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(Northwest) Semitic sg. **CVCC-*, pl. **CVCaC-ū-*: Broken plural or regular reflex?*

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Abstract

This paper provides a new explanation for the insertion of **a* in plural forms of **CVCC-* nouns also formed with an external plural suffix, e.g. **ʕabd-* : **ʕabad-ū-* ‘servant(s)’, in various Semitic languages. This **CVCaC-ū-* pattern is usually considered to be a remnant of the Proto-Semitic broken plural system in Northwest Semitic, but we show that it goes back to Proto-Semitic in this form. Internal evidence from Semitic as well as comparative evidence from Afroasiatic points towards a pre-Proto-Semitic plural suffix **-w-* underlying the external plural suffixes. This suffix created a consonant cluster in the plural of **CVCC-* nouns, triggering epenthesis of **a*. As the prime example of broken plural formation in Northwest Semitic thus seems to be purely suffixal in origin, we conclude by briefly considering the implications for the history of nominal pluralization in Semitic.

Keywords: Semitic, Historical linguistics, Northwest Semitic, Broken plural, Subclassification

1. Introduction

Certain Semitic languages are characterized by two different ways to form the nominal plural. In Classical Arabic, for example, some nouns and adjectives form the plural by adding a suffix to the singular stem: sg. *muʕallim-* ‘teacher’ becomes pl. *muʕallim-ū-na* (nominative), *muʕallim-ī-na* (oblique); many feminine and some masculine nouns take another suffix, such as sg. *maqām-* ‘place, station’, pl. *maqām-āt-*. If the singular stem is marked with the feminine suffix

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-at-, this suffix is replaced by the plural suffix, as in sg. *barak-at* ‘blessing’, pl. *barak-āt*. Other nouns and adjectives, on the other hand, form the plural by replacing the stem with a separate, lexically determined, plural stem, as in sg. *rağul* ‘man’, pl. *riğāl*–; sg. *kitāb* ‘book’, pl. *kutub*–. Plurals of the first type are referred to as ‘external’ or ‘sound’ plurals, while plurals of the second type are referred to as ‘internal’ or ‘broken’ plurals. As the examples show, broken plurals are not marked by the addition of dedicated plural suffixes. The processes of external and internal plural formation can thus be characterized as concatenative and non-concatenative, respectively. From a morphosyntactic point of view, an additional point of interest is that broken plurals are largely inflected as singulars and, if their referents are non-human, take singular agreement in some languages.

Broken plural formation is highly productive in certain branches of Semitic. Based on its broad distribution throughout the Semitic family, the system is commonly reconstructed for Proto-Semitic (cf. Huehnergard 2019: 59) – as is external pluralization, which is attested in every branch of the family. While certain subfamilies do not productively form broken plurals, various traces of the Proto-Semitic broken plural system have been identified in these languages (Huehnergard 1987a: 181–8; Wallace 1988). One such trace is a pluralization pattern used for the highly frequent class of **CVCC*- nouns. In the Northwest Semitic subgroup, consisting of Ugaritic, Aramaic (including Syriac), Canaanite (including Hebrew), and their closest relatives, these nouns productively form doubly-marked plurals, with an **a* infixed between the second and third radical consonant (a form of internal pluralization) and the plural suffixes added (i.e. external pluralization), e.g. **ʕabd*– : **ʕabad-ū* ‘servant(s)’. We will refer to this pluralization pattern as **CVCaC-ū*.¹

The regularity of the sg. **CVCC*-, pl. **CVCaC-ū* pattern is generally seen as a shared innovation of the Northwest Semitic subfamily (e.g. Huehnergard 2007: 414). When the internal plural system stopped being productive in Proto-Northwest-Semitic, the inherited **CVCaC*- plurals belonging to **CVCC*- singulars were pleonastically marked with the external plural suffixes. In this way, this pattern at once provides an argument for the phylogenetic unity of Northwest Semitic – somewhat shaky on other grounds – and many examples of old broken plurals (with secondarily added external plural suffixes) in a branch of Semitic where they are otherwise rare or even non-existent, supporting the reconstruction of the broken plural system for Proto-Semitic (cf. Huehnergard 1991: 284; Ratcliffe 1998a: 97–8; Gzella 2011: 439; Kogan 2015: 228; Noorlander 2016: 63; but contrast Blau 2010: 273).

