the lateral pronunciation [ɬ] for 𐩨 (traditional *ḍ*).

### 1.4. Hypothetic proto-phonemes outside the canonical system

#### 1.4.1. The emphatic labial **ṗ*

Absence of **ṗ* from the traditional PS reconstruction is justified, since glottalized bilabial stops are uncommon cross-linguistically (Martinet 1953, 69–70; Stempel 1999, 44–45). The emphatic bilabial *ṗ* is, however, attested in Geez. Most of its occurrences are in Greek borrowings (Podolsky 1991, 13), but already Dillmann (1907, 57) was able to detect *ṗ*-words elsewhere in the Geez lexicon. Voigt's attribution of such lexemes to Cushitic influence is unsuccessful: only one among five supposed Cushitisms (Voigt 1989, 635) has a tentative Cushitic etymology (SED I, pp. CXI–CXII).

For Dillmann, Geez *ṗ* mostly corresponds to *b* elsewhere in Semitic: Gez. *heṗa* 'to strike, to pierce' – Arb. *hbb* 'to cut' (LLA 16–17, CDG 221, Lane 2873) or *ḳoṗṗon* 'boot' – Arb. *qabqāb-* 'clog' (LLA 472, CDG 438, Lane 2479). Many of Dillmann's etymologies are to be rejected as unreliable, like *məgʷənṗā* 'quiver' – Arb. *ǯaʿbat-* id. (LLA 1182, CDG 198, Lane 428).

A list of Geez *ṗ*-words supposed to substantiate a regular correspondence between Gez. *ṗ*, Arb. *b*, Hbr. *p* and Arm. *p* is found in Grimme (1914, 261–262). Most of these 16 examples are unreliable: Gez. *ganṗala* 'to distort' – Arb. *qlb* 'to invert' (LLA 1182, CDG 198, Lane 2552), Gez. *məgʷənṗā* 'quiver' – Arb. *ǯulbat-* 'a piece of skin enclosing an amulet' (LLA 1182, CDG 198, Lane 440), Gez. *ʾakraṗa* 'to scratch' – Hbr. *ḥlp* 'to cut through', Syr. *ḥāloptā* 'knife' (CDG 293, HALOT 321, LSyr. 237), Gez. *karaṗa* 'to work' – Arb. *krb* 'to plow' (CDG 293, WKAS K 111, omitting Syr. *krb* 'to plow', LSyr. 342), Gez. *ʾanṗāʿānṗe* 'ulcers' – Arb. *ʾunbūbat-* 'node, knot' (CDG 30, Lane 2752, omitting Hbr. *ʾăbaʿbūʿōt* 'ulcers', HALOT 9, compared in LLA 780). Only two examples are relatively exact illustrations of the proposed set of correspondences: Gez. *saraṗa* 'to sip' – Syr. *srp* id. – Arb. *šrb* 'to drink' (CDG 514, LSyr. 500, Lane 1525)

and Gez. *ḥarṗaṗa* 'to be rebellious' – Hbr. *ḥrp* 'to taunt' – Arb. *ḥrb* 'to be angry' (CDG 243, HALOT 355, Lane 540).

This evidence is clearly insufficient for a reliable PS reconstruction. As an alternative, a slightly different set of correspondences, not involving the problematic Geez phoneme, has been postulated in Grimme (1914, 262–263), viz. PS **ṗ* > Gez. *b* ('weakened' from *ṗ*), Arb. *b*, Hbr. *p*, Arm. *p*. Most of the reliable examples (as well as their geographic distribution) were known already to Barth (1893, 23–29): Hbr. *pšṭ*, Syr. *pšṭ* – Arb. *bsṭ*, Mhr. *abōsəṭ* 'to spread' (HALOT 980; LSyr. 611; Lane 203; ML 55; Grimme 1914, 261; SED I, p. CXIII), Akk. *perša'u,* Hbr. *parʿōš*, Syr. *purtaʿnā* – Arb. *burγūṯ-* 'flea' (Grimme 1914, 262, SED II No. 185), Akk. *šalāpu*, Hbr. *šlp*, Syr. *šlp* – Arb. *slb*, Gez. *salaba*, Mhr. *səlōb* 'to draw, to pull out' (AHw. 1144; HALOT 1543; LSyr. 783; Lane 1398; CDG 498; ML 348; Grimme 1914, 263; SED I, p. CXIV). Grimme's own convincing examples are rare: Hbr. *pāʿā* 'to moan', Syr. *pʿā* 'to bleat' – Arb. *bγy* 'to bleat' (HALOT 949, LSyr. 585, Dozy 1 100), Hbr. *näpäṣ* 'driving storm' – Arb. *nbḍ* 'to sprinkle' (BDB 658, Lane 2830), Hbr. *šäpaʿ* 'abundance', Syr. *špʿ* 'to be abundant' – Arb. *sbγ* 'to be complete, full' (HALOT 1634, LSyr. 796, Lane 1298), Akk. *zappu*, JBA *zīpā*, Syr. *zaptā* – Arb. *zabb-* 'hair' (SED I No. 297). Much more often, Grimme's examples are questionable or wrong (SED I, pp. CIX–CX): Hbr. *pll* (hitpa.) 'to pray' – Gez. *bəhla* 'to say', Arb. *bhl* (VIII) 'to supplicate' (HALOT 933, CDG 89, Lane 267), Hbr. *tpŝ* – Arb. *bṭš* 'to seize' (HALOT 1779, Lane 218), Hbr. *pʾr* 'to glorify' – Gez. *barha*, Arb. *bhr* 'to shine' (HALOT 908, CDG 103, Lane 265, omitting Hbr. *bahärät* 'white spot', HALOT 112). It is therefore not surprising that Grimme's reconstruction was met with utmost skepticism (Ullendorff 1955, 109; Moscati 1954a, 26–27; 1964, 24–25; Voigt 1989, 635; Cantineau 1951–1952, 80–81). Critical remarks against Grimme's etymologies are scattered throughout Möller 1916, but most of Möller's own comparisons, supposed to substantiate the reconstruction of PS **ṗ* > Gez. *ṗ*/*b*, Hbr. *b*, Arm. *b*, Arb. *b*, are also extremely weak.

The existence of PS **ṗ* has been nevertheless admitted by many Russian Semitists (Vilenčik 1930; Yushmanov 1998[1940], 145–146, 151–152; Militarev 1976; Diakonoff 1988, 35; 1991–1992, 11–12, 59). Militarev (1976) provides some additional examples, such as Hbr. *zʿp*, Syr. *zʿp* – Arb. *zʿb* (V) 'to be angry' (HALOT 277, LSyr. 202, Lane 1230) or Akk. *šapāku*, Hbr. *špk*, Syr. *špk* – Arb. *sbk* (also *sfk*!), Gez. *sabaka* 'to pour' (AHw. 1168, HALOT 1629, LSyr. 795, Lane 1300, 1374, CDG 483). A few other (mostly debatable) cases are discussed in SED I, pp. CXV–CXVI.

Only an exhaustive etymological analysis of Semitic roots with labials will enable one to decide whether the reliable examples of *b*/*p* fluctuation are due to an accidental phonological variation (Voigt 1989, 636; cf. Dolgopolsky 1999, 30) or represent regular reflexes of **ṗ* (A. Militarev in SED I, pp. CV–CXVI and SED II, pp. LX–LXI). A few examples with geographic distribution different from that postulated by Grimme and Militarev suggest that the former view is correct: cf. Ugr. *bṯn*, Arb. *baṯan-* vs. Syr. *patnā* 'snake' (SED II No. 63) or Akk. *ṣibāru* vs. Hbr. *ṣippōr*, Syr. *ṣeprā*, Arb. *ṣāfir-* 'bird' (SED II No. 212).

### 1.4.2. The labiovelars

The labiovelars $k^w$, $g^w$, $ḳ^w$, $ḫ^w$ are typical of Geez and most of modern ES. The uvular $ḫ^w$ is rare and scarcely opposed to *ḫ*, but $k^w$, $g^w$ and $ḳ^w$ are clearly independent phonemes (Ullendorff 1955, 76): *sakaya* 'to flee' – *sak$^w$aya* 'to go astray', *gadala* 'to strive' –

*gʷadala* ‘to be missing’, *ḳaraba* ‘to draw near’ – *ḳʷaraba* ‘to receive Holy Communion’, *baḳl* ‘mule’ – *baḳʷl* ‘plant’ (CDG 498, 182, 440, 100–101).

Labiovelars are common in Geez words whose Semitic cognates display velars followed (more rarely, preceded) by *ŭ* or *w* (Dillmann 1907, 51–54): Gez. *kʷəll-* – Hbr. *kōl*, Arb. *kull-* ‘all’ (CDG 281, HALOT 474, WKAS K 292), Gez. *gʷərn* ‘threshing floor’ – Hbr. *gōrän*, Arb. *ǯurn-* (CDG 203, HALOT 203, Lane 414), Gez. *ḳʷəlfat* – Arb. *qulfat-* ‘foreskin’ (CDG 472, Lane 2992), Gez. *ḳʷənfəz* – Arb. *qunfuḏ-* ‘hedgehog’ (SED II No. 133), Gez. *ḳʷərr* ‘cold’ – Hbr. *ḳōr*, Syr. *ḳurrā*, Arb. *qurr-* (CDG 443, HALOT 1128, LSyr. 689, Lane 2500), Gez. *ḳʷərḥat* ‘bald patch’ – Hbr. *ḳorḥā*, Arb. *qurḥat-* (SED I No. 38v), Gez. *bakʷr* ‘first-born’ – Akk. *bukru*, Hbr. *bəkōr*, JPA *bwkrh* (CDG 94, AHw. 137, HALOT 131, DJPA 102), Gez. *kʷəlit* ‘kidney’ – JPA *kwlyyh*, Arb. *kulyat-*, Jib. *kuẑét* (SED I No. 156), Gez. *ḥaḳʷe* ‘hip, loin’ – Arb. *ḥaqw-*, Sab. *ḥḳw-nhn* (SED I No. 113), Gez. *ləgʷat* ‘abyss, depth, pool’ – Arb. *luǯǯat-* (CDG 308, WKAS L 216), Gez. *ʿənḳʷ* ‘precious stone’ – Akk. *unqu* ‘ring, stamp-seal’ (SED I No. 15). The same conditions are observed in borrowed lexemes: *kʷəryāḳ* < Κυριακός (LLA 1420), *ḳʷərbān* ‘offering, Eucharist’ < Syr. *ḳurbānā* (CDG 440, LSyr. 692), *kʷəḥl* < Syr. *kuḥlā*, Arb. *kuḥl-* (CDG 38, LSyr. 324, WKAS K 73), *rəkʷām* ‘marble’ < Arb. *ruḫām-* (CDG 470, Lane 1060), *ḳʷəds* ‘sanctuary, Jerusalem’ < Arb. *quds-* (CDG 423, Lane 2497), *ḳʷəṭn* ‘silk’ < Arb. *quṭn-* (CDG 454, LA 13 421), *targʷama* ‘to translate’ < Hbr. *targūm* (CDG 579, Jastrow 1695).

Dillmann’s observations (refined in Kuryłowicz 1933 and Voigt 1989, 639–640) do not explain why the conditional factors are so often not apparent (paradigmatic diffusion – **ḳurr-* > *ḳʷərr* ‘cold’ > *ḳʷarara* ‘to be cold’ – discussed in Kuryłowicz 1933, 42 can be valid for just a few examples), whereas Dillmann’s ‘general preference in the language for such sounds’ (1907, 53) is by no means a serious argument.

For some scholars, the problem becomes less acute if Cushitic influence is considered as a major factor in the emergence of the labiovelars (GVG 124; Moscati 1954a, 57; 1964, 38; Podolsky 1991, 14; Voigt 1989, 639; cf. Ullendorff 1951, 81–82; 1955, 83–86), but note the objections against the ‘substratum theory’ in Klingenheben (1959, 34–36, 40–41).

The traditional concept has been rejected (partly on good grounds) in Grimme 1901, where an alternative theory has been developed: PS labiovelars, lost elsewhere in Semitic, are preserved intact in ES. Grimme’s arguments rarely withstand critical scrutiny, first of all because the regularity of phonetic and/or semantic correspondences tends to be drastically neglected, as shown by equations such as Gez. *ṣəggʷ* – Hbr. *ḥūṣ* ‘street’, Gez. *takʷlā* ‘wolf’ – Arb. *ṯaʿlab-* ‘fox’, Gez. *gʷəmā* – Syr. *ʿōnītā* ‘melody’, Gez. *gʷaggʷəʾa* ‘to hurry’ – Hbr. *ḥargōl* ‘locust’ (1901, 417, 420, 422, 441).

Grimme’s reconstruction has been categorically rejected by most Semitists (GVG 124; Kuryłowicz 1933, 37; Ullendorff 1951, 71; 1955, 75, 83; Klingenheben 1959, 35), but hardly ever critically analyzed. In recent decades, labiovelars have been included into the PS consonantal inventory by Diakonoff (1970; 1988, 34; 1991–1992, 22–28) and Militarev (SED I, pp. CXX–CXXIII, SED II, pp. LXI–LXV). None of the two theories seems convincing (L. Kogan in SED I, pp. CXXIII–CXXIV, SED II, pp. LXII).

### 1.4.3. The lateral sibilant **ŝ*$_x$

Hebrew *š* may correspond to *š* in Arabic, instead of the expected *s* (cf. 1.5.2.4.2.). The same irregularity has been observed between Arabic and MSA (Leslau 1937, 217):

Soq. *šwb*, *šbb* 'to heat' – Arb. *šbb*, *šbw* 'to burn' (LS 410, Lane 1492, 1501). According to Diakonoff (1988, 34–38; 1991–1992, 15–18) and Militarev (SED I, pp. XCIX–CV), the correspondence Hbr. *š* – Arb. *š* – MSA *š* represents a hitherto unrecognized PS lateral sibilant **ŝ*$_x$, contrasting with the 'traditional' **ŝ* (> Hbr. *ŝ* – Arb. *š* – MSA *ŝ*). Within the affricate hypothesis (1.3.2), **ŝ* and **ŝ*$_x$ are opposed as [ĉ] (lateral affricate) and [§] (lateral sibilant).

While bilateral Hebrew-Arabic cognate pairs with *š* are not rare (cf. 1.5.2.4.2.), reliable MSA-Arabic examples are scarce and hard to separate from recent Arabisms (Leslau 1937, 215–217). For this reason, hypothetic PS roots with **ŝ*$_x$ attested in Hebrew, Arabic and MSA are extremely few. The most remarkable case is Hbr. *šämäš* – Arb. *šams-* – Jib. *šum*, Soq. *šam* 'sun' (HALOT 1589, Lane 1597, JL 267, LS 418, SED I, p. CI, Faber 1984, 215–219, 1986). Reconstruction of **ŝ*$_x$ is, therefore, highly problematic.

### 1.4.4. The emphatic lateral **ṣ̂*

In the traditional PS reconstruction, only two lateral sibilants are postulated: **ŝ* and **ṣ̂*. The voiced member of the lateral triad is often supplanted by **l* (Yushmanov 1998[1940], 145, 148; Steiner 1977, 156; cf. Martinet 1953, 77–78), but this is not universally accepted (Cantineau 1951–1952, 87; 1960[1941], 16, 54–55; Voigt 1979, 95–96, 104–105; 1992, 50). In Voigt 1992, the existence of the PS voiced lateral **ẑ* is deduced from the spelling variation of the traditional reflex of **ṣ̂* in Egyptian Aramaic: *ḳ*-spellings supposedly reflect PS **ṣ̂* (*ʾrḳ* 'land' < **ʾarṣ̂-*), whereas *ʿ*-spellings point to **ẑ* (*ʿlʿ* 'rib' < **ẑila'-*, *rḥʿ* 'to wash' < **rḥẑ*). Voigt's hypothesis is hard to accept: the supporting evidence is meager (Stempel 1999, 60), whereas alternative *ʿ*-spellings are known for most of the *ḳ*-lexemes (Muraoka/Porten 2003, 8–9). That no *ḳ*-variants are attested for *ʿlʿ* and *rḥʿ* is not surprising given the rarity of these lexemes in the extant textual corpus (and see, moreover, cf. 1.5.2.7.2. for *rɜḥɜk* 'to wash' in Papyrus Amherst 63, 3:10–11).

### 1.4.5. The sibilant *s*$_x$

In the 'southern' orthographic norm of OB Akkadian (cf. 1.5.1.3.1.), the SV series is exceptionally used for the following lexemes (Goetze 1958, 140–141): *sebe* 'seven', *sādidu* 'foraying party', *sadāru* 'to arrange', *salīmu* 'peace', *sāmu* 'red' / *sūmu* 'red spot', *bussurtu* / *tabsirtu* 'tidings', *mansû* 'leader', *šasû* 'to call' (AHw. 1033, 1022, 1000, 1015, 1019, 1058, 142, 1299, 619, 1195). According to Goetze, this orthographic peculiarity reflects an unrecognized PS sibilant **s*$_x$. Goetze's solution has been unanimously rejected (Aro 1959, 332–335; GAG § 30a; Steiner 1977, 48–51; SED I, pp. LXXII–LXXIII) with no persuasive alternative explanation (cf. Westenholz 2006, 254).

The sibilant in the pertinent lexemes has no uniform correspondences elsewhere in Semitic, which makes Goetze's hypothesis *a priori* unlikely.

PS **š* and **ŝ* are behind *s* in *sebe* (< **šabʿ-*, CDG 482), *salīmu* (< **šlm*, CDG 499) and *bussurtu* (< **bŝr*, CDG 110). The presence of *s* (instead of the expected *š*) in these lexemes throughout Babylonian is even more puzzling than the unusual SV spellings

in the 'southern' OB orthography, but there are other Akkadian words displaying the same feature (SED I, pp. LXXII−LXXIII, Faber 1986, 166, cf. SED II, p. LVII): Akk. *saʾālu* − Syr. *šʿal*, Sab. $s_1$ʿ*l* 'to cough' (SED I No. 61$_v$, Faber 1986, 166), Akk. *silītu* − Hbr. *šilyā*, Syr. *šlītā* 'afterbirth' (SED I No. 246, Faber 1986, 166), Akk. *sâbu* − Hbr. *šʾb* 'to draw water' (AHw. 1000, HALOT 1367, Faber 1986, 166), Akk. *salāḳu* − Syr. *šlaḳ* 'to boil' (AHw. 1014, LSyr. 784). In one such case, PS **ṯ* is involved: Akk. *samāne* 'eight' − Arb. *ṯamānin* (AHw. 1017, Lane 355, cf. Streck 2008).

Akk. *mansû* is a Sumerism (< MAŠ.SUD, Lieberman 1977, 388−389), the remaining Goetze's lexemes are etymologically problematic: *sādidu* (with Streck 2000, 112−113, probably a WS loanword, cf. Hbr. *šdd* 'to despoil', HALOT 1418), *sadāru* (Hbr. *sēdär* is an Akkadism and, therefore, etymologically irrelevant, with Aro 1959, 331, Westenholz 2006, 254 and *contra* Streck 2006, 224), *sāmu* (comparable to Ugr. *šmt* 'reddish shade', Hbr. *šōham* 'carnelian', with DUL 831 and HALOT 1424, but cf. Bulakh 2003, 7−8), *šasû* (perhaps related to Gez. *ŝāʾŝəʾa* 'to speak clearly', CDG 524).

As supposed by Aro (1959, 331; cf. Steiner 1977, 50−51; Faber 1985, 105−106; 1986, 167−168), the emergence of 'Goetze's sibilant' is to be explained in phonetic terms: the 'general sibilant' [s] occasionally preserves its old value without shifting to [š]. Such a preservation is easily conceivable for one specific morphophonemic environment (Goetze 1959, 148; Kogan/Markina 2006, 569) such as the juncture of *-š* and *š-* (*re*-SA < *rēš-ša* 'her head', *li-pu*-SU-*um* 'let him do for him', Goetze 1959, 141), but is more difficult to explain as far as a few scattered lexical items are concerned. WS influence may be responsible for *salīmu* (cf. the regular *šalāmu* 'to be sound', Edzard 1985, 125; Diakonoff 1991−1992, 41; Streck 2000, 115−116) and *sādidu* (Streck 2000, 112−113), whereas in *sadāru* the shift [s] > [š] may be blocked by the contact with *d* (Streck 2006, 224; 2008, 250−251). An explanation by paradigmatic analogy has been proposed for *sebe* and *samāne* in Streck 2008, 252.

### 1.4.6. The emphatic uvular **χ̣*

Ever since GVG 128, the irregular correspondence Arb. *ḥ* vs. Akk. *ḫ* (cf. 1.5.9.2.) − ca. 50 examples according to Huehnergard (2003, 106) − has been explained by the influence of the adjacent consonants. According to Tropper 1995a, the irregularity is observed in the presence of sonorants, sibilants and glides, as well as in roots *mediae geminatae*. As shown in SED I, pp. LXXIV−LXXV and Huehnergard (2003, 107−109), these conditioning factors are too numerous and heterogeneous. Moreover, there are many examples of PS **ḥ* yielding Ø in Akkadian in spite of the presence of sonorants, sibilants and glides (like *edēšu* 'to be new' < **ḥdṯ* or *erēšu* 'to till' < **ḥrṯ*).

Huehnergard's alternative approach (2003, 113−117; cf. already Yushmanov 1989[1940], 145−146) implies the reconstruction of a new PS phoneme **χ̣* (a glottalized uvular affricate, i.e. the emphatic partner of **ḫ* and **γ*). This attractive solution prompts some reservations. Persuasive statistical evaluation of 'regular' and 'irregular' examples requires an exhaustive etymological analysis of all Akkadian roots with **ḥ* in the prototype, which is still a desideratum (50 *ḫ*-roots vs. 80−90 Ø-roots in Huehnergard 2003, 109 is just a preliminary approximation; cf. Tropper 1995a, 61). Unmotivated variation of *ḥ* and *ḫ* is not unknown outside Akkadian (Kogan 1995, 159−160; Hueh-

nergard 2003, 111), cf. Ugr. *ḥdr* − Arb. *ḥidr-*, Sab. *ḥdr* 'room' (DUL 355, Lane 708, SD 59). Last but not least, pharyngeal *ḥ* as a reflex of the glottalized uvular affricate **χ̣* is phonetically unusual (the (post-)velar emphatic *ḳ* would be more expected).

## 1.5. Proto-Semitic consonantism as reflected in individual languages

### 1.5.1. Proto-Semitic sibilants in Akkadian

#### 1.5.1.1. Ebla

Orthographic representation of PS sibilants in Ebla has been studied by Krebernik (1983, 211−218) and Conti (1990, 9−16). Three sign series are opposed, viz. SV for **š* and **ŝ*, ŠV for **ṯ* and **ḏ*, ZV for **s*, **z*, **ṣ*, **ṱ* and **ṣ̂*:

SI-*nu-u*[*m*] = Sum. ZÚ.URUDU 'tooth' (VE 174) − Arb. *šinn-*, Akk. *šinnu* (Krebernik 1983, 6, SED I No. 249), *nu-pù*-UŠ-*tum* = Sum. ZI 'soul, life' (VE 1050) − Arb. *nafs-*, Akk. *napištu* (Krebernik 1983, 37, SED I No. $46_v$), SI-*tum* = Sum. Ù.DI 'sleep' (VE 1131) − Arb. *wsn*, Akk. *šittu* (Krebernik 1983, 40, SED I No. $82_v$).

*kàr*-SU-*um* = Sum. ŠÀ.GAL 'stomach' (VE 576) − Arb. *kariš-*, Akk. *karšu* (Krebernik 1983, 22, SED I No. 151), *ḳá*-SA-*tum* = Sum. GIŠ.TIR 'wood' (VE 400) − Mhr. *ḳəsnīt*, Akk. *ḳīštu* (Krebernik 1983, 15, ML 242, AHw. 923), SI-*bù-um* = Sum. NÌ.UL 'grey hair, old age' (VE 108) − Akk. *šību*, Arb. *šayb-* (Conti 1990, 79, SED I No. $66_v$).

ŠU-*ba-tum* = Sum. GAR.DÙR 'residence' (VE 88) − Sab. *wṯb*, Akk. *wašābu* (Krebernik 1983, 4, SD 165, AHw. 1480), *i*-ŠA-*wu* = Sum. A.GÁL 'to be' (VE 624) − Ugr. *ʾiṯ*, Akk. *išû* (Krebernik 1983, 24, DUL 123, AHw. 402), $IŠ_{11}$-*kà-um* = ŠE.GEŠTIN 'cluster of grapes' (VE 660) − Arb. *ʾiṯkāl-*, Hbr. *ʾäškōl* (Conti 1990, 177, Lane 21, HALOT 95).

ŠA-*ḳá-núm* = Sum. $SU_6$.DÙ 'beard' (VE 199) − Arb. *ḏaqan-*, Akk. *ziḳnu* (Krebernik 1983, 8, SED I No. 63), ŠÈ-*na-bù* = Sum. KUN 'tail' (VE 1371) − Arb. *ḏanab-*, Akk. *zibbatu* (Krebernik 1983, 44, SED I No. 64), ŠA-*la-um* = Sum. ŠE.MAR 'to sow' (VE 659) − Ugr. *ḏrʿ*, Akk. *zēru* (Krebernik 1983, 26, DUL 280, AHw. 1521).

