3 Semitic root structure and morpho-phonology

3.1 Root or base?

- kataba ‘he wrote’
- yaktubu ‘he writes’
- (ˁu)ktub ‘write!’
- kātīb ‘writing, writer’
- kitāb ‘book’
- maktab ‘office’ (place of writing)

<table>
<thead>
<tr>
<th>k</th>
<th>t</th>
<th>b</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>V</td>
<td>C</td>
</tr>
<tr>
<td>a</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3.2 Integration of foreign vocabulary

The extrapolation of consonants of non-Arabic vocabulary when being incorporated into Arabic is a well-known process attested as such in nearly all ancient and modern Semitic languages. One interesting example in point is the "retrograde" derivation firdaws ‘paradise’ from Greek παράδεισος (parādeisos). Parādeisos is reanalyzed as the plural pattern C₁aC₂āC₃iC₄ to which a fictitious singular pattern C₁iC₂C₃awC₄ would belong (thereby, r and d are being "mapped" onto the C₂- and C₃-slots”). Alternatively, firdaws could be analyzed as a quinquiliteral back-formation (such nouns are regularly "reduced" to quadriliteral nouns in the plural, e.g., ˁandalīb → ˁanādīl ‘nightingale’) of the attested pattern C₁iC₂C₃aC₄C₅, in which w is taken as a root consonant and not as part of a diphthong. Here a formal representation of the two analyses is given:

<table>
<thead>
<tr>
<th>1. analysis</th>
<th>2. analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>plural → singular</td>
<td>plural → singular</td>
</tr>
<tr>
<td>root</td>
<td>f r d s</td>
</tr>
<tr>
<td>pattern</td>
<td>C₁vC₂vvC₃vvC₄</td>
</tr>
<tr>
<td>vocalism</td>
<td>a a i</td>
</tr>
</tbody>
</table>
3.3 Ablaut, apophony (Schramm 1991: 1405)

<table>
<thead>
<tr>
<th>root/base</th>
<th>binyan I</th>
<th>binyan II</th>
<th>binyan IV</th>
<th>binyan V</th>
</tr>
</thead>
<tbody>
<tr>
<td>kbur</td>
<td>yakbur</td>
<td>yukabbir</td>
<td>yukbir</td>
<td>yatakabbar</td>
</tr>
</tbody>
</table>

**motivation**

– *lašon* ‘tongue’ cannot be derived from a root $\sqrt{\text{šn}}$; the verb *hilšin* ‘he slandered’ is thus denominative (semantically not a regular *hif’il* form)

– some short words, notably prepositions, cannot be derived from roots at all:

  - Hebrew ‘al ‘on’ $\leq \sqrt{\text{ly}}$
  - ‘el ‘to’ $\leq ???$

  – “philosophically” better to have one consistent system

3.4 Secondary formations (Ussishkin 1999: 407)

**a. base**

- hitkamec ‘to be stingy’
- kace ‘edge’
- mica ‘to exhaust’
- hixzik ‘to hold’
- safar ‘to count’

**b. inflected base**

- kamc + an ‘stingy person’
- kic + on + i ‘extreme’
- ta + mc + it ‘summary’
- ta + xzuk + a ‘maintenance’
- mi + spar ‘number’

**c. derived verb**

- hitkamcen ‘to be stingy’
- hikcin ‘to bring to extremity’
- timcet ‘to summarize’
- tixzek ‘to maintain’
- misper ‘to enumerate’

**a. base**

- {*slm} ‘be secure’

**b. “inflected” verb**

- *aslama*, *yu*aslimu ‘to surrender o.s.’,
- yuslimu ‘to become a Muslim’

**c. derived verb**

- *aslama*, *yu*aslimu ‘to islamize’
- ta’aslama, yata’aslamu ‘to be islamized’

- *amrikā* ‘America’
- *amraka* ‘he americanized’
- ta’amraka ‘he became americanized’
3.5 Diachronic re-analysis

1. prefix + root:
   Arabic $s + \{bqw/y\} \rightarrow sabaqa \{sbq\}$
   CAUS ‘remain’ ‘leave behind oneself’
   Arabic $m + \{dyn\} \rightarrow madina \{mdn\}$
   LOC ‘law/religion’ ‘place of court’ / ‘city’

2. root + preposition:
   Arabic $jā\{y\} + bi \rightarrow jāb \{jyb\}$
   ‘come’ ‘with’ ‘bring’
   Syriac $\{ntn\} + l \rightarrow \{ntl\}$
   ‘give’ ‘to’ ‘give’

3.6 Truncation and restitution of tri-radicalism

| {bn} | (i)bn | ‘$\tilde{a}$$\text{bn}$’ | ‘sons’ |
| {bn} | (i)bn | $\text{bunayy}$ | ‘little/dear son’ |