In this paper, we will question this identification of the **CVCaC-ū* pattern as remnants of old broken plurals. As has been noted, examples of this pluralization pattern occur outside of Northwest Semitic as well, in core vocabulary items which are likely to preserve old morphology. We will therefore

1 We also intend this label to refer to the similar plural pattern formed with the ‘feminine’ external plural suffix, **CVCaC-āt*.

argue that the doubly-marked *CVCaC-Ū- pattern dates back to Proto-Semitic, removing the motivation for the addition of external plural suffixes to disambiguate unrecognized broken plural forms. Instead, we aim to revive an alternative, phonological explanation for this double marking: that the plural *a is originally an epenthetic vowel. An examination of the origin of the external plural suffixes will lead us to accept the reconstruction of a pre-Proto-Semitic external plural suffix *-w- which occurred between the last consonant of the singular stem and the plural case endings. While it is true that “there is nothing in the phonology of Biblical Hebrew [or other Northwest Semitic languages] which would predict an epenthetic vowel in the environment in which /a/ appears in the [*CVCC-] plurals” (Ratcliffe 1998a: 98), this reconstruction of *-w- does provide such an environment conducive to epenthesis in pre-Proto-Semitic. As the prime example of broken plural formation in Northwest Semitic thus seems to be purely suffixal in origin, we conclude by briefly considering the implications for the history of nominal pluralization in Semitic.

2. How old are *CVCaC-Ū- plurals?

Traces of *CVCaC-Ū- plurals can be found in several Semitic languages. This is most obvious in the Northwest Semitic languages, where they are considered the regular and only plural form of most *CVCC- singular nouns. The lack of vowel signs in the oldest languages’ writing systems obstructs our view on vowel patterns, but a straightforward picture arises from the data we do have.

First of all, Biblical Hebrew consistently shows an original *a in these plural forms, as can be seen in the well-known examples of *mélek* (< **malk*-): *mālāk-īm* (< **malak-ī-ma*) ‘king(s)’, *malk-ā* : *mālāk-ōt* (< **malak-āt*-) ‘queen(s)’, as well as in *šēper* (< **sipr*-) : *səpār-īm* (< **sipar-ī-ma*) ‘book(s)’ and *gōren* (**gurn*-) : *gōrān-ōt* (< **guran-āt*-) ‘threshing floor(s)’, etc. In the Aramaic languages these short *a*-vowels in open syllables have been elided, but they have left their traces. Post-vocalic spirantization of the third root consonant is retained in plural forms such as Biblical Aramaic *malk-īn* ‘kings’ (< **malak-ī-na*; sg. *mélek* < **malk*- as in Biblical Hebrew) and Syriac *alp-ē* ‘thousands’ (< **ʔalap-ē*; sg. *alp-ā*) and *šarḫ-ātā* ‘families’ (< **šarab-ātā*; sg. *šarb-tā*). The majority of the relevant plurals have been analogically reshaped in Syriac, however (Nöldeke 1898: § 93). The spelling of the second *m* in Biblical Aramaic <ʕmmyʔ> *ʕaməṁ-ayyā* ‘the peoples’, Syriac <ʕmmʔ> *ʕamm-ē*, etc. also points to a preceding vowel, as geminates were written with a single letter (as in sg. <ʕmʔ> *ʕamm-ā*).

The unvocalized epigraphic languages do not provide any information. But for Ugaritic, we are aided by the three different aleph-signs, which indicate the vowel that follows the glottal stop (*i* is used for syllable-final glottal stop). Thus we have *rašm* /raʔaš-ī-ma/ (next to *rašt* /raʔaš-āt-/ and *rišt* /raʔš-āt-/?) as the plural of *riš* /raʔš-/ ‘head’, and *šant* /šVʔan-āt-/ ‘shoes, sandals’ next to a dual *šinm* /šVʔn-ā/ē-ma/; the dual is regularly formed from the singular stem. Furthermore, there is evidence from syllabic cuneiform transcriptions of Ugaritic, e.g. *ḥa-ba-li-ma* /ḥabal-ī-ma/ ‘ropes’ (Gzella 2011; cf. Classical

Arabic, Classical Ethiopic *ḥabl-* ‘id.’), and $[k]a^2\text{-}ma\text{-}a\text{-}tu$ /*kamaʔ-āt-u*/ ‘truffles’ (Huehnergard 1987b).²