*ḫa*-ZI-ZU-*um* = Sum. GÈŠTU 'ear' (VE 389) − Arb. *ʾal-ḥasīsāni*, Akk. *ḫasīsu* (Krebernik 1983, 15, SED I No. 115), *kà*-ZA-*pù* (VE 104) = Sum. $NÌ.KU_5$.GAR 'to break in pieces' − Akk. *kasāpu*, Arb. *ksf* (Conti 1990, 78, WKAS K 190, AHw. 453), $ku_8$-ZI-*tum* TÚG 'a garment' (ARET 2 14 *passim*) − Hbr. *kəsūt*, Akk. *kusītu* (Fronzaroli 1984, 168, HALOT 488, AHw. 514).

*wa*-ZA-*núm* = Sum. GIŠ.MÁḪ 'to weigh' (VE 409a) − Arb. *wzn* (Krebernik 1983, 16, Lane 3052), *ar*-ZA-*tum* = Sum. GIŠ.NUN.SAL 'cedar' (VE 471) − Arb. *ʾarz-* (Krebernik 1983, 17, Lane 47).

*wa*-ZI-*lu-um* = Sum. BAḪAR 'potter' (VE 1012) − Arb. *ṣwr*, Akk, *eṣēru* (Krebernik 1983, 36, Lane 1744, AHw. 252).

ZA-*ba-a-tum* = Sum. DÀRA.MAŠ.DÀ 'gazelle' (VE 1191) − Arb. *ḏaby-*, Akk. *ṣabītu* (Krebernik 1983, 42, SED II No. 242), *a*-ZA-*mu-um* = Sum. GIŠ.GI.NA 'bone' (VE 417) − Arb. *ʿaḏm-*, Akk. *eṣemtu* (Krebernik 1983, 16, SED I No. 25), *na*-ZA-*lum* = Sum. EN.NUN.AG 'to watch' (VE 34) − Sab. *nṭr*, Akk. *naṣāru* (Krebernik 1983, 34, SD 102, AHw. 755).

*wa*-ZA-*um* = Sum. ŠU.DU 'to go out' (VE 507) − Sab. *wṣ̂*, Akk. *waṣû* (Krebernik 1983, 18, SD 156, AHw. 1475), *'à-me*-ZU = Sum. NINDA.AD$_6$ 'leavened bread' (VE 128) − Arb. *ḥmḍ*, Akk. *emēṣu* (Conti 1990, 83, Lane 644, AHw. 214), *ì*-ZU *ba-ne* = Sum. GIŠ.ŠINIG 'tamarisk tree' (VE 395) − Arb. *ʿiḍat-*, Akk. *iṣu* (Krebernik 1983, 15, Lane 2076, AHw. 390).

The sign AŠ seems to be attested only before dentals (AŠ-*tár* = Sum. DINGIR.INANNA in VE 805, *tá*-AŠ-*tá-me-lum* = Sum. LÚ.ME.I.I in VE 1377', *tá*-AŠ-*tá*-NI-*lum* = Sum. IGI.TÙR in EV 0130), a curious reversal of the OB practice described in 1.5.1.3.

### 1.5.1.2. Sargonic Akkadian

The use of sibilant signs in Sargonic Akkadian is similar to that practiced in Ebla, although **ḏ* is written with the ZV series as in later Akkadian: *aḫ*-ZA-*nim* 'take for me' (Di 4:9) < **'ḫḏ*, *zu-ḳú-na* 'bearded' (Di 4:10) < **ḏaḳan-*. Hasselbach (2005, 72−73) assumes a true merger of **ḏ* and **z* into *z*, whereas for Krebernik (1985, 58) only a change of scribal habits is involved. There are, indeed, some indications that *ḏ* was still a separate phoneme in Sargonic. The forms *āḫuz* / *īḫuz* / *līḫuz* 'I took' / 'he took' / 'let him take' are spelled with the sign EŠ in MAD 5 8:12, 13, 15, 32, MAD 1 127:8 and Gir 3:9, whereas SU (instead of the expected ZU) is found in *u-šá-ḫi*-SU-*ni* 'he made them take' (RIME 2.1.1.1:101) < **yušāḫiḏ-šunī* (Westenholz / Westenholz 1977, 208; Edzard 1991, 261−262). The verb *izuzzu* 'to stand', possibly going back to **ḏwḏ* (Streck 1997−1998: 321−322, Huehnergard 2002, 178), is twice spelled with the sign VD instead of VZ: *i-za*-AD (RIME 2.1.5.6 II 5) and *li-zi*-ID (RIME 2.1.4.26 IV 10).

The ŠV series renders PS **ṯ*, whereas the outcome of the merger of **š* and **ŝ* is spelled with the SV series. In the wake of von Soden/Röllig 1991: XXI, SV signs for the 'general sibilant' in Sargonic are often transcribed as ŚV. As shown by W. Sommerfeld in GAG § 30 (cf. Streck 2008, 251), this conventional device creates much confusion, since *ś* is the traditional Semitological notation for the PS lateral sibilant **ŝ* (cf. Blau 1977, 88, 90, 106; Diem 1974, 248; Steiner 1977, 146), which has never been a separate phoneme in Akkadian (for a possible lateral allophone of *š* in Akkadian cf. 1.3.3.14.).

The ŠV−SV opposition in Sargonic is less stable than in Ebla. Orthographic deviations in both directions are attested, probably reflecting phonological mergers. ŠV spellings tend to be used correctly in Sargonic royal inscriptions (including OB copies): *a-ša-rí-śu* 'its places' (RIME 2.1.1.1:98) < **'aṯar-* (Arb. *'aṯar-*, Lane 18), *ša-ni-am* 'other' (RIME 2.1.4.3 V 33), *iš*$_{11}$-*ni-a-ma* 'they did for the second time' (RIME 2.1.4.6 III 23') < **ṯin-ā* (Ugr. *ṯn*, DUL 918), *tám-ši-il-śu* 'his monument' (RIME 2.1.4.23:15) < **mṯl* (Arb. *timṯāl-*, LA 11 730), *ša-bir*$_5$ 'one who destroys' (RIME 2.1.4.30:8') < **ṯbr* (Ugr. *ṯbr*, DUL 897). True exceptions are rare and mostly involve SI and IŠ instead of ŠI and IŠ$_{11}$: IŠ-*ni-a-ma* (RIME 2.1.1.3:24), *tám*-SI-*il-śu* (RIME 2.1.4.1001:10'), *li*-IŠ-*bir*$_5$ (RIME 2.1.1.2:128).

Outside royal inscriptions, etymologically correct use of ŠV is also well attested: *u-ša-ab* 'he resides' (Gir 35:7) < **wṯb* (Sab. *wṯb*, SD 165), *'à-ra-šè* 'cultivators' (Di 10:14') < **ḥrṯ* (Ugr. *ḥrṯ*, DUL 371), *ši-na-tim* 'urine' (MAD 5 8:16) < **ṯīn-at-* (Ugr. *ṯnt*, DUL 924), *iš*$_{11}$-*ḳú-lu* 'he paid' (MAD 5 65:34) < **ṯḳl* (Arb. *ṯql*, Lane 343). However, SV instead of ŠV is quite frequent in this corpus: *tu*-SA-*bu* 'you will sit' (Ad 12:16), *a*-SA-*ḳá-al* 'I will pay' (Eš 3:21), *e-ra*-SI-*iś* 'in order to cultivate' (Ga 3:23), *tá*-SA-*bi-ir* 'you

will break' (OSP 1 7 I 5'), *i*-SU 'he has' (MAD 5 21:5) < **yṯw* (Ugr. *'iṯ*, DUL 123). And, conversely, ŠV can be found instead of the expected SV: *ú*-ŠU-*ri-dam* 'he led down' (MAD 4 10:4), *ma-ḫa-ar*-ŠU-*nu* 'in front of them' (OAIC 8:16, 12:16), *è-rí*-ŠU-*kà* 'they will request from you' (Ki 1:10) < **'rŝ* (Hbr. *'ărāŝät*, HALOT 92), ŠU-*up-ra-am-ma* 'send me' (Ki 1:16) < **špr* (Arb. *sfr*, Lane 1370), [*u*-Š]A-*ti-ḳú-ni* 'that he made cross' (MC 4 73:18), *la tá-pá*-ŠA-*ḫi-ni* 'you will not find peace' (MAD 5 8:38) < **pšḥ* or **pŝḥ* (Huehnergard 1991, 694).

The reflexes of PS **s*, **z*, **ṣ*, **ṯ* and **ŝ* are uniformly rendered by ZV signs.

### 1.5.1.3. Old Babylonian

The opposition **š*/**ŝ* − **ṯ* is lost in OB. The outcome is rendered by ŠV signs − the new 'general sibilant' which absorbed the reflexes of **š*, **ŝ* and **ṯ*. As plausibly argued in Streck (2000, 217), the phonetic value of *š* in OB was [š], with a lateral allophone [ŝ] in some environments (cf. 1.3.3.14.). The [š] realization agrees well with the regular use of ÁŠ [as] instead of AŠ [aš] before dentals in CḪ (Streck 2006, 233−237, Sommerfeld 2007, 368), to be interpreted as assimilation: *ik-ta*-ÁŠ-*da-am* [sd] 'he reached' vs. AŠ-*ku-un* [šk] 'I placed'. A similar opposition between UŠ [us] vs. ÚŠ [uš] and IŠ$_7$ [is] vs. IŠ [iš] is postulated by Streck for the OB Mari corpus. The value [s] for OB *š* (Tropper 2000b, 738−741) is not compatible with the bulk of the available evidence.

The [š] realization may look undesirable for the affricate hypothesis, as [s] is more suitable to account for the shifts VT + ŠV > (VZ-)ZV, VŠ + ŠV > (VŠ-)SV and VZ + TV > VS/VŠ-TV described in 1.3.2.2.1. (Streck 2006, 243). This contradiction is, however, only apparent, as these shifts do not belong to the synchronic phonology of OB, but to an older stage when the outcome of the blend of **š*/**ŝ* was still pronounced as [s] and rendered by SV signs (Faber 1985, 105; cf. Streck 2006, 231).

The orthographic shift from SV in Sargonic to ŠV in OB implies the phonetic shift [s] > [š], which presents a difficulty (cf. Streck 2006, 248): ŠV is much rarer than SV in Sargonic, and it is SV that most usually evolves from the merger of SV and ŠV described in 1.5.1.2. Why did ŠV (= [š]) become the 'general sibilant' in such conditions? Streck connects this unexpected shift with de-affrication of *s* [c]: the outcome of de-affrication is [s], of necessity spelled with SV signs and, in a push-chain shift, relegating the 'general sibilant' to [š], spelled as ŠV (Haudricourt 1951−1954, 37). However, the 'general sibilant' is spelled with ŠV also in 'southern' OB, where *s* [c] was still an affricate (Keetman 2006, 367−368). Furthermore, ŠV spellings for the 'general sibilant' are common in Ur III Akkadian (Hilgert 2002, 128−133), where de-affrication of *s* [c] is hardly apparent (Hilgert 2002, 680−681; duly acknowledged in Streck 2006, 225), and already in Sargonic ŠV spellings instead of the expected SV are not to be underestimated (cf. 1.5.1.2. and Kogan 2011).

Whereas the use of ŠV for the 'general sibilant' is normal for all varieties of OB, the behavior of PS **s* and the use of the SV series are not uniform. Since Goetze 1958, two main orthographic varieties ('southern' and 'northern') are distinguished.

#### 1.5.1.3.1. South Old Babylonian orthography

Within the 'southern' norm, **s* is always spelled with ZV signs: *a*-ZU-*ur-ra-šu* = *asurrašu* 'its foundation', *pi*-ZA-*an-na-šu* = *pisannašu* 'its drainpipe' (RIME 4.2.13a.2:29,

33, royal inscription, Larsa), *ka*-ZA-*am*, *ka*-ZI-*im* = *kāsam*, *kāsim* 'cup', *ḫa*-AZ-*ra* = *ḫasrā* 'they are chipped', *pi*-ZI-*il-tum* = *pisiltum* 'misadventure', *ik*-ZU-UZ = *iksus* 'it consumed' (CT 5 4−6:5, 20−21, 16, 46, 68, oil omina). In this two-member sibilant system, ŠV renders the 'general sibilant' and ZV is used for *s*, *z* and *ṣ*. In phonetic terms, [s] shifted to [š] (as in the rest of OB), but the affricate [c] was preserved. The SV series is thus unnecessary and out of use. A sibilant system with *š* but no *s* was, however, inherently unstable, and it was probably for that reason that the phone [s] (and the SV sign series) did not disappear completely, but are preserved in some words and morphological positions (cf. 1.4.5.). This archaic feature is fundamentally different from the use of SV in the 'northern' system: 'southern' *s* is not connected with deaffication and goes back to **š* or **ŝ* rather than **s*.

#### 1.5.1.3.2. North Old Babylonian orthography

'Northern' orthography makes use of each of the three sibilant series and is thus a three-member system. ŠV signs render the 'general sibilant', ZV is used for *z* and *ṣ*. As for *s*, it is spelled with ZV and SV following a positional distribution elicited by Goetze (1937), Sommerfeld (GAG § 30; 2007, 372−373) and Westenholz (2006, 253−254). ZV is used when *s* is word-initial or geminated, SV appears elsewhere: ZA-*ar* = *sar* 'he is a liar', *i-na*-ZA-*aḫ* = *inassaḫ* 'he will tear out', *in-na*-AZ-ZA-*aḫ* = *innassaḫ* 'he will be torn out' vs. *pa-ra*-SI-*im* = *parāsim* 'to cut', *ri-ik*-SA-*tim* = *riksātim* 'agreement' (all examples, after Streck (2006, 218−224), are from CḪ). Streck (2006, 218−224) provides some refinements for this rule: ZV may occur for intervocalic non-geminated *s* (*i*-ZA-*ak-ki-il* = *isakkil* 'she acquires illegally'); syllable-final *s* is rendered by ÁŠ and UŠ (*ir-ta-ka*-ÁŠ = *irtakas* 'he bound', *ip-ru*-UŠ = *iprus* 'he decided') and, unexpectedly, by IZ (*ik-ki*-IZ = *ikkis* 'he cut'), although in Mari a special sign ÌŠ may be used instead (on syllable-final *s* see further Sommerfeld 2007, 367). As convincingly suggested by Sommerfeld and Streck, the SV spellings reflect [s] as an outcome of deaffrication of [c]. The emergence of the new [s] in opposition to the 'general sibilant' [š] re-establishes a balanced system of sibilants which persisted throughout the history of Babylonian.

### 1.5.1.4. Assyrian

According to a broad consensus, the 'general sibilant' was pronounced as [s] in MA and NA, but spelled with ŠV signs as in Babylonian (Parpola 1974; Kaufman 1974, 140−142; Huehnergard 1997, 439−440; Kouwenberg 2003, 86). This realization explains, in particular, such MA spellings as UZ-*bat* 'she is dwelling' (vs. *tu*-ŠA-*ab* 'she will dwell') or UZ-*bal-ki-it* 'he has changed': instead of the problematic shift *-šb-* > *-sb-* (GAG § 30d, Mayer 1971, 21), a straightforward assimilation *-sb-* > *-zb-* is postulated (Girbal 1997; *contra* Girbal, this specifically Assyrian phenomenon is not to be extrapolated for 2nd millennium Akkadian as a whole).

Parpola and Kouwenberg ascribe the ŠV = [s] realization to a comparatively late sound change, thus assuming that the OA pronunciation was the same as in OB (viz. [š] or [ŝ]). For Kouwenberg, lack of *ṣ*-forms of the verb *našā'u* 'to lift' (1.3.1.2) in OA

excludes the realization [s] for ŠV in this period. There is, nevertheless, some evidence in its favor (Kogan/Markina 2006, 571−572).

(a) The set of signs for the 'general sibilant' in OA is heterogeneous: ŠA = *ša*, ŠU = *šu*, but SI = *ší* (Hecker 1968, 59). If the 'general sibilant' was [š], its special behavior before *i* as opposed to *a* and *u* is hard to explain (cf. Woodhouse 2003, 277), but if it was [s], the difference can be plausibly ascribed to the palatalizing effect of *i* ([si] > [ši]). The combination [ši] is rendered by the sign SI from the SV series, a default set of signs otherwise out of use in the two-member sibilant system of the OA orthography.
(b) When pronominal enclitics in *š-* are attached to forms ending in *-š*, the outcome is spelled as ŠV (*ru-pu*-ŠU 'its breadth', *e-pu*-ŠU-*um* 'do for him', Hecker 1968, 65) − differently from OB, where SV signs are used in this position (cf. 1.3.2.2.1.). The [s] realization for the ŠV series in OA allows one to harmonize the evidence of the two dialects in this important morphophonemic environment.

ŠV = [s] is thus an archaic feature of the Assyrian dialect as a whole (Hecker 1968, 63−64; Goetze 1958, 137; Friedrich 1974, 32; Diakonoff 1988, 38; Huehnergard 1997, 439; Hasselbach 2005, 234; cf. Keetman 2006, 366−367 and *contra* GVG 136, Faber 1985b, 88−89). In OA, the 'general sibilant' [s] was still opposed to the affricate [c]. In later Assyrian, the affrication of [c] was lost, but the expected push-chain shift [s] > [š] did not occur: it was rather the outcome of de-affrication that shifted to [š], as proven by foreign transcriptions (Parpola 1974, 4). The phonetic background of the shift [c] > [š] is admittedly problematic (cf. Faber 1985b, 86−88; Huehnergard 1997, 440; Keetman 2006, 366−367).

### 1.5.2. Proto-Semitic sibilants in North-West Semitic

#### 1.5.2.1. Early second millennium BC

The earliest evidence comes from WS personal names in OB Akkadian documents. The set of cuneiform signs used to spell these names differs from the contemporary OB system, but is largely identical to the Sargonic one (Streck 2000, 221−222; 2006, 249): SV for the 'general sibilant' (< **š*, **ŝ*), ŠV for **ṯ*, and ZV for **s*, **z* and **ṣ* (Streck 2000, 214−218, 221−230). In phonetic terms, it means that **s* was still an affricate [c], the 'general sibilant' was realized as [s] and the reflex of **ṯ* was a separate phoneme. There is no trace of **ŝ*, **ṣ̂* and **ṯ̣* (cf. Tropper 2000b, 743 for Streck's attempt to detect a separate rendering of **ṣ̂* in *yṣ̂* 'to go out'). A certain amount of *d*-spellings for **ḏ* (including *d*/*z* doublets like *za-ki-ru-um* / *da-ki-ru-um* < PS **ḏkr* 'to mention, to remember') point to a separate status of this phoneme (Streck 2000, 209−214).

#### 1.5.2.2. Late second millennium BC: Egyptian transcriptions

PS **š* is rendered by Egyptian *š* (Sivan/Cochavi-Rainey 1992, 21−22; Hoch 1994, 410): *ra*=*bi*=*ša*=*ya* 'leather armour' − Ugr. *lbš*, Hbr. *lbš* 'to wear'; *ru*$_2$=*ša* 'peak, summit' − Ugr. *rʾiš*, Hbr. *rō*(ʾ)*š* 'head'; *ša*=ʿ*a*=−*r* 'price' − Hbr. *šaʿar*, Arb. *siʿr-*; *ši*$_2$=*b*=*da*$_2$ 'staff,

rod' – Sab. *s*$_1$*bṭ* 'to beat', Hbr. *šēbäṭ*; *ša≠m≠ʿ* 'to hear' – Ugr. *šmʿ*, Hbr. *šmʿ*; *ša≠m≠ša* 'sun' – Hbr. *šämäš* (contrast Arb. *šams*-); *ša≠ra≠ma*$_4$ 'peace' – Hbr. *šālōm*, Arb. *salām*-; *ša≠ḥa≠ḳa* 'dust cloud' – Hbr. *šaḥaḳ*, Arb. *sḥq* 'to pulverize' (Hoch 1994, 202, 209, 273, 276–278, 279, 280, 285, 287–288; HALOT 519, 1164, 1618, 1388, 1570, 1589, 1506, 1464; DUL 492, 724; SD 123; Lane 1363, 1415, 1318).

PS **ṯ* is rendered by Egyptian *s* (Sivan / Cochavi-Rainey 1992, 23–24, Hoch 1994, 402–405): *ʾa*$_2$*≠–r≠ḳa≠bi≠sa* 'a precious stone' – Ugr. *ʾalgbṯ*, Hbr. *ʾälgābīš*; *ʾas≠pa*$_2$*≠ta* 'quiver' – Ugr. *ʾuṯpt*, Hbr. *ʾašpā*; *ḥa≠da≠sa≠ta*$_5$ 'new' – Ugr. *ḥdṯ*, Hbr. *ḥādāš*; *sa≠ra≠ḳu*$_2$ 'snow' – Arb. *ṯalǯ*-, Hbr. *šäläg*; *sa≠pa≠ta* 'to judge' – Ugr. *ṯpṭ*, Hbr. *špṭ* (Hoch 1994, 30, 40–41, 238–239, 264–265, 278; HALOT 51, 96, 294, 1503, 1622; DUL 54, 126, 355, 926; Lane 350).

PS **ŝ* is also thought to be rendered by Egyptian *s*, but reliable examples are scanty (Cochavi-Rainey / Sivan 1992, 21, Hoch 1994, 409): *sa≠ʿa≠ra≠ta* 'wool' (Hoch 1994, 256) – Arb. *šaʿr*-, Hbr. *ŝēʿār* (SED I No. 260), perhaps *sa≠ʿa≠ru*$_2$, *sa≠ʿa≠–r* 'barley (field)' (Hoch 1994, 255) – Arb. *šaʿīr*-, Hbr. *ŝəʿōrā* (Lane 1561, HALOT 1345), *sa≠ga* 'sackcloth' (Hoch 1994, 269) – Hbr. *ŝaḳ* (HALOT 1349).

Exceptions to these rules are rare and uncertain (Rainey 1998, 452).

The best known example of Eg. *š* rendering PS **ṯ* is *ša≠ʿa≠ra*, *ša≠–r≠ʿa* 'gate' (Hoch 1994, 273–274; contrast Rainey 1998, 448–449; Quack 1996, 511) – Ugr. *ṯγr*, Hbr. *šaʿar* (DUL 901, HALOT 1614). The same deviation is found in *ḥa*$_2$*≠d≠ša≠ta* 'new' (Hoch 1994, 238–239, contrast *ḥa≠da≠sa≠ta*$_5$ above), *šu*$_5$*≠ʿa≠ru*$_2$*≠ta* 'vixen' (Hoch 1994, 274, cf. Vittmann 1997, 285; Rainey 1998, 449) – Arb. *ṯuʿāl*-, Hbr. *šūʿāl* (SED II No. 237), *ša≠pa≠ta*, *š≠f≠ta* 'to judge' (Hoch 1994, 278, contrast *sa≠pa≠ta* above and cf. Rainey 1998, 449).

PS **š* is rendered by Eg. *s* in *gas-mu* 'storm' (Hoch 1994, 354; cf. Rainey 1998, 450; Woodhouse 2003, 281) – Ugr. *gšm*, Hbr. *gäšäm* (DUL 310, HALOT 205).

The reflex of **ḏ* has been supposed to differ from **z* in that it can be rendered by either *ḏ* or *ṯ* (Hoch 1994, 387, 405, 408), but reliable examples are rare (Sivan / Cochavi-Rainey 1992, 23; Quack 1996, 513): *ʾi≠ṯi*$_2$ 'which' – Hbr. *ʾē-zā* (BDB 32) < PS **ʾayyu ḏayu* (Hoch 1994, 43; cf. Rainey 1998, 436–437), *ṯi*$_2$*≠ku≠ra* 'to remember' (in the PN *ṯi*$_2$*≠ku≠ra bʿ≠ra* 'Baal remembered', Hoch 1994, 372–372; cf. Rainey 1998, 451) – Arb. *ḏkr*, Hbr. *zkr* (Lane 968, HALOT 269), *ʿu≠ḏi*$_4$*≠–r* 'helper' (Hoch 1994, 88; cf. Rainey 1998, 438–439) – Ugr. *ʿḏr*, Sab. *ʿḏr*, Hbr. *ʿōzēr* (DUL 153, SD 13, HALOT 810).

*Contra* Hoch 1994, 201 and 405 (cf. Sivan/Cochavi-Rainey 1992, 22–23), there is hardly any evidence for a separate status of **ṯ*, which is rendered by *ḏ* in both reliable examples: *ʿu≠–r≠ḏu*$_2$*≠t* 'terrifying' (Hoch 1994, 78) – Ugr. *ʿrṯ*, Hbr. *ʿrṣ* (DUL 185, HALOT 888) and *ḏa≠ma≠t* 'thirsty' (Hoch 1994, 386) – Arb. *ḍmʾ*, Hbr. *ṣmʾ* (SED I No. 79$_v$). The only *ṯ*-rendering (Hoch 1994, 201; Rainey 1998, 451) seems to be *ra≠wi*$_2$*≠ṯi*$_2$ 'runner' (as a PN) – Ugr. *rṯ*, Hbr. *rāṣ* (DUL 750, HALOT 1207).