<table>
<thead>
<tr>
<th>sound</th>
<th>imperfect</th>
<th>apocopate/jussive</th>
<th>imperative</th>
</tr>
</thead>
<tbody>
<tr>
<td>I w/y</td>
<td>yaf$^\circ$alu</td>
<td>yaf$^\circ$al</td>
<td>(i)f$^\circ$al</td>
</tr>
<tr>
<td>II w/y</td>
<td>yaqif / yaysir</td>
<td>yaqif / yaysir</td>
<td>qif / ‘$\tilde{i}$sr</td>
</tr>
<tr>
<td>III w/y</td>
<td>yaqul / yasir</td>
<td>yaqul / yasir</td>
<td>qul / ‘sir</td>
</tr>
<tr>
<td>C$_2$ = C$_3$</td>
<td>yaruddu / yaruddali</td>
<td>yaruddu / yaruddali</td>
<td>(u)rdud / ruddali</td>
</tr>
<tr>
<td>I r, II $\tilde{y}$, III y</td>
<td>yarā</td>
<td>yara</td>
<td>ra(h)</td>
</tr>
<tr>
<td>I w, II l, III y</td>
<td>yali</td>
<td>yali</td>
<td>li(h)</td>
</tr>
<tr>
<td>I w, II $\tilde{y}$, III y</td>
<td>ya‘$i$</td>
<td>ya‘$i$</td>
<td>‘$i$(h)</td>
</tr>
</tbody>
</table>

Hebrew:

| {ntn} | $\rightarrow$ ten ‘give!’ |
| {lqḥ} | $\rightarrow$ qah ‘take!’ |

Syriac:

| {nsb} | $\rightarrow$ nessab (< *nensab) ‘he takes’ | $\rightarrow$ sab ‘take!’ |
| {slq} | $\rightarrow$ nessaq (< *neslaq) ‘he ascends’ | $\rightarrow$ saq ‘ascend!’ |

3.7 Arabic grammatical tradition (Ibn Ğinnî)

Synchronic, bit not diachronic, derivation of qāma ‘he got up’ from *qawama
3.8 bi-radicalism vs. tri-radicalism (ṣibāl, “matrices et étymons”)

{ptr} ‘ablösen’ (‘to remove’)
{pšr} ‘auflösen’ (‘to dissolve’)
{prr} ‘auseinandergehen’ (‘to break up’)
{prs} ‘scheiden’ (‘to cut’)
{prs} ‘durchschlagen’ (‘to break through’)
{prq} ‘durchneteilen’ (‘to part’)
{prk} ‘abriegeln’ (‘to shut off’)
{pzs} ‘sich verbergen’ (‘to hide’)
{spr} ‘senden’ (‘to send’)
{lpr} ‘vertreiben’ (‘to expel’)
{lpr} ‘abschneiden’ (‘to cut off’)
{lpr} ‘(weg)graben’ (‘to dig off’)

jam-a‘a ‘to gather, collect’
jam-hara ‘to reassemble, call together’
jam-ala ‘to gather, collect’
jam-ara ‘to gather, reassemble’
jam-ā ‘to collect (water)’
jam-ma ‘to be abundant (water, vegetation)’

laqa‘a ‘to pick up’ [lqṭ]
laqiqa ‘to grab’ [lqf]
nahada ‘to become buxom’ [nhd]
nahada ‘to get up’ [nhd]
litām ‘a kind of veil’ [lṭm]
līfām ‘a kind of veil’ [lfm]
tāba ‘to return’ [twb]
tāba ‘to repent’ [twb]

madaha / madāha ‘to praise’
qaṭa‘a / qaṭama ‘to cut’
ta‘rif / ta‘rif ‘demarcation’/‘land survey’
mirda‘a / mirdāha ‘walnut-cracker’/‘hazelnut-cracker’
### 3.9 Key Consonants

<table>
<thead>
<tr>
<th>Arabic Root</th>
<th>English Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>arna-b</code></td>
<td>‘hare’</td>
</tr>
<tr>
<td><code>imm-ar</code></td>
<td>‘lamb’</td>
</tr>
<tr>
<td><code>dub-b</code></td>
<td>‘bear’</td>
</tr>
<tr>
<td><code>baq-ar</code></td>
<td>‘cattle’</td>
</tr>
<tr>
<td><code>dir-b</code></td>
<td>‘wolf’</td>
</tr>
<tr>
<td><code>him-ãr</code></td>
<td>‘donkey’</td>
</tr>
<tr>
<td><code>dub(ã)-b</code></td>
<td>‘stinging fly’</td>
</tr>
<tr>
<td><code>kar-r</code></td>
<td>‘lamb’</td>
</tr>
<tr>
<td><code>kal-b</code></td>
<td>‘dog’</td>
</tr>
<tr>
<td><code>çay-ãr</code></td>
<td>‘ass-foal’</td>
</tr>
<tr>
<td><code>lab-b</code></td>
<td>‘lion’</td>
</tr>
<tr>
<td><code>taw-ãr</code></td>
<td>‘ox’</td>
</tr>
<tr>
<td><code>çaqra-b</code></td>
<td>‘scorpion’</td>
</tr>
<tr>
<td><code>çayy-al</code></td>
<td>‘deer’</td>
</tr>
<tr>
<td><code>tä(ã)-la-b</code></td>
<td>‘jackal’</td>
</tr>
<tr>
<td><code>jam-ãl</code></td>
<td>‘camel’</td>
</tr>
</tbody>
</table>