Outside Northwest Semitic the evidence for **CVCaC-ū-* plurals is more scarce. To a certain extent the lack of such forms can be attributed to known factors, such as the loss of short vowels in open syllables in Akkadian (e.g. **ʔab(aʔ)n-ū-* > *abnū* ‘stones’), the absence of vowels in Ancient South Arabian writing (e.g. *ʔrqt* /*ʔar(aʔ)q-āt-*/ ‘lands’), and the complex and still poorly understood development of vowels in the Modern South Arabian languages (but now see Dufour 2016). The evidence in Ethiosemitic appears to be limited to Classical Ethiopic *kalb* ‘dog’, pl. *kalab-āt*, *ḥəlaq-at* ‘ring’, pl. *ḥəlaq-āt*, and possibly *ṣəḥər-t* ‘pot, kettle’, pl. *ṣəḥər-āt* (Brockelmann 1908: 430). Several variant plural forms of these words occur too, but the isolation of the pattern presented here alludes to its antiquity, in particular for a basic noun like *kalb*.

A far greater number of plurals of the **CVCaC-ū-* type can be found in Classical Arabic. Feminine *CVCC-at-* nouns regularly form their plural by inserting an *a*-vowel between the second and third radical as well as lengthening the vowel of the suffix, e.g. *ḥasr-at-* : *ḥasar-āt-* ‘grief(s)’, *kisr-at-* : *kisar-āt-* ‘fragment(s)’, *zūlm-at-* : *zūlam-āt-* ‘dark place(s)’.³ Masculine *CVCC-* forms generally have a different plural pattern, although one masculine **CVCaC-ū-* plural occurs in *ʔarq-* : *ʔaraq-ū-na* ‘land(s)’. While this is the only masculine example, the basic meaning of this isolated noun makes it likely that it preserves an archaic pluralization pattern.

A complicated issue is the relationship between these **CVCaC-ū-* plurals and the **CVCaC-* broken plurals, which also occur in Classical Ethiopic and Classical Arabic. The commonly accepted view is that the regularity of **CVCaC-ū-* plural forms in Northwest Semitic originated in the addition of an external plural marker to **CVCaC-* broken plural stems after the collapse of the broken plural system (Ratcliffe 1998b; cf. Brockelmann 1908; Greenberg 1955; Fox 2003). This is problematic, since we also find the doubly-marked **CVCaC-ū-* plurals in Arabic and Ethiopic, where internal plural patterns are very productive and where it would be unnecessary to add a second (external) plural morpheme (cf. Ratcliffe 1998b: 89; Levy 1971: 65). Additionally, the

- 2 Huehnergard (1987b: 281–2) remarks that a number of plural forms occur both with and without the extra *a*-vowel, e.g. *ma-sa-wa-tu/ma-ās-wa-tu* ‘cypress logs’. Sivan (2001: 63–4) adds to this a series of alphabetic forms, e.g. *rbm* /*rabb-ū-ma*/ ‘many (m.pl.)’ (Biblical Hebrew *rabbīm*; vs. Ugaritic *rbbt* /*ribab-ātu*/, Biblical Hebrew *ṣəḥər-āt* ‘myriads’), and *θrm* /*θōr-ū-ma*/ ‘oxen’ (< **θawr-*, BH *šəwārīm* < **θawar-īm-*). But the fact that this interchange also occurs with singular **CVCVC-* forms like *ḥa-ma-ru-/ḡamar-u-* / *ḥa-am-ru-/ḡamr-u-* ‘inexperienced, tyro?’ – plural [*ḥ*]*a-ma-ru-ma/ḡamar-ū-ma* / *ḥa-am-ru-ma/ḡamr-ū-ma*) – indicates that this was a phonological development, syncope of a pretonic short vowel in an open syllable, comparable to Aramaic **malak-īn-* > *malḵ-īn*, Hebrew **malak-ay* (pl. st.cs.) > *malḵ-ē*, and Akkadian **damiq-at-* > *damq-at* ‘she is good’ (Huehnergard 1987b: 282, n. 66).
- 3 There are also variants of the plural forms of *CiCC-at-* and *CuCC-at-* nouns where the ‘inserted’ *a*-vowel has been affected by vowel harmony, e.g. *zulum-āt-* next to the already mentioned *zūlam-āt-*, and both *niṣīm-āt-* and *niṣam-āt-* as plural forms of *niṣm-at-* ‘wealth, benefit’. Forms which simply add the plural suffix but do not change the singular stem also occur.

broken plural pattern *CVCaC- is restricted to *CVCC-*at*- singulars in Classical Arabic and *CVCC- singulars in Classical Ethiopic; the stem vowel of the plural is always the same as that of the singular (Ratcliffe 1998b: 116, 136; Fox 2003: 160, 213–25, 220).⁴ This makes the *CVCaC- plural pattern look more like a modification of the singular stem than like the complete pattern replacement typical of internal pluralization in Semitic. We should therefore not rule out the possibility that the shoe is on the other foot: these forms derive from old *CVCaC-Ū- plurals. These were then reanalysed as broken plurals with a redundant plural suffix, which was subsequently lost. Instead of the doubly-marked *CVCaC-Ū- plurals reflecting older *CVCaC- broken plurals, the *CVCaC- broken plurals would then reflect older, doubly-marked *CVCaC-Ū- plurals.