PS **ŝ*, rendered by *ḏ* (Hoch 1994, 405), does not differ from **ṣ*: *ḥu*$_4$*≠ma≠ḏa* 'vinegar' – Arb. *ḥmḍ*, Hbr. *ḥōmäṣ*; *ḏa≠bi≠ʾi* 'army' – Sab. *ŝbʾ*, Hbr. *ṣābā(ʾ)*; *ḏi*$_4$*≠ra≠ʿ≠tu* 'plank' – Arb. *ḍilaʿ*-, Hbr. *ṣēlāʿ* (Hoch 1994, 228, 382, 394; HALOT 329, 994, 1030; Lane 644; SD 40; SED I No. 272).

### 1.5.2.3. Late second millennium BC: Amarna Canaanite

Cuneiform renderings of Canaanite words in EA are mostly irrelevant for the sibilant problem, as the ŠV series is used indiscriminately for **š*, **ṯ* and **ŝ* (Diem 1974, 238):

*ma-al-ba-ši* ‘garment’ (EA 369:9; Sivan 1984, 243) − Ugr. *lbš*, Hbr. *lbš* (HALOT 519, DUL 492), *nu-ḫu-uš-tu*$_4$ ‘copper’ (EA 69:28; Sivan 1984, 255) − Hbr. *nəḥōšät*, Arb. *nuḥās-* (HALOT 691, Lane 2775), *ru-šu-nu* ‘our head’ (EA 264:18; Sivan 1984, 265) − Hbr. *rō(ʾ)š*, Arb. *raʾs-* (SED I No. 225), *šu-lu-uḫ-ta* ‘shipment’ (EA 265:8; Sivan 1984, 275) − Ugr. *šlḥ*, Hbr. *šlḥ* (DUL 816, HALOT 1511);

*ka-aḫ-šu* ‘chair’ (EA 120:18; Sivan 1984, 235) − Ugr. *kḥṯ* (DUL 434), *ša-aḫ-ri* ‘gate’ (EA 244:16; Sivan 1984, 281) − Ugr. *ṯγr*, Hbr. *šaʿar* (DUL 901, HALOT 1614), *aḫ-ri-šu* ‘I am cultivating’ (EA 365:11; Sivan 1984, 225) − Ugr. *ḥrṯ*, Hbr. *ḥrš* (DUL 371, HALOT 357), *ši-ip-ṭì-*$^{d}$IM ‘Judgment of DN’ (personal name, EA 330:3; Hess 1993, 143−144) − Ugr. *ṯpṭ*, Hbr. *špṭ* (HALOT 1622, DUL 926);

*du-ma-aš-ḳa* ‘Damascus’ (EA 107:28; ‘correction’ to *-as-* in Sivan 1984, 50 is wrong) − Hbr. *dammäśäḳ*, Arb. *dimašq-* (HALOT 227).

A remarkable exception is provided by the EA letters from Jerusalem (EA 285−290), where Canaanite words can be spelled with both SV and ŠV (Harris 1939, 34−35, 62−63; Diem 1974, 239; Moran 1975, 152; Steiner 1977, 146; Sivan 1984, 50; Rainey 1996, 16):

*ú-ru-sa-lim* (EA 287:25, 46, 61, 63, 290:15; Sivan 1984, 284) = *yərūšālayim* (HALOT 437), É *sa-a-ni* (EA 289:20; Sivan 1984, 271) = *bēt šəʾān* (HALOT 1375), *l*[*a-k*]*i-si* = *lākīš* (EA 288:43; Sivan 1984, 240; *la-ki-ši* in EA 289:13, adduced as a variant in Diem (1974, 239), is interpreted as *la-ḳí-ši* ‘they took it’ in Knudtzon (1915, 873) and Moran (1992, 332);

*še-e-ri* (EA 288:26; Sivan 1984, 277) = *ŝēʿīr* (HALOT 1342), *ša-de*$_4$*-e* ‘field’ (EA 287:56; Sivan 1984, 277) = *ŝādā* (HALOT 1307), *ša-ak-mi* (EA 289:23; Sivan 1984, 1494) = *šəkäm* (HALOT 1495).

The SV series seems to be used when etymology (as well as Egyptian transcriptions) point to **š*: *ú-ru-sa-lim* = PS **šlm* ‘to be complete’, *sa-a-ni* = Eg. *ša-ar* (Albright 1934, 40) and perhaps = PS **šʾn* ‘to be quiet’ (HALOT 1374−1375), *l*[*a-k*]*i-si* = Eg. *ra-ki-ša* (Albright 1934, 48). The ŠV series is used for **ŝ* and **ṯ*: *še-e-ri* = Hbr. *ŝēʿīr*, Eg. *sa-ʿi-r* (Rainey / Notley 2006, 109), *ša-de*$_4$*-e* = Hbr. *ŝādā*, *ša-ak-mi* = Eg. *sa-ka-ma* (Albright 1934, 55) and perhaps = PS **ṯakm-* ‘back, shoulder’ (SED I No. 281, cf. Dolgopolsky 1999, 64).

### 1.5.2.4. Ugaritic and Canaanite: lateral sibilants

#### 1.5.2.4.1. Proto-Semitic **ŝ́*

PS **ŝ́* yields **ṣ* in Phoenician and Hebrew. In Ugaritic, **ŝ́* > *ṣ* is also normal: *ʾarṣ* ‘earth’ < **ʾarŝ́-*, *ʿṣ* ‘tree’ < **ʿiŝ́-*, *ṣʾin* ‘small cattle’ < **ŝ́aʾn-* (DUL 106, 186, 775). Reliable *ṯ́-* examples are *ṯ́i* ‘go out!’ (KTU 1.12 I 14, 19) < **wŝ́* and *yṯ́ḥḳ* ‘he laughed’ (KTU 1.12 I 12) < **ŝ́ḥḳ* (Tropper 2000a, 93). In view of another phonological peculiarity of KTU 1.12 (for which cf. 1.5.2.5.2.), Tropper is right that the twofold (cf. *ʾarṣ* ‘earth’ < **ʾarŝ́-* in KTU 1.12 I 3) reflexation of **ŝ́* in this archaic text points to **ŝ́* as a still independent phoneme in early Ugaritic (cf. Blau 1968, 525; 1977, 78; Steiner 1977, 48).

Supposed examples of **ŝ́* > *ṯ* outside KTU 1.12 (Tropper 1994, 22−23; 2000a, 93−94) are unreliable (Blau 1977, 78−79). Thus, *ṯ́u* ‘secretion, excrement’ (DUL 1003) does not belong to **wŝ́* ‘to go out’ (cf. SED I No. 286), whereas *ḥṯr* ‘mansion’ (DUL

382) is not to be separated from PS *ḥVṯVr- 'sheepfold, courtyard' in favor of Arb. *ḥḍr* 'to stay, to be present' (Blau 1977, 78). Ugr. *ṯrw* 'balsam' (DUL 1006) does correspond to Sab. *ŝrw* and Arb. *ḍirw-* (Sima 2000, 269–270), but the variant root **ṯirw-* (Blau 1977, 79) is preserved in JPA as *ṯrw* (DJPA 230, Kutscher 1976, 25).

### 1.5.2.4.2. Proto-Semitic **ŝ*

PS **ŝ* yields *š* in Phoenician and Ugaritic. In Hebrew, the opposition between **š* and **ŝ* is preserved in the Masoretic pointing: the grapheme שׁ appears as שׂ when pronounced as **š*, but as שׂ when pronounced as *s* (Steiner 1996). According to the traditional concept, in early Hebrew *ŝ* was an independent phoneme, for which no special sign was available in the Phoenician alphabet (Kutscher 1965, 41; Blau 1977, 87–88; Steiner 1977, 41–47; 1991, 1501–1503). The Hebrew grapheme שׁ was thus polyphonic. Later on, *ŝ* began to merge with *s*, as witnessed by numerous שׁ/ס doublets in the consonantal text of the OT (Blau 1970, 23–25, 114–125). By the Masoretic period the merger of שׂ and ס in the traditional pronunciation of Hebrew was complete (Steiner 1996, 174).

According to the opposite theory, the distinction between **ŝ* and **š* was alien to Hebrew (not unlike Phoenician and Ugaritic) and was secondarily introduced by Masoretes under the influence of their spoken tongue (Aramaic), where **ŝ* and **š* are indeed opposed as *s* and *š* (Diem 1974). A serious advantage of Diem's presentation in comparison to its predecessors in Garbini (1960, 41–48, 1984, 132–133 and 1988, 105–107) is that **ŝ* is not excluded from the PS consonantal inventory: for Diem, **š* and **ŝ* were opposed in PS, but this opposition was lost in Hebrew (so already Moscati 1954a, 35–38, 54).

Diem's arguments against the traditional concept are mostly of theoretical nature: preservation of *ŝ* in Hebrew is inconsistent with its loss in Phoenician and Ugaritic (Diem 1974, 223), whereas the merger of **š* and **ṯ* into *š* – which must precede the merger of **š* and **ŝ* within the traditional concept – is phonetically unlikely (the supposedly more natural merger of **ṯ* and **ŝ* into *ŝ*, in its turn merging with **š*, is postulated instead, Diem 1974, 225–227, 247).

Both of Diem's arguments are subject to serious objections.

(a) Phonological evolution of Hebrew need not be identical to that of its sister tongues: preservation of **ŝ* can be one of several 'non-Canaanite' features in the Hebrew grammar and lexicon (cf. Kogan 2006, 251–252). More disturbing for the traditional concept (Beyer 1969, 12) is the [š] pronunciation of שׁ in the Samaritan tradition (Ben-Ḥayyim 2000, 35–37), but, as argued in Steiner (1977, 43), it may reflect Northern Hebrew phonetics which probably differed from that current in more Southern areas, such as Jerusalem (cf. also Diem 1974, 225).

(b) The phonetic values of **š*, **ŝ* and **ṯ* in early Canaanite cannot be ascertained with the degree of precision necessary for a reliable typology of phonetic shifts and, at any rate, the shift *ṯ* > *š* is actually attested elsewhere in Semitic (Blau 1977, 105; 1998, 103). Egyptian and Jerusalem Amarna renderings may suggest that reflexes of **ṯ* and **ŝ* were phonetically similar, but tell nothing about their merger (Blau 1977, 105; Marrassini 1978, 174). The uniform rendering of **ṯ* and **ŝ* in proto-

Sinaitic inscriptions (Diem 1974, 236, 241) is potentially more relevant, but the available evidence is too scarce for a definite conclusion (Sass 1988, 24). Last but not least, the phonetically 'natural' shift [t̲] > [s] expected by Diem was not possible in early Canaanite, where the reflex of PS **s* was still an affricate [c] (Blau 1977, 106; cf. Diem 1974, 222, 226, 247).

As far as more concrete arguments are concerned, Hebrew *ŝ*-words with no Aramaic cognates have been in the focus of the debate. Indeed, how could the Masoretes ascertain that שׂ was to be read as [s] when no cognate lexeme was present in their usual guide, Aramaic? In Kutscher (1965, 40), five relevant Hebrew words are adduced: *ŝyŝ* 'to rejoice', *ŝmḥ* id., *ŝimlā* 'garment', *ŝrr* 'to rule', *ŝrd* 'to escape' (HALOT 1314, 1334, 1337, 1362, 1353). Blau (1977, 101−102) expands this list with *ŝādā* 'field', *ʿŝy* 'to do' and *ŝʿr* 'to know' (HALOT 1307, 889, 1344). A few additional examples can be found in Marrassini 1978, 163.

Kutscher's argumentation is by no means blameless either.

(a) Firstly, our knowledge of the early Aramaic lexicon is not exhaustive. Some lexemes missing from (or poorly represented in) the extant sources could be known to the speakers in the Masoretic period (Diem 1974, 246). Blau's rejoinder to this claim (1977, 101) is reasonable: exceedingly rare Aramaic words are not expected to influence widely used Hebrew ones. Still, a deeper inquiry into the Aramaic lexicon is desirable. Thus, *ŝādā* is, for Blau, 'an extraordinary frequent Hebrew word ... altogether absent from Aramaic', for which no Aramaic cognate 'has ... yet been detected and perhaps never will' (1977, 101). Now, at least two unambiguous attestations of Mandaic *sadia* 'field, open space, plain, desert' are registered in MD 310!

(b) Secondly, Kutscher and Blau hardly ever provide etymological evidence for PS **ŝ* in Hebrew words spelled with שׂ. However, the very existence of Hebrew lexemes with שׂ and no Aramaic parallels is not sufficient: one has to show that שׂ in such words is etymologically justified. Indeed, if the Masoretes were normally guided by Aramaic cognates, their pointing must have become more or less chaotic when such cognates were not available: at least some lexemes with PS **š* could be spelled with שׂ and *vice versa*.

True, PS **ŝ* in *ŝimlā*, *ŝrd* and *ŝʿr* is assured by Arb. *šamlat-*, *šrd* and *šʿr* (Lane 1600, 1531, 1559). But for *ŝyŝ*, *ŝmḥ* and *ŝrr* there are no cognates pointing to PS **ŝ* − unless one accepts semantically remote comparisons with Arb. *šawšā'-* 'swift she-camel' (Lane 1618, Nöldeke 1904, 43) and Arb. *šmḥ* 'to be high' (Lane 1595, Greenfield 1958). The only reliable witness for **ŝ* in *ŝādā* comes, paradoxically, from Mnd. *sadia*, as the translations 'mountain' or 'cultivated land' for Sab. $s_2dw$ (SD 131) are hardly justified (Sima 2000, 309). But the most problematic case is *ʿŝy* 'to do', whose only straightforward cognate − ESA $ʿs_1y$ 'to do' (SD 20, LM 16, LIQ 125) − overtly contradicts the traditional rules (ESA $s_1$ = Hbr. *š* ≠ Hbr. *ŝ*).

Diem's examples of Hbr. *š* = Arb. *š* in the absence of Aramaic cognates (1974, 246−247; after Yahuda 1903, 707−713) are notoriously infelicitous (Blau 1977, 103−104), as they exhibit more than one sibilant in the root (Hbr. *šaḥaṣ* 'pride' − Arb. *šḫṣ* 'to be raised, elevated', HALOT 1463, Lane 1516), other consonantal irregularities (Hbr. *šns* 'to gird' − Arb. *šnṣ* 'to be bound', HALOT 1607, LA 7 55), or metathesis (Hbr. *nāḥāš* − Arb. *ḥanaš-* 'snake', cf. SED II No. 159). The same is true of the majority of

cases adduced in Magnanini 1974 (cf. Marrassini 1978, 168−173). More persuasive examples are, nevertheless, not lacking. Thus, as Blau (1977, 92, 95, 104) admits, Hbr. *tašūḳā* 'desire, longing' (HALOT 1801) = Arb. *šwq* 'to excite one's desire' (Lane 1620) is convincing (after Barth 1893, 46 and *contra* Marrasini 1978, 172). Another Barth's example (1893, 47−48) is Hbr. *šgʿ* 'to be mad' (HALOT 1415) − Arb. *ʾašǯaʿ*- 'mad' (Lane 1508). Further possible cases include Hbr. *ʿḳš* − Arb. *ʿqš* 'to twist' (HALOT 875, TA 17 271, Magnanini 1974, 407; cf. Blau 1977, 95), Hbr. *ḳäräš* 'wooden plank' − Arb. *qrš* 'to cut' (HALOT 1149, TA 17 323, Magnanini 1974, 407; cf. Blau 1977, 95), Hbr. *šwṭ* 'to roam about' − Arb. *šwṭ* (II) 'to make a long journey' (HALOT 1439, Lane 1619, Magnanini 1974, 406; Blau 1977, 95). However, Blau is right to observe (*contra* Diem 1974, 246) that Hbr. *š* − Arb. *š* is also attested when Aramaic cognates are available: Hbr. *ntš* − Syr. *ntš* − Arb. *ntš* 'to pull, tear away' (HALOT 737, LSyr. 453, Lane 2762, Magnanini 1974, 407; Blau 1977, 95; Marrassini 1978, 169) or Hbr. *šābīb* 'spark' − Syr. *šbībā* id. − Arb. *šbb* 'to burn' (HALOT 1392; LSyr. 750; Lane 1492; Barth 1893, 50; Magnanini 1974, 405; Blau 1977, 95; Marrassini 1978, 168).

Both approaches to the שׁ problem are often presented as axiomatic in modern Semitics (contrast Hoch 1994, 416−418 and Beyer 1984, 102−103; Krebernik 2007, 128), but the question should remain open before a complete and unbiased etymological analysis of all Hebrew words with שׁ is carried out.

### 1.5.2.5. Ugaritic and Canaanite: interdentals

#### 1.5.2.5.1. Reflexes of Proto-Semitic *ṯ in Ugaritic

PS *ṯ is preserved in Ugaritic (Tropper 2000a, 107). Ugr. *ṯ* may apparently also reflect PS *š, but pertinent examples (Tropper 1994, 37−42; 2000a, 108−113) are rarely compelling (Blau 1977, 73−78). Thus, *gṯr* as a title of deified royal ancestors (DUL 314) need not be related to Arb. *ǯsr* 'to be courageous' (Lane 424; Blau / Greenfield 1970, 12−13; Blau 1977, 75). The form *dṯ* in *ydṯ mʿḳbk* (KTU 1.18 I 19) may be related to Arb. *dyṯ* 'to be soft' rather than to *dws* 'to tread' (DUL 283, Blau 1977, 75−76). Identification of *yṯn* 'old' with Arb. *snn* 'to become old' (Tropper 2000a, 109) is conjectural (Blau 1977, 77), and even more so (Blau 1956, 243) are the equations Ugr. *ṯlḥn* 'table' − Arb. *salḫ*- 'skin, hide' (Lane 1403) and Ugr. *ṯnn* 'type of soldier' − Arb. and Gez. *snn* 'to be sharp' (Lane 1436, CDG 507). Ugr. *kṯr* I 'skilful' and *kṯr* II 'vigour' (DUL 471) are hard to dissociate from Arb. *kṯr* 'to be numerous' (WKAS K 60), which assures *ṯ in PS in spite of the irregular *š* in Aramaic (Wagner 1966, 68). *Contra* Testen (2000, 86) and Tropper (2000a, 111; cf. Blau 1972a, 58−61), the PS prototype of Ugr. *ʾiṯ* 'there is' (DUL 123) is to be reconstructed as **yṯw* (cf. Arm. *ʾītay*, Beyer 1984, 509 and *i*-ŠA-*wu* = Sum. A.GÁL, AN.GÁL in VE 624, 789, Krebernik 1983, 24). Ugr. *ngṯ* and *ngš* ('to pursue' and 'to make one's way' respectively in DUL 623−624, cf. Tropper 2000a, 109) are semantically difficult and therefore unsuitable for safe diachronic conclusions (Blau 1977, 76−77). Ugr. *ṯrm* 'to eat' (DUL 931) has been connected with Syr. *šrm* and Arb. *srm* 'to slit' (LSyr. 809, LA 12 333), but, apart from the semantic difference, there is also Arb. *ṯrm* 'to break (the teeth)' (LA 12 88; cf. Blau 1977, 77; Tropper 2000a, 110).

For Blau (1977, 73−75), the only persuasive case of Ugr. *t* < PS **š* is *ḥtb*, *ḥtbn* 'bill, account' (DUL 377) − Hbr. and Syr. *ḥšb*, Arb. *ḥsb* 'to reckon' (HALOT 359, LSyr. 260, Lane 564). But even this example is problematic given the uncertain relationship between the Semitic root and Eg. *ḥsb* (already in the Pyramid texts, Wb. III 166). Also probable is, *contra* Blau (1977, 75), Ugr. *mtk* 'to take (by the hand)' (DUL 605) − Arb. *msk* 'to maintain, to withhold' (Lane 3019). In any case, this meager evidence is too scarce for a true phonological irregularity.

### 1.5.2.5.2. Reflexes of Proto-Semitic **ḏ* in Ugaritic

PS **ḏ* yields *d* in Ugaritic (Tropper 2000a, 101): *ʾḫd* 'to take' < **ʾḫḏ* (Arb. *ʾḫḏ*), *dkr* 'male' < **ḏakar-* (Arb. *ḏakar-*), *dḳn* 'beard' < **ḏaḳan-* (Arb. *ḏaqan-*), *dbḥ* 'to sacrifice' < **ḏbḥ* (Arb. *ḏbḥ*), etc. (DUL 36, 269, 278, 261, Lane 28, 969, 953, SED I No. 63). In the syllabic transcriptions, etymological **ḏ* is spelled with DV signs: *da-ab-ḫu* 'sacrifice', *da-ka-rù* 'male' (Huehnergard 1987, 223−224).

In a few lexemes **ḏ* is preserved (Tropper 2000a, 116−117): *ḏnb* 'tail' (DUL 288) < **ḏanab-* (Arb. *ḏanab-*, SED I No. 64), *ḏrʿ* 'arm' (DUL 288) < **ḏirāʿ-* (Arb. *ḏirāʿ-*, SED I No. 65), *ʿḏr* 'to help', *ʿḏrt* 'help' (DUL 153; syllabic *i-zi-ir*[-*tu*$_4$], Huehnergard 1987, 224) < **ʿḏr* (Sab. *ʿḏr*, SD 13), *ḫḏ*(*ḏ*) 'downpour' (DUL 387) < **ḫiḏīḏ-* (Arb. *ḫinḏīḏ-*, LA 3 598). Sometimes *ḏ*/*d* doublets are attested: *ḏrʿ*/*drʿ* 'grain, seed' (DUL 280; syllabic *mi-dá-ar-ú*, Huehnergard 1987, 224) < **ḏarʿ-* (Ebla *ša-la-ù*, *šar-ù*, Sab. *mḏrʾt*, Krebernik 1983, 26, SD 40), *mḏr* 'vow', *ndr* 'to promise' (DUL 529, 621) < **nḏr* (cf. 1.5.2.5.4.), perhaps *ʿḏbt* 'company, band', *ʿdb* 'to prepare, arrange' (DUL 148, 152) < **ʿḏb* (Sab. *ʿḏb*, SD 12).

In the archaic text KTU 1.12 (cf. 1.5.2.5.1.), PS **ʾḫḏ* and **ʿḏb* appear as *ʾḫḏ* (ll. 31−35) and *ʿḏb* (l. 26), but the relative pronoun **ḏū* appears as *d* in l. 3 (*ygmḏ* 'he rejoiced' in l. 13 is etymologically obscure). Conversely, in KTU 1.24:45 **ḏ* is preserved precisely in the relative pronoun (contrast *dt* in ll. 38, 43; Tropper 2000a, 235−236).

The background of the double reflexation of **ḏ* is uncertain (Blau 1968). For Gordon (1965, 26−27), preservation of *ḏ* is conditioned by *r* as a root consonant, whereas Tropper (2000a, 116) expands the list of conditioning factors with *n*, *m* and *b*. Nevertheless, many regular *d*-lexemes display the same phonetic environments (Kogan 2000, 721−722): *dkr* 'male', *dḳn* 'beard', *dry* 'to winnow', *ʾudn* 'ear'.

### 1.5.2.5.3. Reflexes of Proto-Semitic **ṯ* in Ugaritic

PS **ṯ* is usually preserved in Ugaritic (Tropper 2000a, 113): *ṯby* 'gazelle' (DUL 1003) < **ṯaby-*, *ṯl* 'shadow' (DUL 1003) < **ṯill-*, *ʿṯm* 'bone' (DUL 197) < **ʿaṯm-*.

On several occasions, **ṯ* yields Ugr. *γ* (Segert 1988). Three examples are certain (Tropper 2000a, 94): *nγr* 'to pay attention; to guard' (DUL 624) < **nṯr*, *γmʾ* 'to be thirsty' (DUL 322) < **ṯmʾ*, *γr* 'mountain' (DUL 324) = Hbr. *ṣūr* (HALOT 1016), Syr. *ṭūrā* (LSyr. 272) < **ṯVrr-* 'flint' (Fronzaroli 1968, 271). Also probable is *yḳγ* 'to be alert' (*ʾištmʿ w tḳγ ʾudn* 'listen and let (your) ear be alert', KTU 1.16 VI 42) < **yḳṯ* (Arb. *yqḍ*, LA 7 527).

Alternative etymologies for these roots implying *$\gamma$ in PS (Blau 1977, 70−72) are rarely convincing. Thus (*contra* Blau 1977, 72), there is no reason to follow Rössler (1961, 165−167) who dissociated Ugr. *γr* 'mountain' from its NWS cognates in favor of Arb. *γawr-* 'lowland' (Lane 2308). Ugr. *nγr* (syllabic *na-ḫi-ru*, *ni-iḫ-rù*) is inseparable from PS **nṯr*, *contra* Loewenstamm (1980, 362−365, 433−439) and Rössler (1961, 164−165), see Huehnergard (1987, 153). Aistleitner's explanation of *tḳγ* as 'to incline' (1963, 279) = Arb. *ṣγy* (Lane 1692) is phonologically unacceptable (Blau 1977, 71). Finally, scribal errors assumed by Rössler for *γm'* and *yḳγ* are just hard to imagine (Blau 1977, 70).