### 3.10 Semitic Roots in Permutation

#### 1. Permutated Arabic roots

- `{lmj}/{mlj}` ‘an der Brust saugen’ (‘to suck’)
- `{malak}/{sam’al}` ‘Bote’ (‘messenger’)
- `{baliha}/{bahila}` ‘verwirrt sein’ (‘to be confused’)
- `{šarîḥ}/{šalîr}` ‘Jugendblûte’ (‘blossom of youth’)
- `{[qms]/[mqš]}` ‘eintauchen’ (‘to dive’)
- `{jazama}/{zamaja}` ‘den Schlauch füllen’ (‘to fill the hose’)
- `{[blgr]}/{[brğl]}` ‘a tribe of Rum’ (= bulgur / ‘cracked wheat’)
- `{[nrjš]}/{[rnjš]}` ‘an aromatic plant’
- `{[rwnq]}/{[nwrq]}` ‘splendor, glamor’
- `{[jzr]}/{[jrz]}` ‘to hold back’ [not: ‘to slaughter’]
- `{za’aja}/#{ja’aza}` ‘to disturb’
- `{jinžîr}/#{zinjîr}` ‘chain’
- `{jawâz}/#{zawâj}` ‘marriage’ [not: ‘permit’]
- `{qarandali}/#{qalandari}` ‘wandering dervish’(?)

#### 2. Permutated Semitic roots (non-Ethiopic – Ethiopic)

<table>
<thead>
<tr>
<th>Language</th>
<th>Root</th>
<th>English Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Akkadian</td>
<td>epēq</td>
<td>‘enclose’</td>
</tr>
<tr>
<td>Hebrew</td>
<td>hāpaq</td>
<td>‘embrace’</td>
</tr>
<tr>
<td>Arabic</td>
<td>bâḥaq</td>
<td>‘leprosy’</td>
</tr>
<tr>
<td>Arabic</td>
<td>ḏîšpu</td>
<td>‘honey’</td>
</tr>
<tr>
<td>Arabic</td>
<td>ḏânaḥ</td>
<td>‘breast’</td>
</tr>
<tr>
<td>Arabic</td>
<td>falqata</td>
<td>‘hurry’</td>
</tr>
<tr>
<td>Soqotri</td>
<td>ig‘alîl</td>
<td>‘roll itself’</td>
</tr>
<tr>
<td>Arabic</td>
<td>jarâza</td>
<td>‘tear, bite’</td>
</tr>
</tbody>
</table>
3.11 *al-iṣtiqāq al-‘akbar* (Ibn Ginnī)

1. {jbr}, the common denominator being *qūwa wa-šadda* ‘force and strength’:

   - *jabara* ‘to force’
   - *mujarrab* ‘tested, proven’
   - *‘abjar* ‘obese, corpulent’
   - *burj* ‘tower, castle’
   - *raijaba* ‘to frighten’
   - *rabūji (?)* ‘boasting person’

2. {qsw}, the common denominator being *qūwa wa-jtimā‘* ‘strength and togetherness’:

   - *qaswa* ‘hardness’
   - *qaws* ‘bow, arch’
   - *waqs (?)* ‘strong itching’
   - *wasq* ‘load, cargo’
   - *sūq* ‘market’

3. {slm}, the common denominator being *istimāl wa-mulāyana* ‘inclusion and friendly attitude’:

   - *salāma* ‘soundness’
   - *samal* ‘worn garment’
   - *masl (?)* ‘water channel’ (a variant of *masil* (root {syl}))
   - *lamsa* ‘to touch’
   - *lasma (?)* ‘blow, breath’ (a variant of *nasma*)

3.12 Evidence from psycholinguistics, aphasia, language games

Permutations in a Bedouin Hijazi Arabic language game (Prunet et al. 2000: 623)

| 123:  | kattab ‘caused to write’ | s-t-aslam ‘surrendered’ |  ž-t-ima‘ ‘met |
| 321:  | battak                   | s-t-amlas              |  c-t-imaż |
| 213:  | takkab                   | s-t-alsam              |  m-t-iža‘ |
| 231:  | tabbak                   | s-t-almas              |  mt-a‘až |
| 312:  | bakkat                   | s-t-amsal              |  c-t-ižam |
| 132:  | kabbat                   | s-t-asmal              |  ž-t-a‘am |
4 Elements of Semitic lexicography

4.1 (Sumero-)Akkadian lexicography (incl. Eblaitic, Ugaritic, Hurrian, etc.)