In short, *CVCaC-Ū- plurals are found in all the branches of the Semitic family tree that are in a position to show them. Adding the observation that the Classical Arabic (especially the masculine example) and Classical Ethiopic instances of *CVCaC-Ū- refer to basic concepts and are therefore likely to be ancient, we can conclude that *CVCaC-Ū- plurals go back to Proto-West-Semitic at least, and possibly to Proto-Semitic (in which case they were regularly lost in Akkadian).

In a seminal 1955 paper, Joseph Greenberg connected the *a*-vowel found in these plural forms with similar features throughout the Afro-Asiatic languages. He rejects the thought that “the plural arose from the singular through the development of a Svarabhakti vowels [*sic*]” (1955: 199). Greenberg describes five different ways that *a* marks a plural form in the various languages, labelling the *CVCC- : *CVCaC- correspondence as “intercalation” of *a*. Although Greenberg’s reasoning has been regarded as “a strong morphological argument in favour of a genetic relationship among Afroasiatic languages” (Frajzyngier and Shay 2012: 10), *a*-intercalation is only attested in Chadic and Semitic, and its regularity in the Northwest Semitic languages and Classical Arabic (for CVCC-*at*- nouns) is unparalleled in Chadic. Moreover, this account assumes that *CVCaC-Ū- plurals are in fact ancient broken plurals with an added plural suffix, which we have questioned above. Attributing the *a*-intercalation in the *CVCaC-Ū- plurals to an ancient, Proto-Afroasiatic morphological pluralization strategy is thus much more problematic than it is usually taken to be.

Our alternative solution, that the *a*-vowel is epenthetic in origin, has been proposed before (e.g. Murtonen 1964). Previously, it was rejected because of the lack of an apt phonological environment for such a change (e.g. Nöldeke 1904–05; Ratcliffe 1998b: 140–1, 155). As we will argue, such a suitable environment becomes apparent if we consider the origin of the external plural suffixes.⁵

- 4 In Classical Ethiopic, the *CVCaC- pattern is also found as an expanded triconsonantal plural pattern of some basic biradical *CVC- nouns, e.g. *ʔab* ‘father’, pl. *ʔabaw*, *ʔad* ‘hand’, pl. *ʔadaw* (Ratcliffe 1998b: 168). Note that in the case of *ʔab*, *w* is the original third radical which was lost in Proto-Semitic (Wilson-Wright 2016; see also below); this suffix was then extended to originally biradical words like *ʔad*.
- 5 We will not discuss the other purported external plural suffixes discussed by e.g. Hasselbach (2007), as these are unrelated to the *CVCaC-Ū- and *CVCaC-*āt*- plurals that are the focus of this article.

3. The origin of the **-ū-* and **-āt-* plural suffixes

The Proto-Semitic external plural suffixes can securely be reconstructed as ‘masculine’ **-ū-* (nominative) and **-ī-* (oblique) and ‘feminine’ **-āt-u-* (nominative) and **-āt-i-* (oblique);⁶ cf. Akkadian *-ū/-ī*, *-ātu-m/-āti-m*; Classical Arabic *-ū-na/-ī-na*, *-ātu-n/-āti-n*; Biblical Hebrew *-ī-m*, *-ōt*; Aramaic *-ī-n*, *-āt-(ā)*; and Classical Ethiopic *-āt*.⁷ While the reconstructible presence of mimation, i.e. the absolute state ending **-m*, on the ‘feminine’ plural suffix seems clear, it is hard to reconcile the West Semitic ‘masculine’ forms with nunation (**-na*) or mimation with the Akkadian forms without a final nasal element. As the presence or absence of mimation or nunation is irrelevant to the present argument, we will simply represent the suffixes as **-ū/-ī-* and **-āt-u/-i-*.