Other examples of PS *$\underline{t}$ > Ugr. $\gamma$ are admittedly more problematic (Tropper 1994, 24−25). Thus, *mγy* 'to come' (DUL 533) is not to be derived from PS **mṯ'* since *'* does not yield *y* in Ugaritic (Blau 1972a, 67−72; 1977, 72). Similarly, Ugr. *γlmt* 'darkness' (DUL 320) need not be related to PS **ṯlm* in view of Hbr. *ʿlm* 'to conceal' (Blau 1977, 72, cf. HALOT 834−835). It is remarkable that both **mṯ'* and **ṯlm* have regular Ugaritic reflexes with *ṯ* (*mṯ'* 'to meet' and *ṯlmt* 'darkness', DUL 608, 1004) but, *contra* Blau 1977, 72, this argument is not decisive, as *γm'* 'to be thirsty' also has a regular *ṯ*-doublet *mṯm'a* (DUL 609).

There is no convincing explanation for the split of PS *$\underline{t}$ into $\gamma$ and *ṯ* in Ugaritic.

Gordon (1965, 27−28) reconstructs a hitherto unknown PS phoneme, but this unlikely solution has rightly been rejected in Rössler 1961, Blau (1977, 70) and Tropper (2000a, 96). Blau's 'composite character of the dialectal structure of Ugaritic' and 'dialect mixture' (1977, 70) are scarcely helpful either, as is Blau's attribution of this phenomenon to the 'weak sound change' (within this approach, Ugr. *γm'* 'to be thirsty' is treated as a 'blend' of PS **ṯm'* with the 'bilateral root *γm*', represented by Arb. *γamy* 'fainting' and *γym* 'to be clouded', both of which supposedly to go back to an original meaning 'to be covered', from which 'both fainting and thirst' must have developed!). For Tropper (2000a, 96), the shift *$\underline{t}$ > $\gamma$ is due to the influence of sonorants, but in five (out of nine) regular examples one or two sonorants are also involved.

### 1.5.2.5.4. Reflexes of Proto-Semitic interdentals in Hebrew

PS interdentals merge with sibilants in Hebrew (*$\underline{t}$ > *š*, *$\underline{d}$ > *z*, *$\underline{ṯ}$ > *ṣ*), but *$\underline{d}$ is thought to yield *d* instead of *z* in some lexemes. The fullest collection of potentially relevant examples can be found in Rabin 1970 (cf. also Garbini 1960, 194−196).

Most of Rabin's 32 examples do not withstand critical scrutiny (Blau 1977, 110). Some comparisons are semantically far-fetched: Hbr. *d'g* 'to be anxious' (HALOT 207) − Arb. *ḏ'ǯ* 'to inflate a vessel in order to check whether it is broken or not' (LA 2 320), Hbr. *kīdōn* 'scimitar' (HALOT 472) − Arb. *kāḏat-* 'upper thigh' (WKAS K 426), Hbr. *ʿädär* 'herd' (HALOT 793) − Arb. *ʿiḏār-* 'a mark on a camel's cheek' (Lane 1986), Hbr. *ʿēdūt* 'testimony' (HALOT 790) − Arb. *γḏy* 'to feed' (Lane 2236), Hbr. *dāg* 'fish' (HALOT 213) − Arb. *ḏāǯa* 'to drink' and 'to move quickly' (TA 5 586). In a few other lexemes there is an additional phonological irregularity: Hbr. *sūs dōhēr* 'dashing horse' (HALOT 214) − Arb. *ḏuhlūl-* 'a swift horse' (Lane 984), Hbr. *hdp* 'to push' (HALOT 239) − Arb. *ḥḏf* 'to reject' or *ḫḏf* 'to hasten' (Lane 535, 712), Hbr. *šdd* 'to devastate, despoil' (HALOT 1418) − Arb. *šuḏḏāḏ-* 'people apart from their companions' (Lane 1522), Hbr. *šōḥad* 'bribe' (HALOT 1457) − Arb. *šḫḏ* 'to beg im-

portunately', Hbr. *šḳd* 'to watch' (HALOT 1638) − Arb. *šqḏ* 'to be awake' (Lane 1580).

Potentially more reliable examples are scanty: Hbr. *ndr* 'to make a vow' (HALOT 674) − Arb. *nḏr* id. (Lane 2781; Rabin 1970, 294; Blau 1977, 80), Hbr. *ḳdr* 'to be dark' (HALOT 1072) − Arb. *qḏr* 'to be dirty' (Lane 2498; Rabin 1970, 295; Blau 1977, 80), *ḳippōd* 'hedgehog' (HALOT 1117) − Arb. *qunfuḏ-* id. (Lane 2569; Rabin 1970, 296; Blau 1977, 81−82), Hbr. *ḫdl* 'to cease' − Arb. *ḫḏl* 'to neglect' (Lane 713, Rabin 1970, 293, Blau 1977, 80), Hbr. *dll* 'to be little', *dal* 'poor' (HALOT 223, 221) − Arb. *ḏll* 'to be low, vile' (Lane 972; Rabin 1970, 292; Blau 1977, 81), Hbr. *dlḳ* 'to set on fire' (HALOT 223) − Arb. *ḏlq* 'to give light' (Lane 974; Rabin 1970, 292; Blau 1977, 81).

Various factors have been considered in order to account for different lexemes from this heterogeneous group, such as the influence of liquids (Rabin 1970, 297; Blau 1977, 81) and labials (Rabin 1970, 297), and contamination or dialect mixture (Blau 1977, 81). *Contra* Rabin 1970, 297, Aramaic influence is not to be excluded in some cases (cf. Wagner 1966, 102, 42−43 for *ḳippōd* 'hedgehog' and *d'b* / *dwb* 'to pine away', Blau 1977, 110 for *paḥad* 'thigh'). A detailed etymological inquiry into Hbr. *ndr* 'to vow' and *nzr* 'to consecrate' (Boyd 1985) reveals a complex interplay of **ndr* / **nḏr* / **nzr* within and outside Hebrew. The same may be true of *ḳippōd* / *ḳippōz* (Wagner 1966, 102; Blau 1977, 81) and *dll* / *zll* (Blau 1977, 81).

### 1.5.2.6. Canaanite sibilants and interdentals: a summary

When the history of **š*, **ŝ* and **ṯ* in Canaanite is investigated, evidence in foreign scripts (cuneiform and Egyptian) should be carefully distinguished from data in native alphabets.

Both cuneiform and Egyptian scripts have only two sets of sibilant signs (ŠV vs. SV, *š* vs. *s*). They are, therefore, *a priori* unsuitable for rendering three different sibilant phonemes. These scripts can provide valuable information about the separate existence of certain sibilants, but they cannot be conclusive concerning sibilant mergers (Diem 1974, 228−230).

Conversely, native alphabets (such as Ugaritic and Phoenician) were with all likelihood specifically designed for the consonantal systems of the respective languages (Diem 1974, 237; Knauf/Maáni 1987, 91; Krebernik 2007, 112, 126; contrast Hoch 1994, 414−418) and can provide direct evidence about their sibilant inventories.

The OB renderings of NWS personal names suggest that **ṯ* (rendered by ŠV signs) was a separate phoneme in the first half of the 2nd millennium BC. The use of the SV series for both **š* and **ŝ* does not necessarily imply their merger. This evidence is thus compatible with all sibilant systems of later periods.

The Egyptian renderings suggest that **š* (= Eg. *š*) was different from **ṯ* and **ŝ* (= Eg. *s*) in the second half of the second millennium BC. But they are not helpful in deciding whether **ṯ* and **ŝ* merged into one phoneme (Diem 1974, 234, 242; Hoch 1994, 402). If they did, this system is not compatible with the traditional Hebrew one, where **ŝ* is opposed to **š*. If they did not, it can be considered as an immediate forerunner of the Hebrew system. The same is true of the evidence from the Jerusalem Amarna letters (Diem 1974, 239−241).

The Egyptian and Jerusalem Amarna systems are incompatible with the Ugaritic one, where *$\underline{t}$ is kept apart and *$\hat{s}$ merges with *$\check{s}$. They are equally incompatible with the 'short' Ugaritic alphabet, where one symbol is used for *$\check{s}$, *$\hat{s}$ and *$\underline{t}$ (Tropper 2000a, 73, 77), which suggests a complete sibilant merger (as later in Phoenician).

Since the three systems (Egyptian/Jerusalem Amarna, 'long Ugaritic' and 'short Ugaritic') are largely contemporary, the evolution of PS sibilants in early Canaanite could not be uniform. In the North, either compete sibilant merger (Ugaritic 'short alphabet' = (proto-)Phoenician; Tropper 2000a, 79–80; Rainey 1998, 452–453) or the shift *$\hat{s}$ > *$\check{s}$ (Ugaritic 'long alphabet') are attested. In more Southern (and more inland) areas, the merger either affected *$\underline{t}$ and *$\hat{s}$ in opposition to *$\check{s}$ (Diem 1974), or there was no merger at all (Blau 1977). It is to such 'Southern' dialects that the Egyptian renderings should be traced (but cf. Hoch 1994, 415, 482–486).

Phonetic interpretation of *$\check{s}$ in early Canaanite is debatable. The Egyptian renderings with $\check{s}$ suggest a hushing [š] – the value commonly ascribed to Eg. $\check{s}$ (Schenkel 1990, 38; Peust 1999, 125; cf. Faber 1985b, 48). SV-spellings in Jerusalem Amarna letters do not contradict this reconstruction in view of the Assyrian-like features of this subcorpus (Moran 1975, 152–155): SV = [š] is a well established Assyrian peculiarity (cf. 1.5.1.4.). According to Streck (2006, 249), de-affrication of $ṣ$ [ç] into $\check{s}$ in Ugr. *mḫšt* 'I killed' (< *mḫṣ*) suggests that Ugr. $\check{s}$ was pronounced as [s]. But if Ugr. *s* was still an affricate [c], the 'general sibilant' $\check{s}$ – be it realized as [s] or [š] – was the only possible outcome of de-affrication (cf. Tropper 2000a, 105). The realization [š] for early Canaanite $\check{s}$ is thus a feasible possibility (Tropper 2001, 630–632; contrast Streck 2002, 186–187; 2006, 250), at least partly confirmed by the fact that foreign 'general sibilant' (presumably [s]) is normally rendered by $\underline{t}$ and not by $\check{s}$ in Ugaritic (Tropper 2000, 111–113).

### 1.5.2.7. PS lateral sibilants in Aramaic

#### 1.5.2.7.1. Reflexes of Proto-Semitic *$\hat{s}$ in Aramaic

PS *$\hat{s}$ was rendered by the polyphonic grapheme 𐤔 in OArm. (Degen 1969, 36): *šm* 'he put, erected' < *$\hat{s}$*ym* (KAI 201:1), etc. The same spelling predominates in EArm. and BArm. (Muraoka/Porten 2003, 6–7; Bauer/Leander 1927, 26) as well as in some later traditions (Beyer 1984, 102–103). In the cuneiform Uruk incantation, *$\hat{s}$ is rendered by ŠV signs ([*n*]*a-šá-*⌜*a*⌝*-a-ta*$_5$ 'you raised' < **nŝ'*, *šá-am-lat* 'dress' < **$\hat{s}$amlat-*, TCL 6 58:1, 20) and differs from **s* = SV (*si-ip-pa-a* 'threshold' < **sapp-*, *a-si-ir* 'bent' < **'sr*, *ḫa-as-si-ir-ta-a* 'deficient' < **ḫsr*, TCL 6 58:2, 5, 15).

The shift *$\hat{s}$ > *s* becomes apparent in EArm. and BArm. (Muraoka/Porten 2003, 6–7, Bauer/Leander 1927, 27). In Papyrus Amherst 63, *s*-spellings are regular (Steiner/Nims 1984, 93; 1985, 67–68; Vleeming/Wesselius 1983–1984, 124; 1985, 26–27): *sʾhrʾ* 'moon' < **$\hat{s}$ahr-* (11:13, Steiner/Nims 1983, 265), *nʾst* 'she raised' < **nŝ'* (9:18, DNWSI 1261), *bʾsmtʾ* 'it was pleasing' < **bŝm* (18:11, DNWSI 1254), *bʾsʾrʾ* 'meat' < **ba$\hat{s}$ar-* (6:6, DNWSI 1254), *sʾmthy* 'I put him' < **$\hat{s}$ym* (19:2, DNWSI 1261). Exceptional *š*-spellings found in DNWSI 1252–1266 are *yšʾrp* 'he will burn'< **$\hat{s}$rp* (20:10) and *škʾ* 'large' < **$\hat{s}$gʾ* (21:1, cf. *sʾkʾ* in 19:10).

The merger is complete from Middle Aramaic onwards (PS *ʿaŝr- 'ten' > Syr. ʿesrā, LSyr. 537, Mnd. *asra*, MD 30, Mal. ʿasra, GNDM 7), but historical orthography with *š* may persist for some lexemes (cf. DJPA 421 and DJBA 884 for עשר 'ten').

The shift *ŝ > *s* assures the independent status of *ŝ in early Aramaic (Steiner 1977, 38), since other sources of the polyphonic ש behave differently in later periods: OArm. ש = PS *š yields *š* (*šmʿ* 'he heard' in KAI 201:4 > Syr. *šmaʿ*, LSyr. 786), OArm. ש = PS *ṯ yields *t* (*yšbr* 'he will break' in KAI 222A:38 > Syr. *tbar*, LSyr. 815).

### 1.5.2.7.2. Reflexes of Proto-Semitic *ŝ́ in Aramaic

PS *ŝ́ yields ʿ from Middle Aramaic on: *ʾarŝ́- 'earth' > Syr. *ʾarʿā*, Tur. *arʿo* (LSyr. 51, LTS 157), *ŝ́aʾn- 'small cattle' > Syr. *ʿānā*, Tur. *ʿwono* (LSyr. 533, LTS 157), *ŝ́amr- 'wool' > Syr. *ʿamrā*, Tur. *ʿamro* (LSyr. 533, LTS 156).

In Old Aramaic, the reflex of *ŝ́ is rendered by *ḳ* (Degen 1969, 36–37): *ʾrḳ* 'land' < *ʾarŝ́- (KAI 202B:26), *rḳḥ* 'to placate' (KAI 224:6) < *rŝ́y, *mrḳ* 'disease' (KAI 309:9) < *mrŝ́. The grapheme ק was thus polyphonic (Steiner 1977:38). The earliest ʿ-spellings (*ʿmr* 'wool', *ʾrʿ* 'land') go back to the end of the 6th century B.C. (Beyer 1984, 101).

Spellings with *ḳ* still predominate in EArm. (Folmer 1995, 63–69; Muraoka / Porten 2003, 8–9), but ʿ-variants may occur even within a single document (*l-ʿrʿ* / *l-ʿrḳ* 'to meet'). In BArm. ʿ is ubiquitous except for *ʾarḳā* / *ʾarʿā* in Jer. 10:11 (Bauer/Leander 1927, 26). Orthographic vs. phonetic nature of this variation is disputed (Beyer 1984, 101, 420, 1994, 42, Muraoka/Porten 2003, 9–10).

Historical orthography accounts for the use of *ḳ* in three *ŝ́-lexemes in Mandaic: *aḳamra* 'wool', *aḳna* 'small cattle' (also *amra* and *ana*) and *arḳa* 'earth' (MD 23, 33; 24, 34; 39; Nöldeke 1875, 72–73; Macuch 1990, 228–230; Beyer 1984, 44, 420). The reflexes of *ŝ́amr- and *ŝ́aʾn- did not survive in modern Mandaic, whereas *ʾarŝ́- becomes *ara* (Macuch 1965, 95–96).

According to a growing consensus, the OArm. reflex of *ŝ́ is to be interpreted as a glottalized velar or uvular affricate ([kx'] or [qx']). According to Steiner (1991, 1499–1501), this realization is suggested by the ḪI/QI(QÍ) variation in cuneiform spellings of Aramaic personal names (*ra-ḫi-a-nu* / *ra-qi-a-nu* < *rŝ́y 'to be glad'; Zadok 1977, 262; Beyer 1984, 101). Since etymological *γ is always rendered by ḪV and not by QV (*ba-ḫi-a-nu* < *bγy 'to wish, to desire'; Beyer 1984, 101; Zadok 1977, 247), [kx'] (< *ŝ́) was likely opposed to [γ] (< *γ) at least before 600 B.C. (Beyer 1984, 101, 420; 1994, 42). But it seems that the two phonemes were still unmerged even much later: in Papyrus Amherst 63, *ŝ́ can be rendered by *ḫ* and *ḥ* (Steiner/Nims 1984, 93; Steiner 1991, 1500; Kottsieper 2003, 104–105), as in *ḫʒn-hʒn* 'their flocks' < *ŝ́aʾn- (6:4) and *ʒrḫʒ* 'earth' < *ʾarŝ́- (15:3), but also by *k* (Vleeming/Wesselius 1983–1984, 122; Kottsieper 2003, 104–105), as in *rʒḫʒk* 'to wash' < *rḥŝ́ (3:10–11, DNWSI 1264) and *ʒrk(ʒ)* 'earth' (22:7 and 17:6, 11, DNWSI 1254). Now, *ḫ* and *ḥ* are used also for *γ (cf. 1.5.10.), but *k* is not.

The background of the famous 'correspondance du *ḍād* arabe au *ʿayn* araméen' (Yushmanov 1926) can thus be summarized as follows (Steiner 1977, 40–41; 1991, 1501; Voigt 1979, 101–102; Dolgopolsky 1994; 1999, 31–32; cf. Vilenčik 1930, 95):

| PS | pre-Old Aramaic | Old Aramaic | Official Aramaic | Middle Aramaic |
|---|---|---|---|---|
| [tɬ'] | [kɬ'] | [kx'] | [γ] | [ʿ] |

The shift *ŝ > ʿ is not without exceptions: in some lexemes, PS *ŝ yields Arm. *s*. Reliable examples (GVG 135, 236; Yushmanov 1998[1940], 149; Blau 1970, 61−62; Steiner 1977; 149−151) include Syr. *ṣmad* − Arb. *ḍmd* 'to bind', Syr *ʿmaṣ* − Arb. *γmḍ* 'to close one's eyes', Syr. *ḥmaṣ* − Arb. *ḥmḍ* 'to be sour', Syr. *ṣrak* − Arb. *ḍarīk-* 'poor', Syr. *ṣerʿā* − Arb. *ḍarʿ-* 'breast', Syr. *raṣ* − Arb. *rḍḍ* 'to break', Syr. *npaṣ* − Arb. *nfḍ* 'to shake', Syr. *ṣarwā* − Arb. *ḍirw-* 'aromatic resin', Syr. *ʿrṣ* − Arb. *ʿrḍ* 'to occur', Qumran Aramaic *nʿṣ* 'to prick' − Arb. *nuʿḍ-* 'a thorny tree' (LSyr. 632, 530, 241, 637, 638, 742, 437, 637, 549, 435, Beyer 1994, 382; Lane 1802, 2296, 644, LA 10 557, Lane 1095, 2830, 1787, 1790, 2002, LA 7 269). For some lexemes, ʿ-doublets are attested (Yushmanov 1998[1940], 150): Syr. *ʾeraʿ* 'to occur', *ḥmaʿ* 'to be fermented', *raʿ* 'to break' (LSyr. 51, 240, 737). The earliest example of *ŝ > *ṣ* (Degen 1969, 37; Steiner 1977, 150) is *ḥṣr* 'grass' in KAI 222A:28, identical to Hbr. *ḥāṣīr* (HALOT 343) and going back to PS *ḥŝr 'to be green' (Arb. *ḥḍr*, Lane 754). Steiner (1977, 150) further adduces *ṣr* 'enemy' from the Samalian inscription KAI 214 (as well as its hypothetic cognate in Mnd. *ṣara*, MD 388), but the reading *ṣry* in KAI 214:30 is disputed (cf. Tropper 1993, 93).

While some of the exceptional examples can be attributed to Akkadian or Canaanite influence (Blau 1970, 61−62), others look genuine and could be explained by the dissimilatory effect of sonorants and/or ʿ and *ḥ*, incompatible with ʿ < *ŝ (GVG 135, 237; Blau 1977, 69−70; Steiner 1977, 149−154). According to Yushmanov (1998[1940], 150, following Vollers 1893, 147 and Zimmern 1898, 27), the double reflexation of *ŝ in Aramaic may reflect two separate PS phonemes, but this is hard to accept. Blau's suggestion that *ŝ > *ṣ* was regular in some (non-documented) Aramaic dialects (1970, 63) is similarly improbable (Diem 1980, 83−84).

### 1.5.2.8. Proto-Semitic interdentals in Aramaic

PS *ṯ, *ḏ and *ṱ yield *t*, *d* and *ṭ* from Middle Aramaic on: *ṯawr- 'bull' > Syr. *tawrā*, Tur. *tawro* (SED II No. 241), *ḏirāʿ- 'arm' > Syr. *drāʿā*, Tur. *druʿo* (SED I No. 65), *ṱʿn 'to load' > Syr. *ṭʿen*, Tur. *ṭoʿən* (LSyr. 283, LTS 182).

In Old Aramaic, *š*, *z* and *ṣ* regularly appear instead (Degen 1969, 35−36):

*yšb* 'to sit' (DNWSI 474) < *wṯb (Sab. *wṯb*, Ugr. *yṯb*, Syr. *yīteb*, SD 165, DUL 994, LSyr. 311), *šbr* 'to break' (DNWSI 1106) < *ṯbr (Sab., Ugr. *ṯbr*, Syr. *tbar*, SD 149, DUL 897, LSyr. 815), *šb* 'to return' (DNWSI 1114) < *ṯwb (Sab., Ugr. *ṯwb*, Syr. *tāb*, SD 151, DUL 895, LSyr. 817), *ʾšr* 'place' (DNWSI 125) < *ʾaṯar- (Sab. *ʾṯr*, Ugr. *ʾaṯr*, Syr. *ʾatrā*, SD 9, DUL 127, LSyr. 55), *šwrh* 'cow' (DNWSI 1118) < *ṯawr-at- (Sab., Ugr. *ṯr*, Syr. *tōrtā*, SED II No. 241), *šʾt* 'ewe' (DNWSI 1094) < *ṯaʾw-at- (Arb. *ṯaʾw-at-*, Mnd. *tata*, SED II No. 236), *šʿl* 'fox' (DNWSI 1179) < *ṯV(V)ʿl- (Arb. *ṯuʿāl-*, Syr. *taʿlā*, SED II No. 237), *lyš* 'there is not' (DNWSI 576) < *layṯ (Ugr. *ʾiṯ*, Syr. *layt*, DUL 123, LSyr. 366), *šlšn* 'thirty' < *ṯalāṯūna (Arb. *ṯalāṯūna*, Syr. *tlātīn*, Lane 348, LSyr. 826).

*zḥl* 'to be afraid' (DNWSI 309) < *ḏḥl (Syr. *dḥel*, LSyr. 148), *ʾḥz* 'to take' < *ʾḫḏ (Arb. *ʾḫḏ*, Syr. *ʾeḥad*, Lane 28, LSyr. 11), *zḳn* 'to grow old' < *ḏaḳan- 'beard' (Arb. *ḏaqan-*, Syr. *daḳnā*, Lane 967, LSyr. 164), *zkrn* 'memory' < *ḏkr (Arb. *ḏkr*, Syr. *dkīr*, Lane 968, LSyr. 153), *zhb* 'gold' < *ḏahab- (Arb. *ḏahab-*, Syr. *dahbā*, Lane 983, LSyr. 142).

*rṣ* 'to run' (DNWSI 1065) < *rwṱ (Ugr. *rṯ*, Syr. *rheṭ*, DUL 750, LSyr. 716), *nṣr* 'to guard' (DNWSI 754) < *nṭr (Sab. *nṭr*, Arb. *nḍr*, Syr. *nṭar*, Lane 2810, SD 102, LSyr.

426), *ḥṣ* ‘arrow’ (DNWSI 397) < **ḥVṯṯ-* (Ugr. *ḥṯ*, Mnd. *hiṭia*, DUL 382, MD 143), *kyṣ* ‘summer’ (DNWSI 1020) < **ḳayṭ-* (Sab. *ḳyṭ*, Ugr. *ḳṭ*, Syr. *ḳayṭā*, SD 112, DUL 722, LSyr. 664), *ḥpṣ* ‘affair’ (DNWSI 396) < **ḥipṭ-* (Arb. *ḥifḍ-*, Syr. *ḥupṭā*, LA 7 498, LSyr. 250), *ṣby* ‘gazelle’ (DNWSI 958) < **ṭaby-* (Ugr. *ṭby*, Arb. *ḍaby-*, Syr. *ṭabyā* (SED II No. 242).