- the principles of arrangement (cf. Cavigneaux, “Lexikalische Listen”: 610; Civil, “Ancient Mesopotamian Lexicography”: 2308f.):

<table>
<thead>
<tr>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a)</td>
<td>du-u</td>
<td>KAK</td>
<td>gakku</td>
<td>banû</td>
<td>–</td>
</tr>
<tr>
<td>(b)</td>
<td>tak-tak</td>
<td>Tak₄.Tak₄</td>
<td>tak minnabi</td>
<td>ezêbu</td>
<td>arḫa dalumar</td>
</tr>
</tbody>
</table>

(a): when pronounced du, the Sumerian logogram called gakku (but transliterated KAK by today’s Assyriologists) means in Akkadian banû, “to build”. The “I” at the left edge represents a vertical wedge, without any linguistic significance.

(b): when read tak-tak, the Sumerian logogram Tak₄.Tak₄ called “double (minnabi) tak” means in Akkadian ezêbu, “to abandon”, and in Hittite arḫa dalumar, “forsaking”.

- lists with subcolumns 1 and 2: “syllabaries”
- other lists (with more columns): “vocabularies”

- examples across the ages:
  - the “sign-list” from Ebla (cf. Archi 1987: 93-99)
  - syllabary Proto-Ea (cf. Landsberger 1951)
  - vocabulary Proto-Ea (Proto-Aa) (cf. Civil 1979)
  - the polyglot S³ vocabulary texts (cf. Huehnergard 1987: 24-45)
  - the synonym list malku = šarru (cf. Kilmer 1963: 424-429)

4.2 example of a list giving evidence of the “root”:

the series SIG₇.ALAN = nabnîtu (cf. Finkel 1982)

nabnîtu  ‘creation’
bunnan(n)û  ‘features’
bûnu  ‘outward appearance’

amâṭum  ‘word(s)’
qabû  ‘speak’
muṣṭabil amâṭī  ‘participant in a discussion’
4.3 Mediaeval Arabic lexicography

the principles of arrangement:
1. Arab lexicographers such as al-Ḥalīl (Kitāb al-‘ayn) and al-ʾAzhari (Tahḏīb al-luḡā) grouped together roots that were similar not only in composition, but also in their meaning. Their strategy was to give all attested permutations of a root after a given lemma. \( \{C_1C_2C_3\} \) would thus be followed by \( \{C_1C_3C_2\}, \{C_2C_1C_3\}, \{C_2C_3C_1\}, \{C_3C_1C_2\}, \) and \( \{C_3C_2C_1\} \). This strategy was also pursued by other early lexicographers such as al-ʾAsmaʾi, Ibn Durayd, and Ibn Fāris in their works on ištīqāq (etymology). The earliest ordering principle was the Ḥalilian “row”. This principle has likely roots in the Indian grammatical tradition.

2. “rückläufige” dictionaries (ordered alphabetically according to the last radical, then alphabetically according to the first two radicals, perhaps to support poets): Ibn al-Manzūr: Lisān al-ʾarab, Murtaḍā az-Zabīdī: Tāj al-ʾarūs

3. alphabetical dictionaries: Wehr, etc.

4.4. Mediaeval Hebrew lexicography

important authors: Saʿādia Gaʿon, Judah ibn Qurayš, David ben Abraham al-Fāṣī, Menahem ben Saruq, Dunash ben Labrat, Judah Hayyūj, Jonah ibn Janāḥ, Hai Gaʿon, Abū l-Faraj, Samuel ha-Nagid, Abraham ha-Bavli, Moshe ha-Kohen ibn Gikatilla, Judah ben Balʿam, Isaac ben Barūn

– Jonah ibn Janāḥ: explanation of Biblical lemmata in:

\( \text{Kitāb al-ʾūṣūl} = \text{Sefer haš-šorašim} \) (cf. Neugebauer 1875)

{ˈb ‘father’, {ˈbh ‘to love’

– al-Fāṣī: comparison of three lemmata:

Arabic ʾzby / Aramaic ʾḇy / Hebrew ʾsḇy ‘gazelle’, but not:

Arabic ʾṟd / Aramaic ʾṟ / Hebrew ʾṟs ‘earth’

4.5 Modern comparative Semitic and Afroasiatic lexicography

comparative word lists (genetic relationship):

Bergsträsser-Daniels 1983: 210-223

– Swadesh list: Bennett 1998: 232-249

– comparative dictionaries:

References


Lutz Edzard, Root structure and lexicography, Addis Ababa, 14. 03. 2014