In the OArm. inscription from Tell Fakhariyye PS **ṯ* is rendered by *s*: *ʿsr* ‘wealth’ (KAI 309:2) < **ʿṯr* (Syr. *ʿtar*, LSyr. 554), *ysb* ‘dwelling’ (ibid. 5, 16) < **wṯb*, *ḥds* ‘anew’ (ibid. 11) < **ḥdṯ*, *s’wn* ‘ewes’ (ibid. 20), *swr* ‘cattle’ (ibid. 20).

OArm. *š*, *z* and *ṣ* which do not go back to PS interdentals never yield *t*, *d* and *ṭ* in later periods. Therefore, the corresponding OArm. graphemes were polyphonic and the reflexes of **ṯ*, **ḏ* and **ṯ̣* were preserved as independent phonemes (Degen 1969, 32−36).

The only exceptional dental spelling in OArm. seems to be *w-ʾl yrt* ‘he will not inherit’ (< **wrṯ*) in KAI 222C:24 (cf. DNWSI 471; Blau 1972a, 73; Fitzmyer 1995, 120; *btn* ‘snake’ < **baṯan-* in KAI 222A:32 proposed in Fitzmyer 1995, 89 is hard to accept). This single case is not sufficient to substantiate Beyer’s dating (1984, 100) of the loss of interdentals to the 9th or even 10th century B. C. (Muraoka / Porten 2003, 3−5).

Reliable dental spellings of PS interdentals are attested since the middle of the 7th century B. C. (*yhtb* ‘he will send back’ < **ṯwb* in KAI 233:11, Beyer 1984, 100).

Distribution of sibilant vs. dental spellings for **ḏ* in EArm. is discussed in Beyer (1984, 100), Folmer (1995, 49−63) and Porten/Muraoka (2003, 3−9): *z* predominates, but *d* is widely attested (especially in word-middle and word-final positions) and *z*/*d* doublets are known for some lexemes (*zhb* / *dhb* ‘gold’ < **ḏahab-*). The phonetic reality behind this picture is debated. Reflexes of **ṯ* and **ṯ̣* are regularly spelled with *t* and *ṭ* (Folmer 1995, 70−74; Muraoka/Porten 2003, 7−9), which points to their definitive loss.

Dental spellings are regular in Papyrus Amherst 63: *dʾhʾb* ‘gold’ < **ḏahab-* (9:11, DNWSI 1255), *tʾwʾrytʾnʾ* ‘our bulls’ < **ṯawr-* (9:12, DNWSI 1166), perhaps *yʾmʾtʾnʾ* ‘may he cause to reach us’ in 11:14 (Kottsieper 1988, 231; cf. Steiner/Nims 1983, 266; Vleeming/Wesselius 1985, 56) < **mṯ̣ʾ* (Syr. *mṭā*, Ugr. *mṭ̣ʾ*, LSyr. 381, DUL 608). Two exceptional sibilant spellings − *nʾsʾbʾḥ* ‘we shall sacrifice’ (12:2, DNWSI 1256, Vleeming/Wesselius 1985, 64) = **ḏbḥ* (Syr. *dbḥ*, Arb. *ḏbḥ*, LSyr. 138, Lane 953) and *yʾʿtsʾtʾ* ‘council’ (11:15, DNWSI 1257) = **wʿṯ̣* (JPA *yʿṭ*, *ʿyṭh*, Arb. *wʿḏ*, DJPA 243, 403, Lane 2953) − are probably Hebraisms (Steiner/Nims 1983, 267; Vleeming/Wesselius 1982, 507; 1985, 56; Kottsieper 1988, 232−233; note the expected *ʿʾtʾt* ‘advice’ in 18:11, DNWSI 1262).

Doublet *z*/*d* spellings for **ḏ* are characteristic of Mandaic: *zahba*/*dahba* ‘gold’, *ziḳna*/*diḳna* ‘beard’, *zikra*/*dikra* ‘beard’, *zinibta*/*dinipta* ‘tail’, *haizin*/*haidin* ‘this’ (Nöldeke 1875, 43−44; Macuch 1965, 66−68; 1990, 225−226). The purely orthographic nature of this orthography is evident (Beyer 1984, 44, *contra* GVG 134).

### 1.5.3. Proto-Semitic sibilants in Epigraphic South Arabian

#### 1.5.3.1. Epigraphic South Arabian 𐩦 (*s*$_1$), 𐩧 (*s*$_2$) and 𐩨 (*s*$_3$)

The graphemes 𐩦 (*s*$_1$), 𐩧 (*s*$_2$) and 𐩨 (*s*$_3$) correspond to Hebrew and MSA *š*, *ŝ* and *s* respectively (Cantineau 1935−1945; Stehle 1940; Beeston 1951, 14; LaSor 1957):

Sab. *ls*$_1$*n* − Hbr. *lāšōn* − Soq. *léšin* 'tongue, language' (SED I No. 181), Sab. *s*$_1$*nt* − Hbr. *šēnā* − Mhr. *šənēt* 'sleep' (SED I No. 82$_v$), Min. *tys*$_1$ − Hbr. *tayiš* − Soq. *teš* 'buck' (SED II No. 231);

Sab. *ʿ ŝr* − Hbr. *ʿäŝär* − Jib. *ʿóŝər* 'ten' (SD 21, HALOT 894, JL 17), Sab. *h-s*$_2$*bʿ* − Hbr. *ŝbʿ* − Mhr. *ŝība* 'to be sated' (SD 131, HALOT 1302, ML 370), Sab. *s*$_2$*hr* − Hbr. *ŝahărōn* − Mhr. *ŝēhər* 'moon, month' (SD 132, HALOT 1311, ML 376);

Sab. *ʾs*$_3$*r* − Hbr. *ʾsr* − Jib. *ʾésór* 'to bind, to take captive' (SD 8, HALOT 75, JL 4), Min. *ḫs*$_3$*r* − Hbr. *ḥsr* − Mhr. *ḫəsōr* 'to decrease; to pay' (LM 44, HALOT 338, ML 449), Sab. *ks*$_3$*w* − Hbr. *kāsā* − Mhr. *ksū* 'to clothe' (SD 79, HALOT 487, ML 216).

As seen by Blau (1977, 90−92), Beeston (1977) and Marrassini (1978, 163) and confirmed by a detailed etymological analysis of all pertinent ESA roots in Okhotin 1999, probable exceptions are (*contra* Magnanini 1974) very few: Sab. *ʿs*$_1$*y* − Hbr. *ʿāŝā* 'to do', Sab. *s*$_1$*frt* 'extent' − Hbr. *mispār* 'quantity', Sab. *s*$_1$*ʿd* 'to bestow a favor' − Hbr. *sʿd* 'to support', Sab. *fs*$_2$ʾ 'contagious' − Hbr. *pāšā* 'to spread (disease)', Sab. *h-ws*$_2$*ʿ* 'to grant a favor' − Hbr. *hōšīaʿ* 'to help, save' (SD 20, 125, 121, 46, 163; HALOT 889, 607, 761, 979, 448).

The PS values *š*, *ŝ* and *s* could thus reasonably be ascribed to 𐩦, 𐩮 and 𐩯 (Leslau 1937, 214; Cantineau 1935−1945, 323; Beeston 1951, 26). However, the early Sabaeological tradition was not oriented towards the three-sibilant systems of Hebrew and MSA, but rather to the two-sibilant Arabic system (Beeston 1951, 15): 𐩦 and 𐩮 were ascribed the phonetic values of their Arabic etymological counterparts (viz. *s* and *š*), whereas 𐩯, with no Arabic parallel at all, was rendered by *ś*. The latter choice was especially infelicitous, since *ś* is widely used in Semitic philology to denote the unvoiced lateral sibilant (Hbr. שׂ). The phonetically neutral numerical notation (𐩦 = *s*$_1$, 𐩮 = *s*$_2$, 𐩯 = *s*$_3$) introduced in LS 15 is thus warranted, but the traditional renderings (𐩦 = *s*, 𐩮 = *š*, 𐩯 = *ś*) are still widely employed (e.g. Sima 2000, Stein 2003).

### 1.5.3.2. Further observations on sibilants and interdentals in Epigraphic South Arabian

A few other problems related to the reflexes of sibilants and interdentals in ESA are to be mentioned.

(a) The shift *s*$_3$ > *s*$_1$ in Late Sabaic (*ms*$_3$*nd* > *ms*$_1$*nd* 'inscription', *s*$_3$*n* > *s*$_1$*n* 'towards', SD 138, 127, 139; Stein 2003, 26−27, 213; Sima 2001) has been interpreted by Voigt (1998, 176−177) as deaffrication [c] > [s]. The reverse shift *s*$_1$ > *s*$_3$, also attested in Late Sabaic (*ḫs*$_1$*s*$_1$ > *ḫs*$_1$*s*$_3$, *ḫs*$_3$*s*$_3$ '(to) damage', *s*$_1$*s*$_1$*lt* > *s*$_1$*s*$_3$*lt* 'chain', SD 62, 127) is explained by Voigt (1998, 177−180) as secondary affrication [s] > [c] (rejected in Sima 2001, 259).

(b) The merger of *ṯ* and *s*$_3$ in Hadramitic (Beeston 1984, 68; Voigt 1998, 175) is usually thought to be operative in both directions: *ṯny* > *s*$_3$*ny* 'two' vs. *ms*$_3$*nd* > *mṯnd* 'inscription' (Beeston 1962b, 14). However, according to Frantsouzoff (2001, 46, 50; 2007, 33, 36) *ṯ* tends to replace *s*$_3$ in early monuments, whereas in the inscriptions dated to the end of the 1st millennium B.C. and originating from Raybūn and other sites of Inland Hadramawt (as opposed to the capital Shabwa and the Hadrami colony Sumhuram) the reverse is normal. In Frantsouzoff's view, this merger

is part of a more general trend towards the loss of PS interdentals in Hadramitic. On this problem see further Prioletta 2006, 254–256.

(c) PS *$\underline{t}$ yields $\hat{s}$ in Sabaic documents inscribed on wood (Kogan / Korotayev 1997, 223; Stein 2003, 27–28; Brown 2007, 341–343): *ṣ̂byt* 'a bag' < PS **ṯabyat-* 'gazelle' (Ryckmans/Müller/Abdallah 1994, 54 and 87, l. 6), *mṣ̂'w* 'they came' = monumental *mṯ'* (ibid. 57 and 91, l. 2), *mfṣ̂r* 'a measure of capacity' = monumental *mfṯr* (ibid. 59 and 93, l. 1).

(d) The shift *$\underline{t} > s$ sometimes postulated for Middle Sabaic (Beeston 1984, 8; Lipiński 1997, 121) is a purely orthographic phenomenon with no phonological basis (Kogan/Korotayev 1997, 223; Sima 2000, 168; Stein 2003, 28).

### 1.5.4. PS sibilants and interdentals in Ethiopian Semitic

#### 1.5.4.1. Geez ሰ = *s* and ሠ = *ŝ*

The presence of two sibilant graphemes (ሰ = *s* and ሠ = *ŝ*) in the Geez alphabet suggests that the corresponding phonemes were opposed to each other in the language for which it was designed. The contrast is regular in early Geez inscriptions (Littmann 1913, 80): *samāy* 'heaven' (RIÉ 189:1), *saraḳomu* 'he stole from them' (ibid. 12), *ys-tywm* 'he will let them drink' (RIÉ 185bis II 16) vs. *ḥaŝar* 'straw' (RIÉ 189:19), *ŝalastu* 'three' (RIÉ 187:32), *ŝmnh* 'we established it' (RIÉ 185 II 23).

Gez. *s* goes back to **š*, **s* and *$\underline{t}$, whereas Gez. *ŝ* reflects **ŝ* (Voigt 1989, 641): Gez. *ŝəṣ* − Sab. *'ṣ̂rs*$_1$, Jib. *məẑréš* 'molar tooth' (SED I No. 275), Gez. *ḥasen* − Ugr. *ḥsn* 'kind of insect' (SED II No. 105), Gez. *ḥaddis* − Ugr. *ḥdṯ*, Arb. *ḥadīṯ-* 'new' (CDG 225, DUL 355, Lane 529) vs. Gez. *karŝ* − Hbr. *kārēŝ*, Arb. *kariš-* 'stomach' (SED I No. 151).

Voigt (1994a) collected several Geez lexemes with *ŝ* < *$\underline{t}$: Gez. *'aŝar* − Arb. *'aṯar-* 'trace' (CDG 45, LLA 739, Lane 18), Gez. *ḥəmŝ* − Ugr. *ḥmṯ*, Mhr. *ḥamṯ* 'lower belly' (LLA 76, SED I No. 122), Gez. *ŝena* − Ugr. *ṯnt*, Arb. *maṯānat-* 'to urinate' (LLA 264, SED I No. 77$_v$). In a few other lexemes with *$\underline{t}$ variation between *s* and *ŝ* is attested: Gez. *samra* / *ŝamra* 'to be pleased' − Arb. *ṯmr*, Sab. *ṯmr* 'to be fruitful' (CDG 503, Lane 352, SD 150), Gez. *sor* / *ŝor* − Ugr. *ṯr*, Arb. *ṯawr-* 'ox' (CDG 511, SED II No. 241), Gez. *losa* / *loŝa* − Arb. *lwṯ* 'to knead, to mix' (LLA 53, CDG 321, Lane 2677). Voigt explains this phenomenon as sporadic lateralization conditioned by *r*, *ḥ* or *ʿ* as root consonants. In view of the extensive confusion of sibilant signs in Geez manuscripts (cf. 1.5.4.2.), Voigt's hypothesis is difficult to prove (SED I pp. LXXX–LXXXI), the more so since *s*/*ŝ* variation also affects roots with **s* and **š* in the prototype (like *'asara* / *'aŝara* 'to bind' < **'sr*, LLA 747, CDG 44, Voigt 1994a, 105, 113–114). Besides, many PS roots which combine *$\underline{t}$ with *r*, *ḥ* and *ʿ* are never spelled with *ŝ* (e.g. *ḥarasa* 'to plow' < **ḥrṯ*, Voigt 1994a, 107, 110–111). It is nevertheless remarkable that two of Voigt's examples seem to be attested epigraphically: *yŝmr* 'it pleases?' (RIÉ 204:1–2) and *ŝ-r-* 'ox' (RIÉ 193 I 9).

#### 1.5.4.2. Development of ሰ and ሠ in Ethiopian Semitic

The traditional pronunciation of Geez does not distinguish between ሰ and ሠ: both are realized as [s] and extensively confused in the manuscript tradition (Ullendorff 1955,

113; v. ibid. 114 for the doubtful reports about the interdental realization of ሠ in the traditional pronunciation). Incorrect sibilant spellings are sporadically attested already in late epigraphy (cf. Steiner 1977, 36): *ngs* 'king' (RIÉ 194:1, 8), *mngsty* 'my rule' (ibid. 10) instead of *ngŝ*, *mngŝty*, *zay-s-nəyani* 'who made good for me' (RIÉ 193 I 12) instead of *zay-ŝ-nəyani*. Thus, at some stage of the development of ES a complete merger of *s* and *ŝ* must have occurred, giving way to a one-member sibilant system (Ullendorff 1955, 113−114; Podolsky 1991, 22).

A two-member system (*s* vs. *š*) is, however, re-established throughout modern ES. The emergence of the 'new' *š* is thought to be conditioned by palatalization, the shift *s* > *š* being structurally identical to *d* > *ǯ*, *t* > *č*, *ṭ* > *ċ̣*, *ṣ* > *ċ*, *z* > *ž*, *n* > *ň* and *l* > *y* (Bergsträsser 1983 [1928], 113; Podolsky 1991, 34; Faber 1985b, 58, 96). Palatalization is triggered by the presence of *y*, *i* and *e* (Ullendorff 1955, 129) as well as by the gutturals (Podolsky 1991, 38) in the underlying form: Tgr. *šäyäbä* 'to have grey hair', *šibat* 'gray hair' − Gez. *ŝeba*, *ŝibat* (SED I No. $66_v$), Tna. *šänä* 'to urinate', *šənti* 'urine' − Gez. *ŝena*, *ŝənt* (SED I No. $77_v$), Amh. *ašen* 'butterfly' − Gez. *ḥasen* (SED II No. 105), etc.

Quite often, however, none of the aforementioned triggers is apparent (SED I pp. LXXXV−LXXXVI): Tgr. *šäkəm* 'burden', Amh. *täšäkkämä* 'to carry' < **t̲Vkm-* (SED I No. 281), Tgr. *näkšä* 'to bite' < **nkt̲* (WTS 333, CDG 402), Tgr. *bäšlä* 'to boil' < **bšl* (WTS 283, CDG 109), Tgr. *šäktä* 'to fall, to be lost' < **škt* (WTS 223, CDG 497), Tgr. *šämṭä* 'to tear off' < **šmṭ* (WTS 210, HALOT 1557), Tgr. *šäkrä* 'to get drunk' < **škr* (WTS 222, CDG 497), Tgr. *mäšəffal* 'lower slope' < **špl* (WTS 230, HALOT 1631), Tna. *šäbäṭṭ ʾabbälä* 'to hit' < **šbṭ* (TED 843, CDG 485), Tgr. *šänḳä* 'to strangle' < **šnḳ* / **ŝnḳ* (WTS 218, Jastrow 1607, Lane 1606), Tgr. *šäfḳä* 'to be dense' < **ŝpḳ* (WTS 231, SD 131, HALOT 1349).

The clearest manifestation of this phenomenon is the so-called 'sibilant anomaly' in the Tigrinya numerals (Yushmanov 1937). Throughout modern ES, the numerals of the first decade display only *s*, but in Tigrinya both *s* and *š* are in evidence: *sälästä* '3', *ʿassärtä* '10' vs. *ḥammuštä* '5', *šəddušt*ä '6', *šobʿattä* '7', *šämmontä* '8', *təšʿattä* '9'. According to Yushmanov, this distribution is diachronically conditioned: PS **š* is preserved, whereas **ŝ* and **t̲* merge into *s* (*š* in *šämmontä* '8' < **t̲amāniy-* is supposed to arise secondarily under the influence of *šobʿattä* '7'). Yushmanov's hypothesis (implicit in Müller 1983, 243 and Lipiński 1997, 124, 126) has been rejected by Ullendorff (1955, 134−137) and Voigt (1988), who ascribe the emergence of *š* to the palatalizing effect of the labials and/or the high-central vowel *ə* (both missing from *sälästä* and *ʿassärtä*).

*Contra* Ullendorff (1955, 135), there is nothing *a priori* unsound in Yushmanov's assumption that the behavior of PS sibilants in modern ES can be different from their fate in (late) Geez. However, this hypothesis can only be verified through an exhaustive etymological analysis of all *s*- and *š*-lexemes of modern ES. The evidence available at present does not seem to favor it: in the *š*-lexemes treated above, at least three PS sibilants (**bšl*, **ŝpḳ*, **t̲Vkm-*) can be detected. Even more problematic is Meparišvili's claim (1983; 1987) that modern ES *š* corresponds to PS **ŝ*: all of her examples are either transparent Arabisms or easily explainable by palatalization.

### 1.5.4.3. Reflexes of Proto-Semitic **ṯ* and **ṱ*

PS **ṣ* and **ṯ* merge into *ṣ* (ጸ) in Geez, whereas PS **ṱ* is preserved as *ṱ* (ፀ). Several examples of **ṯ* rendered by ፀ (or ጸ/ፀ variation) can be found in Voigt 1994a: Gez.

*ḥaŝaya* 'to betroth' − Arb. *ḥḍw* 'to be beloved (of one's husband)' (LLA 140, Lane 596), Gez. *ḥaŝe* 'majesty' − Arb. *ḥiḍwat-* 'high rank', Sab. *ḥṭy* 'favor' (LLA 226, Lane 596, SD 75), Gez. *ʿaŝm* / *ʿaṣm* 'bone' − Arb. *ʿaḍm-* (LLA 1025, SED I No. 25), Gez. *lamṣ* / *lamŝ* − Arb. *lamaḍ-* 'white spot, leprosy' (LLA 37, SED I No. 179). In Voigt's view, such cases are due to sporadic lateralization, but this hypothesis is liable to the objections exposed in 1.5.4.1.

#### 1.5.4.4. Development of ʃ and θ in Ethiopian Semitic

The opposition between ʃ and θ is consistent in early epigraphy (Littmann 1913, 80; *contra* Podolsky 1991, 13): *baṣaḥku* 'I came' (RIÉ 189:28), *ʾanṣāra* 'in front of' (RIÉ 189:40), *yəṣawəro* 'he carries it' (RIÉ 189:50) vs. *ʾamaḥŝanku* 'I put under protection' (RIÉ 189:48−49), *waŝʾu* 'they went out' (RIÉ 187:18), *ŝar* 'enemy' (RIÉ 185 II 4). Only in late monuments some confusion is attested: *mŝ* 'he came' instead of *maṣʾa* (DAE 13:7, RIÉ 194:1), *ŝaḥafkəwo* 'I wrote it' instead of *ṣaḥafkəwo* (RIÉ 202:1), *ṣ-w-k-* 'I took booty' instead of *ŝ-w-k-* (RIÉ 193 I 33−134).

There is no distinction between ʃ and θ in the traditional pronunciation of Geez (both are realized as [ç]). The merger is complete throughout modern ES (> *ṣ*/*č̣* in Tigre and Tigrinya, *ṭ*/*č̣* in SES).

Hetzron and Habte Mariam (1966, 19) claimed that PS **ŝ* may yield *d* in Western Gurage: Cha. *daḳä* 'to laugh' < **ŝḥḳ*, *dämädä* 'to join' < **ŝmd*, *adädä* 'to mow' < **ʿŝd* (EDG 216, 208, 15). This hypothesis was rejected in Goldenberg (1977, 464−466), EDG (216, 208, 15) and Podolsky (1991, 13). At any rate, Hetzron's '*daqä*, in which *d* comes from the deglottalization of *ḍ*' (1966, 19) has little to do with the laterality of **ŝ* (cf. Steiner 1977, 113).

Separate reflexes of **s* (> *s*) and **ŝ* (> *č̣*) claimed for the Tigrinya dialect of Akkele Guzay (Cohen 1931, 10) are not well-founded (Ullendorff 1955, 115; Goldenberg 1977, 466; Podolsky 1991, 13; cf. Rodinson 1981, 108; Voigt 1988, 533). The same is true of the reports about an interdental realization of θ in the traditional pronunciation of Geez (Ullendorff 1955, 114; cf. Voigt 1994a, 115; Tropper 1994, 24).

### 1.5.5. PS **š* in Modern South Arabian

#### 1.5.5.1. Reflexes of Proto-Semitic **š*

PS **š* is reflected as *š* or *s* in MSA. In Mehri and Soqotri *š* often shifts to *h*, whereas in Central Jibbali it may yield a peculiar labialized phone transcribed as *s̄* by Johnstone (JL XIV, Johstone 1984, 389; for Fresnel's early description v. Lonnet 1991, 67).

The comparatively rare *š* (*h*, *s̄*) reflexes (ca. 50 roots altogether) are concentrated in the most basic lexical layers (Leslau 1937, 213−214; 1988 [1939−1944], 37−38; Beeston 1951, 7−8; unrecognized in Rendsburg 1986, 256): anatomy and physiology (Jib. *šẽn* < PS **šamn-* 'fat', SED I No. 248; Jib. *šnin* < PS **šinn-* 'tooth', SED I No. 246; Mhr. *šīt*, Jib. *šɔ̄*, Soq. *šéh* < PS **šit-* 'buttocks, genitals', SED I No. 255; Mhr. *šənēt*, Jib. *šónút*, Soq. *šínoh* < PS **šinat-* 'sleep', SED I No. 82$_v$; Mhr. *ɛwšēn*, Jib. *ɛlšén*, Soq. *léšin* < PS **lišān-* 'tongue', SED I No. 181; Mhr. *hōfəl*, Jib. *šɔ́fəl*, Soq. *šáfəl* 'belly'

< PS **špl* 'to be low', SED I No. 271; Mhr. *ḥə-rōh*, Jib. *réš*, Soq. *réh* < PS **raʾš-* 'head', SED I No. 225; Hrs. *mešḫáwt*, Jib. *šḫɔt*, Soq. *šḫoh* < PS **šaḫāt-* 'armpit', SED I No. 240; Jib. *məʕ̂réš*, Soq. *máʕ̂rəh* < PS **ʕ̂irš-* 'molar tooth', SED I No. 275; Mhr. *ʾáwṭəh*, Jib. *ʿóṭóš*, Soq. *ʿéṭoš* < PS **ʿṭš* 'to sneeze', SED I No. $4_v$, Mhr. *nəfh*, Soq. *néfoš* < PS **npš* 'to breathe', ML 284, LS 271, SED I No. $46_v$), numerals of the first decade (Mhr. *ḫáymə*h, Jib. *ḫīš*, Soq. *ḫámoš* < PS **ḫamiš-* 'five', Mhr. *hət*, Jib. *šát*, Soq. *híte* < PS **šidṯ-* 'six', Mhr. *hōba*, Jib. *šō*ʿ, Soq. *hóbeḥ* < PS **šabʿ-*, SED I p. XCI), animal names (Mhr. *nōhər*, Jib. *núšer*, Soq. *nóyhir* < PS **našr-* 'eagle', SED II No. 166; Mhr. *táyh*, Jib. *tuš*, Soq. *teš* < PS **tayš-* 'buck', SED II No. 231), nature and time (Mhr. *ḳəšēṭ*, Jib. *ḳɔ́šuṭ* 'rainbow' < PS **ḳaš-t-*, ML 242, JL 153, HALOT 1155; Jib. *šḫamúm* < PS **šḥm* 'to be dark', JL 261, LSyr. 769; Jib. *šḫan* < PS **šḥn* 'to be warm', JL 264, HALOT 1462; Mhr. *yəmšē*, Jib. *ʾəmšín*, Soq. *ʾimšin* < PS **ʾamš-* 'yesterday', ML 6, JL 3, LS 65, HALOT 68; Jib. *šḫor* < PS **šaḥr-* 'dawn', JL 261, HALOT 1466), varia (Mhr. *ham*, Jib. *šum*, Soq. *šem* < PS **šim-* 'name', ML 158, JL 262, LS 418, CDG 504; Mhr. *bəhēl*, Jib. *béšəl*, Soq. *béhel* < PS **bšl* 'to cook', ML 45, JL 30, LS 83, CDG 109; Mhr. *nəhū*, Jib. *nšé*, Soq. *néše* < PS **nšy* 'to forget', ML 290, JL 195, LS 276, HALOT 728; Mhr. *həḳū*, Jib. *šéḳé*, Soq. *héže* < PS **šḳy* 'to irrigate', ML 155, JL 262, LS 142, CDG 511; Mhr. *hərūḳ*, Jib. *šérɔ́ḳ*, Soq. *héraḳ* < PS **šrḳ* 'to steal', ML 159, JL 263, LS 146, CDG 514; Mhr. *hīma*, Jib. *šīʿ*, Soq. *hémaḥ* < PS **šmʿ* 'to hear', ML 157, JL 262, CDG 501; Mhr. *ḫšūl*, Jib. *ḫšɔl* < PS **ḫšl* 'to break, crush', ML 451, JL 307, AHw. 333, HALOT 362; Jib. *šēb* < PS **šʾb* 'to fetch water', JL 265, HALOT 1367; Jib. *mašḥ* 'clarified butter' < PS **mšḥ*, JL 175, HALOT 643; Soq. *šéte* 'woven material' < PS **šty*, LS 423, HALOT 1669).

Elsewhere, PS **š* corresponds to MSA *s*. For Leslau (1988 [1939−1944], 38−39) and Beeston (1951, 9−10), this 'irregular' reflexation is due to the massive influx of Arabic loanwords. Gradual ousting of *š*-reflexes (Faber 1992, 6−7; SED I p. XCIII) could be illustrated by such doublets as Mhr. *saḳf*, Jib. *sɛḳf* − Jib. *šɛḳf*, Soq. *héḳaf* 'roof' (ML 347, JL 227, 261, LS 146) < PS **šaḳp-* (Hbr. *šäḳäp*, Sab. $s_1$*ḳf*, HALOT 1645, SD 127), Jib. *dəbs* − Mhr. *dabh*, Jib. *dəbš* 'honey' (JL 34, ML 63) < PS **dibš-* (Hbr. *dəbaš*, Sab. *dbs*$_1$, HALOT 212, SD 35), Mhr. *səḳáwṭ*, Jib. *sɔ́ḳɔ́ṭ* − Mhr. *həḳáwṭ*, Jib. *šɔ́ḳɔ́ṭ*, Soq. *hḳṭ* 'to be worthless, to get lost' (ML 348, 155, JL 228, 261, LS 146) < PS **šḳṭ* 'to fall, to get lost' (Hbr. *šḳṭ*, HALOT 1641), Mhr. *sōfəl*, Jib. *sfɔl* − Soq. *hfl* 'to be low, worthless' (ML 342, JL 224, LS 145) < PS **špl* (Hbr. *špl*, Sab. $s_1$*fl*, HALOT 1631, SD 124), Mhr. *sōl* − Jib. *šēl*, Soq. *hoʾol* 'to demand payment' (ML 338, JL 220, LS 139) < PS **šʾl* 'to ask' (Hbr. *šʾl*, Sab. $s_1$*ʾl*, HALOT 1371, SD 121).

The main deficiency of Beeston's explanation is that *s*-words are not restricted to the cultural vocabulary expected to be borrowed (Cantineau 1932, 187; 1939−1945, 319−320), as shown by Mhr. *lībəs*, Jib. *lɔ̄s* 'to wear' (ML 251, JL 159) < PS **lbš* (Hbr. *lbš*, Sab. *lbs*$_1$, HALOT 519, SD 81) or Mhr. *səbəlēt*, Soq. *sebóleh* 'ear of grain' (ML 340, LS 280) < PS **šunbul-at-* (Hbr. *šibbōlät*, Sab. $s_1$*blt*, HALOT 1394, SD 123, Faber 1992, 5−7). Moreover, a given PS root may be not attested in Arabic with the relevant meaning: Mhr. *kənsīd*, Jib. *kənséd* 'shoulder' < PS **kišād-* 'neck' (Akk. *kišādu*, Gez. *kəsād*, SED I No. 147), Mhr. *səbūṭ*, Jib. *sɔ́ṭ* (ML 340, JL 222) < PS **šbṭ* (Hbr. *šēbät*, Sab. $s_1$*bṭ*, HALOT 1388, SD 123), Soq. *ʾénes* 'to be small' (LS 68) < PS **ʾnš* 'to be weak' (Hbr. *ʾnš*, HALOT 73). Especially disturbing in this sense (Yushmanov 1934, 102; Cantineau 1935−45, 319−320; Faber 1985b, 68; Voigt 1987, 56−57; SED I p. XCIV) are the 3rd person feminine personal pronouns (Jib. *sɛ* 'she', *sɛn* 'they'), whose Arabic cognates display *h*- (*hiya*, *hunna*).

### 1.5.5.2. The split of *š in Mehri and Jibbali

As shown by Faber (1985b, 63−63, 96−99; cf. Faber 1992, 5−6), the split of *š into š and *h* in Mehri and the split of *š into š and s̄ in Jibbali are mutually related: Mhr. š usually corresponds to Jib. s̄ (Mhr. *šənēt* − Jib. *s̄ónút* 'sleep', Mhr. *ɛwšēn* − Jib. *ɛlsɛ́n* 'tongue', Mhr. *ḳəšēṭ* − Jib. *ḳɔ́s̄uṭ* 'rainbow', Mhr. *ḫšūl* − Jib. *ḫs̄ɔl* 'to break'), whereas Mhr. *h* is paralleled by Jib. š (Mhr. *ḥə-rōh* − Jib. *rɛ́š* 'head', Mhr. *ḫáyməh* − Jib. *ḫīš* 'five', Mhr. *táyh* − Jib. *tuš* 'he-goat', etc.). According to Faber, the Soqotri split is identical to the Mehri one, but this conclusion is premature in view of numerous exceptions displaying Jib. š − Soq. š − Mhr. *h* (SED I p. XCV).

The diachronic background of these splits is uncertain (Cantineau 1932, 187, Edzard 1984, 255−256). Since Jib. s̄ and Mhr. š are known to go back to palatalized *k* (cf. 1.5.7.), it is tempting to suppose that here, too, we are faced with palatalization of PS *š (presumably realized as [s] in proto-MSA; cf. Yushmanov 1937, 85; Edzard 1984, 253; Faber 1985b, 64−65; Voigt 1987, 57). Palatalizing factors, such as **i* or **ay* preceding or following the sibilant, are indeed apparent in some cases (**šin-at-* 'sleep', **lišān-* 'tongue', **ʾamš-ay*(*-n*) 'yesterday', cf. Voigt 1987, 55), but do not surface in a few others (Mhr. *ḫšūl*, Jib. *ḫs̄ɔl* 'to break', etc.).

In Soqotri, š and *h* can alternate morphophonemically: *héroḳ* 'he stole' − *išúraḳ* 'he will be stolen', etc. (Leslau 1937, 213). A deeper inquiry into the positional factors of these alternations may be helpful for eliciting the history of the *š*/*h* − š/s̄ split.

### 1.5.6. PS *š > *h*/ʾ in non-lexical morphemes

In four non-lexical morphemes, š (*s*) in some Semitic languages corresponds to *h* (ʾ) in others: personal pronouns of the 3rd person (Voigt 1987; 1994b, 19−24); the causative marker (Voigt 1994b, 24−27); the conditional particle (Voigt 1995); the locative-terminative marker (Diakonoff 1965, 58; Faber 1985b, 70−71; Tropper 2000a, 320). The etymological priority of the sibilant is not in doubt for each of the four morphemes (Voigt 1987; 1995; Faber 1985b, 67−72), but factors triggering the shift and the distribution of sibilant vs. guttural reflexes are still poorly understood.

The only consistent š-language is Akkadian: *šū* 'he' − *u-ša-pris* 'he made (someone) cut' − *šumma* 'if' − *-iš* 'towards'. Systematic *h*-/ʾ-reflexation characterises most of WS: Hbr. *hū* 'he' − *hi-mlīk* 'he made (someone) rule' − *ʾim* 'if' − *-ā* (< **-ah*, cf. Ugr. *-h*) 'towards'. Mixed systems are attested in Ugaritic (*hw* 'he' − *ʾa-š-hlk* 'I will let go' − *hm*/*ʾim* 'if'' − *-h* 'towards', Tropper 2000a, 151−152), ESA (Qat. $s_1w$ 'he' − $s_1$-*ḥdṯ* 'he renewed' − *hm-w* 'if', LIQ 158, 61, 46) and MSA (Jib. *šɛ* 'he', *sɛ* 'she', *-hum* 'them' − Jib. *ɛ-nsim* 'he breathed' − Mhr. *hām* 'if', Johnstone 1975, 117−118, 106, 119).

Diakonoff's attempts to detect the *š* − *h* correspondence in lexical morphemes (such as Akk. *bašmu* 'snake' − Hbr. *bəhēmā* 'beast', Diakonoff 1980, 9 or Akk. *bašû* 'to be' − Arb. *bhw* 'to be well-shaped', Diakonoff 1991−1992, 15) are not successful (in both cases it is evidently **ṯ* that underlies Akk. *š*). Similarly improbable (Edzard 1984, 8; Garbini 1984, 32−33; Faber 1985b, 68−72; Dolgopolsky 1999, 19; Voigt 1987, 52−53) is Diakonoff's reconstruction of a separate PS sibilant (1965, 21; 1991−1992, 6, 15, 36, accepted in Gelb 1969, 172−173) supposedly accounting for this shift.

### 1.5.7. The origin of Modern South Arabian *ṣ̌* (*ṣ̄*) and palatalization in Modern South Arabian

A characteristic feature of MSA is the glottalized affricate [č̣] (Johnstone 1975b, 155; Steiner 1982b, 190−191; for Fresnel's affricate description v. Lonnet 1991, 68), usually transcribed as *ṣ̌* (Central Jibbali *ṣ̄*) in MSA studies (Lonnet / Simeone-Senelle 1997, 350−351; Lonnet 1993, 48−49). As seen already by Johnstone (1975a, 100) and recently confirmed by Frolova (2005), the background of *ṣ̌* in individual MSA languages is not identical. In Jibbali, it usually goes back to **ḳ*: *ʿeš̃yét* 'pigeon' − pl. *ʿéḳéb* (JL 11, cf. Arb. *ʿuqāb-* 'eagle', Lane 2102), *šúṣi* 'he drank' − *yəštéḳe* 'he drinks' (JL 262, from PS **šḳy*), *ṣ̄īḥ* 'to be disappointing' − *eḳūḥ* 'to disappoint' (JL 146, cf. Mhr. *ḳátməḥ*, Arb. *qmḥ*, ML 231, Lane 2561). The same may be true of Soqotri (*šádher* 'pot' − Mhr. *ḳādər*, Arb. *qidr-*, HL 73, ML 224, Lane 2496), but the available evidence is scarce. Conversely, the main source of *ṣ̌* in Mehri seems to be *ṣ*: *mišḥərrəwh* 'little finger' − Jib. *mənṣəḥórrót*, Arb. *ḫinṣir-* (SED I No. 143), *ḳəšáwb* 'to break' − Jib. *ḳóṣób*, Arb. *qṣb* (ML 243, JL 151, Lane 2528), *ṣəbáʾ* 'finger' − Jib. *ʾiṣbáʿ*, Arb. *ʾiṣbaʿ-* (SED I No. 256). It is, therefore, not surprising that there is no common MSA root displaying *ṣ̌* in each of the languages (Lonnet 1993, 48; Lonnet/Simeone-Senelle 1997, 350). *Contra* Swiggers (1981, 359), **ṣ̌* is thus not to be reconstructed as a proto-MSA phoneme.

The emergence of *ṣ̌* (*ṣ̄*) is part of a more general process of palatalization (Johnstone 1975a, 99−101; Steiner 1982b, 190−191; Lonnet/Simeone-Senelle 1997, 350−351). Its triggers are, presumably, *ť* and *y*, which, however, may be hard to detect even diachronically. The shift **k* > *š* (*s̄*) is common in Jibbali (*s̄ínít* 'louse', pl. *kúnúm* < PS **k*V*n*V*m-*, SED II No. 116, *s̄irŝ* 'belly', pl. *ekréŝ* < PS **kariŝ-*, SED I No. 151), more sporadic in Soqotri (*kíbšib* 'star' < PS **kabkab-*, *béše* 'to weep' < **bky* and further examples in LS 24) and practically non-existent in Mehri (the only reliable case is *šəbdīt* 'liver' < PS **kabid-at-*, SED I No. 141). The shift **g* > *ž* (*z̄*) is well attested in Jibbali (*əždírát* 'kind of insect' < PS **g*V*d*V*r-*, SED II No. 81) and Soqotri (*žid* 'nerve' < PS **gīd-*, SED I No. 72), but not in Mehri. For *š* (*s̄*) as a possible output of palatalization of **š* [s] cf. 1.5.5.2.

### 1.5.8. PS **w* and **y* in Akkadian and North-West Semitic

#### 1.5.8.1. **y* in Akkadian

Word-initial **ya-* is not preserved in Akkadian, probably without exceptions (for *yâti* 'me', *yā'um* 'mine' reinterpreted as *iyāti*, *iyā'um,* see Kouwenberg 2006, 153). In most lexemes **ya-* shifts to *i-* (*idu* 'hand' < **yad-*, *imnu* 'right' < **yamin-*, *išaru* 'straight' < **yašar-*), but in the infinitives of verbs I*y* it yields *e* (*ešēru* 'to be straight' < **yašār-*), probably by paradigmatic analogy (Huehnergard 1994, 4; Kogan 2004a, 347; exceptions: *idû* 'to know' < **yadāʿ-* and *išû* 'to have' < **yaṯāw-*).

The semi-vowel before word-initial *i* (and *e*) was still preserved in Sargonic (Hasselbach 2005, 87−89), spelled with special signs: [yi] (= I) and [ye] (= È) as opposed to [(')i] (= Ì) and [(')e] (= E). The same contrast is observed for [yu] (= U) vs. [(')u] (= Ú or Ù).

The shift **ya-* > *yi* (spelled with I) is well attested in Ebla (Krebernik 1982, 219–221; Conti 1990, 19): *ma-ḫa-ṣí i-da* = Sum. ŠU.ŠU.RA 'to strike the hands' (VE 531a) < **yad-*, *i-ša-wu* = Sum. A.GÁL 'to be' (VE 624) < **yaṯāw-*, *i-sa-lum* = Sum. SI.SÁ 'straight' (VE 1119) < **yašār-*. Sometimes *ya-* was apparently preserved (spelled with A): *a-mì-núm*, *a-mì-tum* (also *i-mì-tum*) = Sum. Á.ZI 'right hand' (VE 534) < **yamin-*, *ì-ṭa-um a-bí-iš-tum* = Sum. ENGUR.UD 'dry asphalt' (VE 1269) < **yabiš-*.

### 1.5.8.2. The shift **w-* > *y-* in North-West Semitic

The shift **w-* > *y-* is a hallmark of NWS: Hbr. *yālədā* 'she bore' < **waladat*, cf. *hiwwālēd* 'to be born' and *hōlīd* (**hawlīd*) 'he begot' (BDB 408). In Biblical Hebrew this rule has practically no exceptions, but in Ugaritic two verbal forms with *w-* are attested: *wld* 'to bear' and *wpṯ* 'to spit' (Tropper 2000a, 153). According to Tropper, these are D-stem infinitives (**wullad-* and **wuppaṯ-*, cf. DUL 962–963) and preservation of *w-* is conditioned by *-u-*. Word-initial *w-* is sporadically attested in Middle Aramaic: JPA *wəlād* 'womb, newborn', *wwšṭ* 'throat', *wwtrn* 'benevolent', *wly* 'fitting' (DJPA 169–170), JBA *waldā* 'fetus', *warṣīṣā* 'chick', *wašṭā* 'oesophagus' (DJBA 395–396), Syr. *wālē* 'fitting', *waʿdā* 'appointed time', *wārīdā* 'artery' (LSyr. 185–186).

One wonders whether the shift **w-* > *y-* in NWS is somehow connected with the extreme rarity of PS roots with word-initial *y-* (Yushmanov 1998 [1940], 155), which scarcely exceed half a dozen: **yad-* 'hand', **yam*V*n-* 'right (side)', **yawm-* 'day', **yšr* 'to be straight', **ynḳ* 'to suck' (Kogan 2004a, 346).

## 1.5.9. Proto-Semitic gutturals in Akkadian

According to the traditional concept, PS gutturals other than **ḫ* are lost in Akkadian. PS **ʾ* and **h* leave no trace, whereas **ʿ*, **γ* and **ḥ* change the neighboring **ă* into *ĕ* (GAG § 9a, §§ 23–25, Moscati 1964, 41–42): *ammatu* 'elbow, cubit' < **ʾamm-at-* (SED I No. 6), *pāšu* 'axe' < **paʾš-* (Arb. *faʾs-*, AHw. 846, Lane 2325); *alāku* 'to go' < **hlk* (Ugr. *hlk*, AHw. 31, DUL 337), *nāru* 'river' < **nah*(*a*)*r-* (Arb. *nahr-*, AHw. 748, Lane 2858); *eṣemtu* 'bone' < **ʿaṭm-* (SED I No. 25), *pēmu* 'thigh' < **paʿm-* (SED I No. 207); *emu* 'father-in-law' < **ḥam-* (Arb. *ḥam-*, AHw. 215, Lane 650), *rēmu* 'womb' < **raḥm-* (SED I No. 231); *eṭû* 'to be dark' < **γṭw* (Arb. *γṭw*, AHw. 266, Lane 2272), *ešû* 'to be confused' < **γṯy* (Arb. *γṯy*, AHw. 259, Lane 2230); *aḫāzu* 'to take' < **ʾḫḏ* (Arb. *ʾḫḏ*, AHw. 18, Lane 28), *naḫīru* 'nostril' < **naḫīr-* (SED I No. 198).

### 1.5.9.1. Irregular *e*-coloring

E-coloring can be missing in roots with etymological **ʿ* (Kogan 1995, 156–157): *adi* 'until' < **ʿaday* (Ugr. *ʿd*, Sab. *ʿd*(*y*), AHw. 12, DUL 146, SD 12), *šārtu* 'hair' < **ŝaʿr-* (SED I No. 260), *rādu* 'rainstorm' < **raʿd-* (Arb. *raʿd-*, AHw. 941, Lane 1105), *ašāšu* 'moth' < **ʿVṯVṯ-* (SED II No. 45), *akbaru* 'jerboa' < **ʿakbar-* (SED II No. 30). WS influence could explain such forms as *akbaru* and *ašāšu*, whereas PS doublets with **ʾ*

can be surmised in a few other cases (for Hdr. *ʾd* and Jib. *ʾɛd* 'until' v. JL 1, LM 20, Sima 1999−2000, SED II p. 336). But fully reliable examples like *šārtu* remain enigmatic.

More often, *e*-coloring is present in roots with etymological *ʾ and *h* (Rosén 1978, 450−451; Huehnergard 1994, 5; Kogan 1995, 157−158): *šumēlu* 'left hand, side' < **ŝimʾāl-* (SED I No. 265), *rēšu* 'head' < **raʾš-* (SED I No. 225), *ṣēnu* 'small cattle' < **ṣaʾn-* (SED II No. 219), *pērūrūtu* 'mouse' < **paʾr-* (SED II No. 170), *enēšu* 'to be weak' < **ʾnš* (Hbr. *ʾnš*, AHw. 217, HALOT 73), *esēpu* 'to collect' < **ʾsp* (Hbr. *ʾsp*, AHw. 248, HALOT 74), *esēru* 'to bind' < **ʾsr* (Arb. *ʾsr*, AHw. 249, Lane 57), *mêšu* 'to despise' < **mʾš* (Hbr. *mʾs*, Arb. *maʾs-* 'despised person', AHw. 649, HALOT 540, LA 6 257; with an irregular sibilant correspondence), *erṣetu* 'earth' < **ʾarŝ-* (Arb. *ʾarḍ-*, AHw. 245, Lane 45), *šēpu* 'foot' < **ŝaʾp-* (Soq. *ŝaʾfi*, SED I No. 269), *šēnu* 'shoe' < **ŝaʾn-* (Gez. *ŝāʾn*, AHw. 1213, CDG 524), *epû* 'to bake' < **ʾpy* (Ugr. *ʾpy*, AHw. 231, DUL 92); *ṣēru* 'back' < **ṭahr-* (SED I No. 284), *ewû* 'to be' < **hwy* (Syr. *hwā*, AHw. 266, LSyr. 173), *erû* 'to be pregnant' < **hry* (SED I No. $20_v$). Most of the above examples have sonorants (Huehnergard 1994, 5; 2005b, 592) or glides (Rössler 1959, 131) among their root consonants. Remarkably, *e*-coloring is missing in some of these lexemes in pre-OB sources: Sargonic *rāšu*, *ṣānu* (Gelb 1957, 232, 241), *arṣatu* (Westenholz 1974, 98) and *šāpu* (George 2011; Markina 2010); Ebla *za-lum* = Sum. MURGU (EV 0357, Krebernik 1983, 47) and *sa-na* = Sum. E.LAK 173 (Fronzaroli 1984, 180); early Mari *sá-né-en* (ARM 19 300:2, CAD $Š_2$ 289).

### 1.5.9.2. Proto-Semitic *ḥ > Akkadian *ḫ

PS **ḥ* may yield Akk. *ḫ*. One example codified by GAG (§ 8i) is *raḫāṣu* − Arb. *rḥḍ*, Ugr. *rḥṣ* 'to wash, to bathe' (AHw. 943, Lane 1052, DUL 738), references to other cases are scattered over Assyriological literature (Huehnergard 2003, 102−103), the largest collections being GVG 127−128; Edzard 1959, 298−299; Salonen 1975; Kogan 1995; Tropper 1995a; SED I, pp. LXXIII−LXXV; SED II, p. LVII and Huehnergard 2003.

Reliable examples include *ḫepēru* − Arb. *ḥfr* 'to dig' (AHw. 340, Lane 600, GVG 128, Salonen 1975, 294), *nabāḫu* − Arb. *nbḥ* 'to bark' (AHw. 694, Lane 2755, GVG 128, Salonen 1975, 294), *mašāḫu* − Arb. *msḥ* 'to measure' (AHw. 623, Lane 2713, Tropper 1995a, 64), *ḫiāṭu* 'to watch' − Arb. *ḥwṭ* 'to guard' (AHw. 343, Lane 670, Huehnergard 2003, 105), *puḫālu* 'to breed an animal' − Ugr. *pḥl* 'donkey', Arb. *faḥl-* 'stallion' (GVG 128, Salonen 1975, 294, SED I No. 210), *paḫallu* 'thigh, genitals' − Mhr. *fēḥəl* 'penis' (SED I No. 210, Durand 2002, 136−137), *nuḫḫutu* − Arb. *nḥt* 'to trim, clip' (CAD $N_2$ 318, Lane 2773, Tropper 1995a, 59−61), *ḫašû* 'lung' − Arb. *ḥašaⁿ* 'entrails' (SED I No. 128), *šalāḫu* − Ugr. *šlḥ*, Hdr. $s_1lḥ$ 'to send, to dispatch' (SED I, p. LXXIII, CAD $Š_1$ 193, DUL 816, Pirenne 1990, 107), *ḫalû* 'black mole' − Arb. *ḥalaʾ-* 'pustule' (SED I No. 116).

Less compelling are *ḫabābu* 'to caress' − Arb. *ḥbb* 'to love' (CAD Ḫ 2, Lane 495, Westenholz 1975, 289), *ḫubūru* 'din' − Arb. *ḥubūr-* 'joy' (AHw. 352, Lane 499, Huehnergard 2003, 104), *ḫasīsu* 'ear' − Arb. *ʾal-ḥasīs-āni* 'ear cartilages' (SED I No. 127), *ḫarbu* 'plough' − Ugr. *ḥrb* 'knife, sword' (AHw. 325, DUL 367, Tropper 1995a, 64), *ḫulmiṭṭu* − Arb. *ḥamāṭiṭ-* 'a reptile' (SED II No. 99), *ḫurbabillu* − Arb. *ḥirbāʾ-* 'chameleon' (Salonen 1975, 294, SED II No. 101), *ḫarsapnu* 'larva' − Arb. *ḥaršaf-* 'small of

animals' (Salonen 1975, 294, SED II No. 105), *meḫû* 'storm' − Arb. *maḥwat-* 'northern wind' (AHw. 642, LA 15 315), *ḫarāmu* 'to separate', *ḫarimtu* 'prostitute' − Arb., Sab. *ḥrm* 'to be forbidden' (AHw. 323, 325; Lane 553; SD 70; Salonen 1975, 293; Tropper 1995a, 62; Kogan 1995, 159).

Many examples supposed to illustrate this correspondence are not reliable.

- Akkadian lexemes attested predominantly in OB Mari, NA and NB are suspect as possible WS borrowings: *ḫuṣannu* 'sash, belt' (NB), *ḫaṣānu* 'to hug, to protect' (mostly NA) − Arb. *ḥiḍn-* 'lap, bosom' (SED I No. 129, Albright 1919, 183, Salonen 1975, 294; Tropper 1995, 62), *ḫaṣāru* (OB Mari, NB, Streck 2000, 94−95) − Arb. *ḥiḍār-*, Ugr. *ḥṭr* 'enclosure' (AHw. 331, Lane 595, DUL 382, Tropper 1995; 62; cf. rather *iṣāru* 'outbuilding', CAD I 206), *matāḫu* 'to lift' (mostly NA) − Arb. *mtḥ* 'to pull, to draw' (AHw. 632; Lane 2688; Salonen 1975, 294; Tropper 1995, 62), *ḫalābu* (NA) − Arb. *ḥlb* 'to milk' (AHw. 309, Lane 623, Salonen 1975, 293). An unambiguous evaluation can be difficult in some cases, cf. different approaches to *ḫakāmu* 'to understand' < PS **ḥkm* in Edzard (1959, 298), Salonen (1975, 293), Durand (1987), Tropper (1995, 62), Kogan (1995, 159), Streck (2000, 90−91) and Huehnergard (2003, 109−110).
- Other examples are problematic for semantic reasons: *ḫarāšu* 'to bind' − Ugr. *ḥrš* 'artisan' (AHw. 324, DUL 370, Tropper 1995, 62; cf. SED I, p. LXXV and Huehnergard 2003, 106, where *eršu* 'wise', AHw. 246, is compared instead), *riāḫu* 'to remain' − Arb. *rawaḥ-* 'wideness' (AHw. 979, Lane 1180, Huehnergard 2003, 104), *mallaḫtu* 'a grass' − Arb. *milḥ-* 'salt' (AHw. 596; Lane 2732; Salonen 1975, 294; Tropper 1995, 62; cf. rather *mil'u* 'saltpetre', AHw. 653), *palāḫu* 'to fear, to revere' − Arb. *flḥ* 'to till' (AHw. 812, Lane 2438, Tropper 1995, 63), *maḫû* 'to go into a trance' − Arb. *mḥw* 'to efface' (CAD $M_1$ 115, Lane 3018, Tropper 1995, 64), *ṣiāḫu* 'to laugh' − Arb. *ṣyḥ* 'to shout' (AHw. 1096, Lane 1759, Tropper 1995, 64), *ṭeḫû* 'to approach' − Arb. *ṭḥw* 'to go away' (AHw. 1384, Lane 1832, Tropper 1995, 64).

Ø- and *ḫ*-reflexes may apparently co-exist (cf. Huehnergard 2003, 110, Tropper 1995, 62−63): Arb. *laḥy-* 'jaw', Ugr. *lḥ* 'jaw, cheek' − Akk. *lētu* 'cheek' (OA, OB on) and *laḫû* 'jaw' (MB, SB) (SED I Nos. 177 and 178) or Ugr. *ḥbl*, Arb. *ḥabl-* 'rope' − Akk. *eblu* 'rope' (OB on) and *ḫabālu* 'to bind', *ḫābilu* 'trapper', *naḫbalu* 'snare' (OB on) (DUL 353, Lane 504, AHw. 183, 302, 305, 714).

Different attempts to account for this correspondence are discussed in 1.4.6.

### 1.5.9.3. Proto-Semitic *γ in Akkadian

According to Rössler 1959, 130, there are only ten Akkadian lexemes involving PS **γ*, but the actual number seems to amount to 20−25 examples (Kogan 2001; 2002).

As shown by Rössler, the traditional reflex (**γ* > Ø with *e*-coloring) is quite uncommon: to *eṭû* 'to be dark' < **γṭw* and *ešû* 'to be confused' < **γṯy* one can add *ebû* 'to be thick' − Ugr. *γbn* 'well-being', Arb. *'aγbā*, *γabiyy-* 'dense', *γabā'-* 'denseness' (AHw. 183; DUL 316; Lane 2228; Dozy 2 201; Rössler 1959, 131; Kogan 2001, 266; 2002, 315) and *ebēṭu* 'to be tied, girt' − Arb. *γubṭat-* 'a strap' (AHw. 774, Lane 2226, Kogan 2001, 267). There are, furthermore, two examples of **γ* > Ø where *e*-coloring is missing or cannot surface: *ṣabû* 'to soak' − Arb. *ṣbγ* 'to dip, to dye' (AHw. 1082;

Lane 1647; Rössler 1959; 131, Kogan 2001, 266) and *urullu* – Arb. *γurlat-* 'prepuce' (SED I No. 108, Kogan 2001, 266–267).

More often, PS **γ* is reflected (permanently or occasionally) as *ḫ*: *ṣeḫēru* – Ugr. *ṣγr*, Arb. *ṣγr* 'to be small' (AHw. 1087; DUL 780; Lane 1691; Rössler 1959, 130–131; Kogan 2001, 269), *ḫalāpu* 'to cover' – Ugr. *γlp* 'husk', Arb. *γlf* 'to put in a sheath' (AHw. 310; DUL 321; Lane 2283; Hecker 1968, 270; Westenholz 1978, 162; Kogan 2001, 269–271), *lašḫu* 'inner jaw' – Arb. *laṯaγat-* 'mouth, lip' (SED I No. 182), *ḫarāšu* – Arb. *γrs* 'to plant trees' (CAD Ḫ 95, Lane 2247, Kogan 2001, 272); *āribu*, *ēribu*, *ḫēribu* – Arb. *γurāb-*, Mhr. *yə-γəráyb* 'crow' (SED II No. 89; Rössler 1959, 131; Kogan 2001, 278–279), *apāru*, *epēru*, *ḫepēru* 'to cover one's head' – Arb. *γfr*, Mhr. *γəfūr* 'to cover, to hide', Ugr. *γprt* 'a garment' (AHw. 57; Lane 2273; ML 135; Rössler 1959, 131; Kogan 2001, 279), *adāru*, *ḫadāru* 'to be obscured; to be worried' – Arb. *γdr* 'to be obscure', IV and VII 'to be worried' (AHw. 11; Lane 2232; Dozy 2 202; Rössler 1959, 131; Westenholz 1978, 162, Kogan 2001, 279–280), *aparrû*, *ḫaparrû* 'having wiry hair' – Ugr. *γprt* 'a garment', Arb. *γafar-* 'hair on the body' (SED I No. 99; DUL 323; Kogan 2001, 280–281; 2002, 316), *urnīḳu*, *ḫurnīḳu* – Arb. *γurnīq-* 'crane' (SED II No. 91, Kogan 2001, 281), *ullu*, *ḫullu* – Arb. *γull-* '(neck) ring' (AHw. 354, 1410, Lane 2278, Kogan 2001, 281–282), *aru*, *eru*, *ḫaru* 'leaf' – Arb. *γār-* 'leaf of grapevine' (AHw. 71, Lane 2308, Kogan 2001, 282), *uzālu*, *ḫuzālu* – Arb. *γazāl-* '(young of) gazelle' (SED II No. 92; Westenholz 1978, 162; Kogan 2001, 282), *aruppu*, *uruppu*, *ḫuruppu* 'neck, hump' – Arb. *γārib-*, Mhr. *γōrəb* 'camel's back and neck' (SED I No. 107; SED II p. 340; Weszeli 1999; Steiner 1982a, 13; Kogan 2001, 267–268).

PS **γ* can also be reflected as 'strong aleph' (cf. 1.5.9.4): *bu"û* – Arb. *bγy* 'to search' (AHw. 145, Lane 231, Rössler 1959, 131, Kogan 2001, 275), *peršā'u* – Arb. *burγūṯ-* 'flea' (SED II No. 185; Rössler 1959, 131; Kogan 2001, 275), *ru'tu* 'spittle, mucus, sap' – Arb. *ruγwat-* 'froth' (SED I No. 229; Westenholz 1978, 162; Kogan 2001, 276), *lu"u* 'throat' – Hbr. *lōaʿ* 'gullet', Syr. *lōʿā* 'jaw', Arb. *luγn-* 'flesh under the ears and jaws', *luγ-at-* 'language' (WKAS L 902; Kogan 2001, 276–278; SED I Nos. 176, 177; cf. Nöldeke 1910, 161–162; contrast Testen 2001), *per'u* 'shoot' – Mhr. *fōrəγ* 'to grow up', *fátrəγ* 'to bloom', Syr. *perʿā* 'shoot' (AHw. 856, ML 98, LSyr. 603, Kogan 2007, 272), *ša'āru* 'to win' – Arb. *ṯγr* 'to break' (AHw. 1118, Lane 338, Kogan 2002, 315–316).

This evidence suggests that **γ* in Akkadian behaves differently from other PS gutturals, notably from **ʿ* (Moscati 1964, 39; Westenholz 1978, 162; Kogan 2001, 292–293; Keetman 2004, 7–8; Kouwenberg 2006, 152; *contra* Steiner 2005, 231). Many details remain, however, obscure. Are we faced with different renderings of a still-existing phoneme (Westenholz 1978, 162) or with multiple reflexes of a lost one? The former solution appears more likely: Ø-reflexes are more common in later periods, which suggests a gradual weakening and disappearance of a once-existing separate phoneme (Kogan 2001, 287–290).

### 1.5.9.4. The 'strong aleph' in Akkadian

From MB on, the Akkadian syllabary employs a special *'*-sign for the unexpectedly preserved glottal stop (von Soden/Röllig 1991, 45–56). In earlier periods, ḪV signs or 'broken spellings' were used in such cases (GAG § 23e, f): OB *im-šu-ḫu*/*im-ta-aš-ú* vs.

SB *i-maš-ša-ʾ-ú* < *mašāʾu* 'to plunder' (CAD $M_1$ 360−362). The etymological background of the 'strong aleph' remains to be investigated. PS *$\gamma$ seems to be one of its major sources (Kouwenberg 2006, 152; 2010, 520−525), but is certainly not the only one (Westenholz 1978, 162), cf. *daʾāmu* − Arb. *dhm* 'to be dark' (AHw. 146, Lane 925), *laʾbu* 'fever' − Arb. *lahab-* 'flame' (AHw. 526, Lane 2675), *raʾābu* − Arb. *rhb* 'to tremble, to fear' (AHw. 932, Lane 1167); *daʾāpu* − Hbr. *dḥp* 'to push' (AHw. 146, HALOT 219); *naʾāru* − Arb. *nʿr* 'to roar, to shout' (AHw. 694, Lane 2815), *saʾālu* − Arb. *sʿl* 'to cough' (SED I No. $61_v$). Regrettably, many of the pertinent lexemes are etymologically obscure, like *eʾēlu* 'to bind', *mašāʾu* 'to plunder', *naʾādu* 'to care' or *naʾarruru* 'to come to help' (AHw. 189, 624, 692, 694).

### 1.5.9.5. Proto-Semitic gutturals in Ebla, Sargonic Akkadian and Old Assyrian

The system of correspondences provided above is best applicable to OB and SB. What follows is an outline of the specific features of PS gutturals in Ebla, Sargonic and OA.

#### 1.5.9.5.1. Proto-Semitic gutturals in Ebla and Sargonic Akkadian

In Ebla, the sign É (*ʾà*) is used for **ḥa* and **ha* (Krebernik 1985, 58; 1982; 220−221, Conti 1990, 16−18): *ʾà-da-ru*$_{12}$ = Sum. É.TUR 'room' (VE 337, Krebernik 1983, 14) < **ḥadr-* (Ugr. *ḥdr*, DUL 355), *ṭa-ʾà-núm* = Sum. ŠE.ÀR.ÀR 'to grind' (VE 656, Krebernik 1983, 25) < **ṭḥn* (Ugr. *ṭḥn*, DUL 888), *ṭì-ʾà-mu* = Sum. ŠÀ.GI$_4$ 'spleen' < **ṭilḥām-* (SED I No. 278, SED II p. 344); *ʾà-rí-tum* = Sum. ŠÀ×MUNUS 'pregnant' (VE 594) < **hry* (Krebernik 1983, 286, SED I No. $20_v$), *ba-ʾà-núm* = Sum. ŠU.DAGAL.GAL 'finger' < **bahān-* (Krebernik 1983, 18, SED I No. 34), *ʾà-la*-GÚM = Sum. DU.DU 'to go' (VE 1000, Krebernik 1983, 35) < **hlk* (Ugr. *hlk*, DUL 337). The same practice is attested in Sargonic (Krebernik 1985, 57; Hasselbach 2005, 78−81, 125−135): *ʾà-ru-uś* 'cultivate' (Gir 19:4, 15), *ʾà-ra-šè* 'cultivators' (Di 10:14') < **ḥrṯ* (Ugr. *ḥrṯ*, DUL 371), *tá-la-ʾà-mu* 'you will eat' (Ad 12:13) < **lḥm* (Ugr. *lḥm*, DUL 495); *ʾà-wa-tim* 'word' (Di 10:12') < **hawat-* (Ugr. *hwt*, DUL 349). Since **ḥa* and **ha* have different reflexes in later Akkadian (*e* vs. *a*), **ḥ* and **h* must have been separate phonemes in Ebla and Sargonic (Westenholz 1978, 161−162). In Sargonic, note furthermore the use of Á for **ha* (Hasselbach 2005, 79): *á-ni* 'behold' (Um 3:17) < **hannay* (Ugr. *hn*, DUL 342), *á-lí-ik* 'going' (RIME 2.1.2.4 Caption 2' 2) < **hlk*, *á-ra-ab-śu-nu* 'their fugitives' (RIME 2.1.2.4:25, Westenholz 1996, 120) < **hrb* (Arb. *hrb*, Lane 2889).

In Ebla, the signs I and $U_9$ render **ḫi* / **hi* and **ḫu* / **hu* respectively (Krebernik 1983, 219−221, Conti 1990, 16−18): *ḳá-ma-u*$_9$ = Sum. MA$_8$ 'to grind' (VE 169, Krebernik 1983, 6) < **ḳmḥ* (Ugr. *ḳmḥ*, DUL 702), *tal-tá-i-bù* = Sum. NÌ.KAR.KAR 'to drag' (VE 74, Conti 1990, 74) < PS **šḫb* (Arb. *sḥb*, Lane 1314). The same signs render **yi* and **yu* (Conti 1990, 19), but neither **ʾi* / **ʿi* nor **ʾu* / **ʿu*.

In both Ebla (Krebernik 1983, 209) and Sargonic (Westenholz 1978. 162, Sommerfeld 2003, 412−413), MÁ is used for **maʾ* / **maʿ*: *má-ma-du* = Sum. GIŠ.AD.ÚS 'support' (Conti 1990, 140) < **ʿmd* (Ugr. *ʿmd*, DUL 163−164); *ù-má* 'I swear' (Gir 19:29) < **wmʾ* (Arb. *wmʾ* 'to make a sign', Lane 2968), *aś-má-ma* 'I heard' (Gir 37:3) < **šmʿ*. Similarly, SÁ renders **šaʾ* and **šaʿ* (Sommerfeld 2003, 413), but this usage is not sys-

tematic: *sá-ul-tum* = Sum. AL.ÈN.TAR (VE 987), but *sa-il-tum* = Sum. EN.LI (VE 90), both < **šʾl* 'to ask' (Krebernik 1983, 34, 36); *u-sá-rí-ib* (RIME 2.1.4.28:31), but *u-sa-rí-ib* (RIME 2.1.4.9:18) 'he brought' < **ʿrb*; *u-sá-ḫi-śu-ni* 'he made them take' (RIME 2.1.1.1:101) < **ʾḫḏ*, but also *u-sá-dì-in* 'he caused to give' (Gir 17:6) < **ndn*. Since **aʾ* and **aʿ* have different reflexes in later Akkadian (*ā* vs. *ē*), **ʾ* and **ʿ* must have been opposed to each other in Ebla and Sargonic (Westenholz 1978, 161−162).

The preservation of gutturals in Sargonic is not uniform. The complex picture of their occasional loss and the emergence of the *e*-coloring is analyzed in Hasselbach (2005, 73−85, 125−135). For comparable phenomena in Ebla cf. Conti (1990, 28−34).

PS **γ* is spelled with ḪV signs in Ebla and Sargonic: *ḫa-rí-bù* = UGA.MUŠEN 'crow' (VE 295) < **γārib-* (Krebernik 1983, 13), *ḫu-lu*, *ḫu-li* 'yoke' < **γull-* (Pasquali 1995); *ṣa-ḫa-ar-tim*, *ṣa-aḫ-ra* 'small' (PBS 9 20:4, Di 4:10) < **ṣγr*, *ru-úḫ-ti* 'sap' < **ruγw-at-* (MAD 5 8:12), *ḫu-ʳulʔ-lum* 'ring' (Tutub 47 I 1) < **γull-*. Variant spellings with GV (= [ḳv], Kogan 2001, 276, 285−286) include GA-*rí-bù* 'crow' (VE 295) and *ru*-GA-*tim* 'spittle' (MAD 5 8:12). Sporadic QV-spellings for **γ*-lexemes are known from later periods as well (Deller 1987, 231; Kogan 2001, 285−286): *ḳullu* 'ring' (AHw. 926, Stol 2000, 628), *ḳāribu* 'crow' (AHw. 903, Wasserman 1999, 345−347), *ḳalmu* 'small' < PS **γalm-* (AHw. 895, DUL 319, Lane 2286).

### 1.5.9.5.2. Proto-Semitic gutturals in Old Assyrian

As indicated by 'broken spellings', PS **ʾ*, **h*, **ʿ* and **ḥ* are not reduced to Ø in Old Assyrian (Hecker 1968, 161): OA *malāʾum* 'to be full' = OB *malûm* < **mlʾ*, OA *patāʾum* 'to open' = OB *petûm* < **ptḥ*, OA *šamāʾum* = OB *šemûm* < **šmʿ*. Do such spellings reflect a merger of all gutturals into glottal stop? As shown in Kouwenberg (2006, 161−176), the reflexes of **ʾ* and **ʿ* do not behave in the same way as those of **h* and **ḥ*. In the former case, post-consonantal 'broken spellings' are normal (*ki-il*$_5$*-a* 'detain!', *ší-im-a-ni* 'listen to me!', *im-i-id* 'it became numerous'); in the latter case, 'glide spellings' often appear instead (*li-ḳí-a* 'take!', *pí-tí-a* 'open!'), or the guttural is not reflected at all (*li-ṭí-na* 'let them grind'). In Kouwenberg's opinion, **ʾ* and **ʿ* have merged into *ʾ*, whereas **h* and **ḥ* are either lost or shifted to *y*. In both cases, *e*-coloring triggered by **ʿ* and **ḥ* must have preceded the merger: *tab-e-lu* [tab'elu] 'you disposed of' < **tabʿelu* < **tabʿalu*, *ṭé-i-tim* [ṭē(y)ittim] 'female grinder' < **ṭēḥittim* < **ṭāḥittim*.

Unlike OB, *e*-coloring in OA applies to the combinations **ḥi* and **ʿi* (Hecker 1968, 26): ***e**mārum* 'donkey' < **ḥimār-*, ***e**ṣum* 'wood' < **ʿiṣ-* (cf. OB ***i**mērum*, ***i**ṣum*).

### 1.5.10. Proto-Semitic gutturals in North-West Semitic

In the Phoenician alphabet, **ḫ* and **γ* are rendered by the same graphemes as **ḥ* and **ʿ*: *ḫmš* 'five' < **ḫamiš-*, *ṣʿr* 'small' < **ṣγr* (DWNSI 385, 971). If the alphabet was created to render adequately the Phoenician consonantal inventory (cf. 1.5.2.6.), **ḫ* and **γ* must have shifted to **ḥ* and **ʿ* in that language (and in its forerunner in the 'short' Ugaritic alphabet; Dietrich/Loretz 1988, 299−300; Tropper 1998; Steiner 2005, 230−231, 259−261). But this need not be true for other NWS idioms using the Phoenician

alphabet: in these languages ח and ע may have been polyphonic and render both uvulars and pharyngeals, still unmerged. It seems that this was indeed the case in most of early Aramaic and Canaanite.

(a) In the New Kingdom Egyptian transcriptions, *ḥ, *ḫ, and *ʿ are rendered by the corresponding Egyptian graphemes, whereas for *γ Egyptian *ḳ* and *g* are used (Moscati 1954a, 57−58; 1964, 40; Sivan/Cochavi-Rainey 1992, 11−13; Hoch 1994, 411−414):
*man≠ḥ≠ta* 'gift, tribute' − Arb. *minḥat-*, Hbr. *minḥā* (Lane 2737, HALOT 601, Hoch 1994, 128), *mu$_2$≠ra≠ḥ≠mu* 'salt workers' − Arb. *milḥ-*, Hbr. *mälaḥ* 'salt' (Lane 2732, HALOT 588, Hoch 1994, 140), *ḫu$_4$≠ma≠ḏa* 'vinegar' − Ugr. *ḫmṯ*, Hbr. *ḫōmäṣ* (DUL 364, HALOT 329, Hoch 1994, 228);
*n≠ḫ≠−r* 'wady' − Ugr. *nḫl*, Hbr. *naḥal* (DUL 629, HALOT 686, Hoch 1994, 193), *ḫa≠−r≠ba* 'desert' − Ugr. *ḫrb*, Hbr. *ḥrb* (DUL 403, HALOT 349, Hoch 1994, 249), *ḫi≠ḏi$_4$≠ru$_2$≠ta* 'sow' − Arb. *ḫinzīr-*, Hbr. *ḥăzīr* (Lane 732, HALOT 302, Hoch 1994, 254);
*ʿa≠ma≠di* 'to stand' − Arb. *ʿmd*, Hbr. *ʿmd* (Lane 2151, HALOT 840, Hoch 1994, 70), *ʿa≠ga≠ra≠ta* 'wagon' − Arb. *ʿaǯalat-*, Hbr. *ʿăgālā* (Lane 1965, HALOT 785, Hoch 1994, 83), *ʿu≠ḏi$_4$≠−r* 'helper' (Hoch 1994, 88, cf. Rainey 1998, 438−439) − Ugr. *ʿḏr*, Sab. *ʿḏr*, Hbr. *ʿōzēr* (DUL 153, SD 13, HALOT 810);
*ḳu$_4$≠−r≠na≠ta* 'foreskin' − Arb. *γurlat-*, Hbr. *ʿorlā* (SED I No. 108, Hoch 1994, 302), *ḏa≠b≠ḳ≠b≠ḳ*, *ḏa≠ba$_2$≠ga≠ya*, *ḏa≠b≠ga≠ba$_3$≠ḳa* 'soaking' − Arb. *ṣbγ*, Hbr. *ṣbʿ* (Lane 1647, HALOT 998, Hoch 1994, 383), *ma≠ga≠ra≠ta*, *ma≠ḳ≠ra≠tu$_2$* 'cave' − Arb. *maγārat-*, Hbr. *maʿārā* (Lane 2307, HALOT 615, Hoch 1994, 172).
Exceptions are rare: *ša≠ʿa≠ra*, *ša≠−r≠ʿa* 'gate' − Ugr. *ṯγr*, Hbr. *šaʿar* (Hoch 1994, 273−274, rejected in Rainey 1998, 448−449, Quack 1996, 511), *ḥ≠−r≠ya*, *ḥar≠ʾ* 'excrement' − Ugr. *ḫrʾu*, Arb. *ḫarʾ-*, Hbr. *ḥărāʾīm* (Hoch 1994, 232−233, SED I No. 136).

(b) In the Aramaic texts of Papyus Amherst 63, *ḫ and *γ can each be rendered by either Eg. *ḫ* or *ḫ* (Steiner/Nims 1983, 263; 1984, 92−93; Kottsieper 2003, 90; Steiner 2005, 235−237):
*yʾḫʾsʾrʾ* 'will (not) leave unfulfilled' (11:15−16, DNWSI 1257) < *ḫsr (Syr. *ḥsr*, Ugr. *ḫsr*, Arb. *ḫsr*, LSyr. 248, DUL 410, Lane 736), *mʾḫr* 'tomorrow' (11:18, Steiner/Nims 1983, 268; Vleeming/Wesselius 1985, 59) < *maḫar- (Syr. *mḥār*, Sab. *mḫr*, LSyr. 381, SD 84), *ḫmrʾ* 'wine' (17:16, DNWSI 1257) < *ḫamr- (Syr. *ḥamrā*, Ugr. *ḫmr*, Arb. *ḫamr-*, LSyr. 241, DUL 395, Lane 808), *yʾmḫʾ* 'he shall smite' (5:7, DNWSI 1259) < *mḫṣ̂ (Syr. *mḥā*, Sab. *mḫṣ̂*, LSyr. 380, SD 84);
*ḫrmʾy* 'lads' (10:8, Vleeming / Wesselius 1990, 67) < *γalm- (Syr. *ʿlaymā*, Ugr. *γlm*, Arb. *γulām-*, LSyr. 528, DUL 319, Lane 2286), *sʾḫyrn* 'small' (19:11, 21:2, DNWSI 1256) < *ṣγr / *zγr (Syr. *zʿōrā*, Ugr. *ṣγr*, Arb. *ṣaγīr-*, LSyr. 202, DUL 780, Lane 1692), *hnḫʾrw* 'they brought' (18:2, DNWSI 1263) < *γll (Syr. *ʿal*, Arb. *γll*, LSyr. 524, Lane 2277).
Conversely, PS *ḫ and *ʿ are rendered by Eg. *ḥ* and ʿ respectively:
*tʾḫt* 'under' (6:8, DNWSI 1266) < *taḥt- (Syr. *tḥet*, Arb. *taḥta*, LSyr. 821, Lane 298), *nʾḫʾšʾn* 'bronze' (17:11, DNWSI 1260) < *nuḥāš- (Syr. *nḥāšā*, Arb. *nuḥās-*, LSyr. 424, Lane 2775), *rḥm-h* 'its bread' (17:15, DNWSI 1259) < *laḥm- (Syr. *laḥmā*, Ugr. *lḥm*, LSyr. 364, DUL 496);

*bʿr* 'lord' (11:18, Steiner / Nims 1983, 269) < **baʿl-* (Syr. *baʿlā*, Arb. *baʿl-*, LSyr. 83, Lane 228), *yɔsɔʿtɔnɔ* 'may he sustain us' (11:14, DNWSI 1621) < **sʿd* (JPA *sʿd*, Arb. *sʿd*, DJPA 384, Lane 1360), *ʿɔprɔ* 'earth' (17:11, DNWSI 1262) < **ʿapar-* (Syr. *ʿaprā*, Arb. *ʿafar-*, LSyr. 539, Lane 2090).

(c) In Hebrew personal names transcribed by LXX, **ḥ* and **ʿ* appear as Ø, whereas **ḫ* and **γ* are rendered by χ and γ respectively (GVG 125; Wevers 1970; Blau 1982; Steiner 2005; *contra* Garbini 1960, 51–53; Moscati 1954, 58–59; 1964, 40):
*ʾăḫiʿäzär* – αχιεζερ (Ugr. *ʾaḫ* 'brother', DUL 34), *rāḥēl* – ραχηλ (Arb. *raḫil-* 'ewe', SED II No. 188), *ʾāḥāz* – αχαζ (Ugr. *ʾḫd* 'to take', DUL 36);
*läḥäm* – βηθλεεμ (Ugr. *lḥm*, DUL 496), *rəḥōbōt* – ροωβως (Ugr. *rḥb* 'to be wide', DUL 736), *ḥămōr* – εμμωρ (Ugr. *ḥmr* 'donkey', SED II No. 98);
*ʿazzā* – γαζα 'Gaza' (Arb. *γazzat-*, LA 5 452), *məʿārōt* – μαγαρωθ (Arb. *maγārat-* 'cave'), *ʿäṣyōn gäbär* – γασιωνγαβερ (Arb. *γaḍaⁿ* 'a shrub', Lane 2269);
*yišmāʿēl* – ισμαηλ (Ugr. *šmʿ* 'to hear', DUL 823), *baʿal* – βααλ, βεελ (Ugr. *bʿl* 'lord', DUL 206), *tōlāʿ* – θωλα (Jib. *təʿbɔ́lɔ́t* 'worm', SED II No. 230).
The evidence for **γ* = γ is rather restricted (cf. Dolgopolsky 1999, 65–69, 154), and most of the examples are etymologically opaque toponyms. Circular reasoning is, therefore, to be thoroughly avoided. Thus, *ʿămōrā* – γομορρα and *ṣibʿōn* – σεβεγων are confidently derived from **γmr* and **ṣbγ* in Blau (1982, 34) and Wevers (1970, 101), but according to HALOT 849 the former term has no certain etymology, whereas for the latter only **ṣ̂bʿ* is postulated ibid. 999. Last but not least, a few transparent exceptions (like *ʿōrēb* – ωρηβ < **γārib-* 'crow', Blau 1982, 18) are not to be neglected.

(d) The velar spirant *x* appears as either *ḥ* or *k* in Iranian loanwords in Aramaic (Telegdi 1935, 197–202; Ciancaglini 2008, 80):
EArm. *hptḥpṭ* 'guardian of the seventh part of the kingdom' < OP **haftaxvapātā* (DNWSI 292, Muraoka/Porten 2003, 343), BArm. *ʾăḥašdarpan* 'satrap' < OP *xšaθrapāvan-* (HALOT 1811), Syr. *ḥawdā* 'helmet' < OP **xauda-* (LSyr. 219, Ciancaglini 2008, 179), Syr. *naḥšīrā* 'hunting' < OP **naxačarya-* (LSyr. 424, Ciancaglini 2008, 213);
JBA *taktəḵā* 'chair' < MP *taxtag* (DJBA 1207, Telegdi 1935, 202), JBA *kar* 'donkey'< MP *xar* (DJBA 598, Telegdi 1935, 202), JBA *karbūz* 'oryx' < MP *xarbuz* (DJBA 598, Telegdi 1935, 202), JBA *ʾakwānā* < MP *xwān* (DJBA 129, Telegdi 1935, 202), Syr. *pdkšr* 'governor' < MP *padixšar* (Ciancaglini 2008, 228).
According to Telegdi and Ciancaglini, *ḥ*-forms belong to an earlier stratum of Iranian loanwords, whereas *k*-forms characterize a later stratum (from ca. 200 C.E. on). Telegdi's conclusion (1935, 198) is that *ḥ*-renderings were possible as long as ח was polyphonic and could be used for both *ḥ* and *ḫ* (the latter more or less identical with Iranian *x*). When *ḫ* shifted to *ḥ*, ח was no longer suitable to render *x*, so a new orthography with כ had to be introduced.
According to an alternative explanation, this orthographic shift is due to the emergence of [x] as an allophone of *k* (cf. Telegdi 1935, 200–202). The dilemma, closely connected with the controversial dating of the spirantization of *bgdkpt* (Beyer 1984, 126–128; Steiner 2005, 257–259), is difficult to solve, as one can see from different approaches to a similar dichotomy in the Phoenician spellings of Egyptian *ḫ* and *ḥ*, for which both ח and כ can be used. According to Steiner (2005, 230), the use of כ is due to the loss of *ḫ* in Phoenician, whereas for Muchiki (1994),

this practice reflects spirantization *k* > *x*. It is nevertheless remarkable that most Phoenician *k*-spellings are postvocalic, which is not the case in Aramaic, where *k*-spellings do not seem to be positionally restricted.

### 1.5.11. Proto-Semitic gutturals in Ethiopian-Semitic

#### 1.5.11.1. *ʾ, *ʿ, *ḥ, *ḥ́ and *ḫ in Geez

The Ethiopic alphabet has special signs for five out of six PS gutturals (ሀ = *ʾ, ዐ = *ʿ, ሐ = *ḥ, ሓ = *ḥ́, ኀ = *ḫ), which suggests their separate existence in early Geez. In late epigraphy, confusion between *ḥ́ and *ḫ is sporadically attested (Littmann 1913, 82), but other guttural oppositions are fairly stable. The interchange of *ʾ with *ʿ and *ḥ with *ḥ́ and *ḫ, common in the manuscript tradition, cannot reflect the situation in late spoken Geez, but must be due to the influence of the scribes' native language(s), predominantly Amharic (Podolsky 1991, 24).

#### 1.5.11.2. *ʾ, *ʿ, *ḥ, *ḥ́ and *ḫ in modern Ethiopian Semitic

In Tigre and Tigrinya, *ʾ, *ʿ and *ḥ are preserved, whereas *ḥ́ and *ḫ merge into *ḥ*: Gez. *warḫ*, Tgr. *wärəḥ*, Tna. *wärḥi* 'month, moon' (CDG 617, WTS 433, TED 1723), Gez. *ḫoṣā*, Tgr. *ḥuṣa*, Tna. *ḥoṣa* 'sand, gravel' (CDG 266, WTS 101, TED 300), Gez. *ḫamməstu*, Tgr. *ḥaməs*, Tna. *ḥammuštä* 'five' (CDG 262, WTS 61, TED 174).

In Southern ES, *ʾ, *ʿ are usually lost, although preservation of *ʿ has been reported for the T'ollaha variety of Argobba (Wetter 2006, 900–901): *ʿof* 'bird', *sämmäʿ* 'he heard', *säwʿa* '70' (for an apparently non-etymological ʿ < *ʾ v. *ʿassär* 'he tied', cf. Gez. *ʾasara*, CDG 44). In Harari, *ʾ, *ʿ may shift to *ḥ* (SED I pp. LXXXVII–LXXXVIII, SED II p. LIX): *ḥəṭa* 'die' – Gez. *ʿəṣ̂ā* (SED I No. 24), *ḥənḳəfti* 'obstacle' – Gez. *ʿəḳəft* (EDH 85, CDG 67), *anḳurāraḥti* 'frog' – Tgr. *ʾanḳorəʿ* (SED II No. 137), *ḥiffiñ* 'viper' – Gez. *ʾafʿot* (SED II No. 10), *ḥarbāññо* 'hare' – Gez. *ʾarnab* (SED II No. 14), *ḥarat* 'four' – Gez. *ʾarbaʿtu* (EDH 83, CDG 46).

PS *ḥ, *ḥ́, *ḫ merged into *h* in early Amharic, which subsequently became Ø in the modern language (Ullendorff 1955, 38–45; Podolsky 1991, 27–29). In Harari, these phonemes merge into *ḥ* (EDH 7): *ḥal* 'there is' – Gez. *hallo*, *ḥamäd* 'ashes' – Gez. *ḥamad*, *ḥarās* 'woman in childbed' – Gez. *ḫarās* (EDH 82, 83, 87). The same seems to be true of the T'ollaha variety of Argobba (Wetter 2006, 900–901; cf. Leslau 1997, 3). For *h* < *ḥ, *ḥ́, *ḫ in Gurage v. CDG LXIV.

New light on the early history of PS gutturals in Southern Ethiopian Semitic comes from the recently discovered XIVth century Arabic-Ethiopian glossary (Varisco / Smith 1998, 217–219). In this source, South Ethiopian gutturals are generally rendered by etymologically correct Arabic letters: *ʾnst* 'woman' = Gez. *ʾanəst*, Amh. *anəst*, *ʾiǯ* 'hand' = Gez. *ʾəd*, Amh. *əǯǯ*; *ʾiṣbaʿt* 'finger' = Gez. *ʾaṣbaʿt*, Amh. *ṭat*, *baʿar* 'ox' = Gez. *bəʿər*, Amh. *bäre*; *lahm* 'cow' = Gez. *lahm*, Amh. *lam*, *nhūǯ* 'sesame' = Tgr. *nəhig*, Amh. *nug*; *ḥanbart* 'navel' = Gez. *ḥənbərt*, Amh. *ənbərt*, *waraḥ* 'moon' = Tgr. *warəḥ*, Amh. *wär*. Exceptions to this rule are infrequent: *haǯǯs* 'new' = Gez. *ḥaddis*, Amh. *addis* or *ʿabd* 'mad' = Gez. *ʾabd*, Amh. *abd*.

### 1.5.11.3. Proto-Semitic *γ in Ethiopian Semitic

PS *γ is traditionally thought to yield ʿ in Geez (GVG 123, Moscati 1964, 39), but according to Voigt (1989, 640–641; 1994a, 103) the only example typically adduced for this correspondence – Gez. *ʿarba* vs. Arb. *γrb* 'to set (sun)' (CDG 69, Lane 2240) – is unreliable since related forms with ʿ are known from Sabaic and Ugaritic (SD 18, DUL 179), where *γ is normally preserved. In Voigt's opinion, the true Geez reflex of *γ is *ḫ, attested in *rəḫba* – Ugr. *rγb*, Arb. *rγb* 'to be hungry' and *ṣəbḫa* – Arb. *ṣbγ*, Mhr. *ṣəbūγ* 'to dye'. Weninger (2002) reestablishes the traditional concept and considers *rəḫba* and *ṣəbḫa* to be sporadic exceptions due to the influence of *b*.

A complete etymological investigation of Geez, Tigre and Tigrinya roots with *γ is Kogan 2005c, where reliable or promising examples of both *γ > ʿ and *γ > *ḫ* are collected.

The former group (33 examples) can be illustrated by Gez. *ʿabya* 'to be big' – Ugr. *γbn* 'opulence', Arb. *ʾaγbā*, *γabiyy-* 'dense', *γabā'-* 'denseness' (CDG 55, DUL 316, Lane 2228, Dozy 2 201), Gez. *ʿəbā*, Tna. *ʿiba* 'dung' – Mhr. *γəb* 'to defecate' (SED I No. 103), Gez. *ʿaṩṩa* 'to deprive' – Arb. *γḍḍ* 'to diminish' (CDG 58, Lane 2264), Tna. *ʿəfaf* – Arb. *γafaⁿ* 'chaff' (TED 1952, Lane 2276), Tna. *ʿaffänä* – Mhr. *γátfən* 'to cover' (TED 1950, ML 134), Gez. *ʿallala*, Tna. *ʿallälä* 'to dye' – Ugr. *γll*, Arb. *γll* 'to insert, to plunge' (CDG 60, TED 1823, DUL 319, Lane 2277), Tgr. *ʿəlaf* 'cover for a bowl' – Ugr. *γlf* 'sheath', Arb. *γlf* 'to hide' (WTS 454, DUL 321, Lane 2283), Gez. *ʿammala*, Tna. *ʿammälä* – Arb. *γml* 'to get mouldy' (CDG 63, TED 1831, Lane 2297), Gez. *ʿərf* 'spoon' – Arb. *γrf*, Mhr. *γərōf* 'to fetch water' (CDG 70, Lane 2249, ML 141), Tgr. *ʿərät* – Arb. *γurrat-* 'white spot' (WTS 458, Lane 2237), Tgr. *ʿars* 'leather', Tna. *ʿarsi* 'skin from a calf's head' – Arb. *γirs-* 'fetal membrane' (WTS 458, TED 1844, Lane 2247), Tna. *täʿazazärä* – Arb. *γzr* 'to be abundant' (TED 1909, Lane 2254), Tgr. *mäʿasä* 'to tan' – Arb. *mγṯ* (TWS 136, Lane 2725), Gez. *saʿara* 'to destroy, violate' – Arb. *ṯγr* 'to break' (CDG 481, Lane 338), Gez. *ṭāʿwā* – Arb. *ṭaγγ-*, *ṭaγyā* 'calf' (SED II No. 234), Gez. *tazāwəʿa* 'to talk', Tgr. *zuʿ* 'speech' – Ugr. *zγ* 'to low, bellow', Arb. *zγw* 'to shout' (CDG 645, WTS 503, DUL 1000, TA 10 193).

The latter group (19 examples) includes such terms as Gez. *balḫa* 'to be sharp', *bəlḫ* 'sharp edge', *balliḫa ḳāl* 'eloquent' – Arb. *blγ* 'to reach the point', *mablaγ-* 'extremity', *balīγ-* 'sharp in tongue' (CDG 97, Lane 250), Gez. *dəmāḫ* 'head, skull' – Arb. *dimāγ-* 'brain' (SED I No. 52), Tgr. *ḥadär* – Arb. *γadar-* 'virgin soil' (WTS 95, Lane 2232), Gez. *rəḫba* – Ugr. *rγb*, Arb. *rγb* 'to be hungry' (SED I No. $59_v$), Gez. *sāḫsəḫa* – Arb. *sγsγ*, *šγšγ* 'to move backward and forward' (CDG 494, LA 8 516, 518), Gez. *ṣəbḫa* – Arb. *ṣbγ*, Mhr. *ṣəbūγ* 'to dye' (CDG 546, Lane 1647, ML 339), Gez. *wəḫda* 'to be small, little, inferior' – Arb. *wγd* 'to be weak, stupid' (CDG 611, Lane 2954), Gez. *wəḫṭa* – Arb. *γwṭ*, Mhr. *γəṭ* 'to gulp down' (CDG 611, Lane 2309, ML 144).

There seems to be a distributional rule between the two reflexes (Dolgopolsky 1999, 19): ca. 76% of ʿ-reflexes are word-initial, whereas ca. 65% of *ḫ*-reflexes are word-middle (cf. 1.5.9.3. for a similar distribution in Akkadian).

The joint evidence of Ugaritic, Arabic, ESA and MSA (where *γ is explicitly preserved) as well as Akkadian, ES, Hebrew and Aramaic (where it displays traces which are different from those of *ʿ) assures the independent status of *γ in PS. Its allegedly secondary emergence in individual Semitic languages (Růžička 1954; Petráček 1953; 1964; 1979; Garbini 1984, 103) is not to be accepted (Cantineau 1951–1952, 88; Moscati

1954, 40; 1964, 39; Wevers 1970; Blau 1982, 6; Weninger 2002, 289). The high proportion of PS lexemes combining *$\gamma$ and *$r$ may still suggest a conditioned split from *$^{\varsigma}$ at some stage of the development of PS (cf. Kogan 2001, 293; Steiner 2005, 231). Such a hypothesis, however, does not belong to the phonological reconstruction of Proto-Semitic as such, but only to the internal reconstruction of the proto-language.

#### 1.5.12. Proto-Semitic uvulars in Soqotri

The shifts *$\gamma$ > $^{\varsigma}$ and *$\underline{ḥ}$ > $ḥ$ took place in the Soqotri varieties described by early observers and codified by LS. In other dialects the uvulars are present (Naumkin / Porkhomovsky 1981, 6−7; Lonnet / Simeone-Senelle 1997, 348): *ḫtē* 'night' (Simeone-Senelle 1996, 312) − *ḥte* (LS 194), *γāža* 'woman' (Naumkin / Porkhomovsky 1981, 7) − *$^{\varsigma}$aže* (LS 307). According to Naumkin and Porkhomovsky, this feature is probably imported from continental MSA and may not represent any genuine phonological archaism.

## 2. Vocalism

### 2.1. Traditional reconstruction

The PS vocalic inventory consists of six members (*$a$, *$ā$, *$i$, *$ī$, *$u$, *$ū$), all of them preserved in Akkadian, Arabic and Ugaritic (Moscati 1964, 46−47).

#### 2.1.1. Akkadian

In Akkadian this inventory was expanded with $e$ and $ē$, which emerged out of the influence of the gutturals (1.5.9), contraction of *$ay$ (in Sargonic and Assyrian) and Sumerian loanwords. Synchronically, these vowels are phonemic (with Gelb 1955, 97; Diakonoff 1991−1992, 123; Huehnergard 1994; Stempel 1999, 35 and *contra* GAG § 8b), as shown by minimal pairs like *ešer* 'ten' (*e-še-er*, AHw. 253) vs. *išir* 'a payment (st. const.)' (*i-ši-ir*, CAD I 262) vs. *ašar* 'where' (*a-ša-ar*, CAD $A_2$ 413), *egrum* 'twisted' (*e-eg-ra-am*, CAD E 47) vs. *igrum* 'wages' (*i-gi-ir*, CAD I 44) vs. *agrum* 'hireling' (*ag-ra-am*, CAD $A_1$ 151); *šērum* 'dawn' (*še-e-ru-um*, CAD $Š_2$ 331) vs. *šīrum* 'flesh' (*ši-i-ru-um*, CAD $Š_3$ 113) vs. *šārum* 'wind' (*ša-ru-um*, CAD $Š_3$ 133); *šaḳêm* 'to drink (gen.)' (*ša-ḳé-e-em*, CAD $Š_2$ 27) vs. *šaḳî*(*m*) 'high (gen.)' (*ša-ḳí-i*, CAD $Š_2$ 17).

The extra-long vowels (*â*, *ê*, *î*, *û*) in Babylonian Akkadian go back to contracted triphthongs (*V*w*V, *V*y*V, *VHV). At least word-finally, they are regularly spelled *plene* (*ša-mu-ú* / *ša-me-e* 'heaven') and must have been opposed to ordinary long vowels by some phonemic feature, whether quantity or stress (Diakonoff 1991−1992, 98, 104, 110−111; Kogan 2004c, 379−380; Kogan/Loesov 2005, 744−747; Worthington 2010; *contra* Buccellati 1996, 21; Greenstein 1977, 81−87; 1984, 39−40; Izre'el/Cohen 2004, 5, 10−11, 31). The three-moraic status of these vowels is confirmed by the fact that CV̂ syllables are permitted in verse-final position in Akkadian metrics (Hecker 1974, 104; von Soden 1981, 172).

### 2.1.2. Canaanite

PS *$\bar{a}$ shifts to $\bar{o}$ in Canaanite. Early manifestations of this phenomenon are found in Egyptian and cuneiform renderings of Canaanite words: *$ʾa-n-ru_2ꜧna$* (Hbr. *$ʾallōn$*) 'oak', *$ʿu$ꜧ$di_4$ꜧ$-r$* (Hbr. *$ʿōzēr$*) 'helper', *$k$ꜧ$-n$ꜧ$nu_2$ꜧ$ru_2$* (Hbr. *kinnōr*) 'lyre', *mak*ꜧ*ma*ꜧ*ru*$_2$ꜧ*ta* (Hbr. **mikmārōt*) 'nets' (Hoch 1994, 423–424, 23, 88, 324, 168); *zu-ru-uḫ* (Hbr. *zərōaʿ*) 'forearm' (EA 286:12), *:ḫu-mi-tu* (Hbr. *ḥōmā*) 'wall' (EA 141:44), *:sú-ki-ni* (Hbr. *sōkēn*) 'official' (EA 256:9), *a-nu-ki* (Hbr. *ʾānōkī*) 'I' (EA 287:66).

The shift is regular in Hebrew (*lāšōn* 'tongue' < **lašān-*, *ʿōlām* 'eternity' < **ʿālam-*, *ḥămōr* 'donkey' < **ḥimār-*) and Phoenician. For the latter, both $\bar{o}$ and $\bar{u}$ are found in Greek and Latin transcriptions (αδουν [ʾadūn] 'lord', sanuth [šanūt] 'years', salus [šalūš] 'three', con [kōn] 'he was', dobrim [dōbrīm] 'they say' (Friedrich/Röllig 1999, 41–43). If *$\bar{a}$ results from contraction, the shift may be blocked in Hebrew (*ḳām* 'he stood' < **ḳawama*, *bānā* 'he built' < **banaya*), but not in Phoenician (*ḥīrōm* 'My-brother-is-high' < **rayama*, con [kōn] 'he was' < **kawana*), *avo* [ḥawō] 'he lived' < **ḥawaya*, Friedrich / Röllig 1999, 42–43).

The 'Canaanite shift' is often thought to affect only stressed *$\bar{a}$ (GVG 142–143, Harris 1939, 43; Blau 1976, 35), but this is debatable (Birkeland 1940, 47–48; Dolgopolsky 1999, 141–142, 160).

Other diachronic developments in Hebrew and Phoenician vocalism are summarized in Friedrich–Röllig (1999, 38–47), Birkeland (1940), Cantineau (1950, 107–118), Blau (1976, 30–37) and Dolgopolsky (1999, 107–151).

### 2.1.3. Aramaic

A full account of the history of PS vocalism in Aramaic can be found in Beyer 1984, 77–147 (with additions in 1994, 37–56).

### 2.1.4. Ethiopian Semitic

PS long vowels *$\bar{a}$, *$\bar{\imath}$ and *$\bar{u}$, as well as the short *$a$, are preserved in Geez, whereas *$i$ and *$u$ merge into *ə* (IPA [ɨ]): *ʾəzn* 'ear' < **ʾuḏn-*, *sənn* 'tooth' (SED I Nos. 4 and 249), which, in its turn, is scarcely opposed to *Ø* (cf. Podolsky 1991, 57–60). PS **aw* and **ay* often contract into *o* and *e* (Huehnergard 2005c, 30–35): *sor* 'bull' < **ṯawr-*, **ʾarwe* 'animal' < **ʾarway-* (SED II Nos. 241 and 17). In most of modern ES, this seven-member system is preserved, but the quantity opposition *a* : $\bar{a}$ is transformed into a quality opposition *ä* (IPA [ə], [ɐ] or [ɛ]) : *a* (Correll 1984, Diem 1988). See further Ullendorff (1955, 158–188), Voigt (1983), Podolsky (1991, 56–77).

### 2.1.5. Modern South Arabian

Diachronic phonology of MSA has never been systematically investigated and, at present, little can be said about its relationship to the reconstructed PS system (for some provisional remarks v. Johnstone 1975a, 102–104).