The inflection of the external plural suffix brings to mind a number of Proto-Semitic kinship terms. Like the external plural suffix, these forms are characterized by long case vowels in the masculine (before suffixes and in the construct state) and an **-āt-* suffix followed by short case vowels with the same quality in the feminine. The reconstructible pairs are **ʔah-ū/-ī/ā-* ‘brother’ (nom./gen./acc.)’ **ʔahāt-u/i/a-* ‘sister’ and **ḥam-ū/-ī/ā-* ‘husband’s father’/ **ḥamāt-u/i/a-* ‘husband’s mother’.⁸ Together with **ʔab-ū/-ī/ā-* ‘father’, these forms have recently been explained by Aren Wilson-Wright (2016) as resulting from a Proto-Semitic sound law already identified by Brockelmann (1908: 186).⁹ This sound law states that wherever a semivowel **w* or **y* appeared between a preceding consonant and a following vowel, it was lost, while the following vowel was lengthened. The sound law explains many forms derived from so-called hollow and defective roots, which originally had **w* or **y* as their second or third radical: thus expected forms like **yamwutū* ‘they (m.) died’ (from the root *mwt*), **makwan-* ‘place’ (from the root *kwn*), and **binyat-* ‘(act of) building’ (from the root *bny*) show up in Proto-Semitic as **yamūtū*, **makān-*, and **bināt-* (whence the Biblical Hebrew infinitive construct *bənōt*, see Suchard 2017: 217–8).¹⁰ Based on the presence of **w* as a third radical in a number of derived forms and broken plurals of the kinship terms,

6 We refer to these endings as ‘masculine’ and ‘feminine’ as a reminder that they each occur on both (syntactically) masculine and feminine nouns and are therefore not strictly marked for gender. Only in adjectival inflection is the ‘masculine’ truly masculine and the ‘feminine’ truly feminine (in West Semitic, at least; as a reviewer of this article points out, the masculine plural ending on adjectives has been replaced by *-ūt-u/-i-* in Akkadian).

7 Cf. Hasselbach 2007: 124; Weninger 2011: 165; Al-Jallad and Van Putten 2017; Huehnergard 2019: 60.

8 For the suffixed forms of ‘brother’ and ‘husband’s father’, cf. Classical Arabic *ʔah-ū/-ī/ā-* and *ḥam-ū/-ī/ā-* (also in construct) and Akkadian *ah-ū/-ī/ā-* with full inflection; Classical Ethiopic *ʔah-ū/-ī/ā-* reflects that language’s loss of the genitive as a separate case, while the case distinction is given up but the long case vowel is preserved in Biblical Hebrew *ʔah-ī-* and *ḥam-ī-* and Aramaic *ʔāh-ū-*, *ḥām-ū-*, etc. For ‘sister’ and ‘husband’s mother’, cf. Biblical Hebrew *ʔāhōt-* and *ḥāmōt-*, Aramaic *hāt-*, *ḥāmāt-*, etc., Akkadian *ahāt-u/i/a-*, and Classical Arabic *ḥamāt-u/i/a-*.

9 See also Huehnergard 2008: 230; 2019: 52.

10 The regularity of this sound law can hardly be questioned, given the many examples, and it is easily understood in the cases of **Cwu > *Cū* and **Cyī > *Cī*. But the phonetics of the changes **Cwa* and **Cya > *Cā* are not immediately transparent. Perhaps a change in syllable structure caused the glide to function as the first part of a rising diphthong, which

Wilson-Wright then reconstructs the pre-Proto-Semitic form of ‘brother’, ‘sister’, ‘husband’s father’ and ‘husband’s mother’ as *ʔaḥw-u/i/a-, *ʔaḥw-at-u/i/a-, *ḥamw-u/i/a-, and *ḥamw-at-u/i/a-, respectively. The loss of *w between a consonant and a vowel results in the lengthened vowels reconstructible for Proto-Semitic: pPS *ʔaḥw-u/i/a- > PS *ʔaḥ-ū/ī/ā-, pPS *ʔaḥw-at-u/i/a- > PS *ʔaḥāt-u/i/a-, etc.

We propose that the same sound change is responsible for the similar inflection of the external plural suffixes. Using *W* as a placeholder symbol for either *w or *y, we can hypothesize a pre-Proto-Semitic ‘masculine’ suffix *-W-u/i- (> PS *-ū/ī-) and ‘feminine’ *-W-at-u/i- (> PS *-āt-u/i-). This immediately reveals the constituent parts of these suffixes. In their reconstructed pre-Proto-Semitic form, they both share the same case endings: nominative *-u- and oblique *-i-. The ‘feminine’ is marked by the *-at- suffix, also known from the singular, while the ‘masculine’ is unmarked for gender. And the first element, consisting of the as yet unidentified semivowel *-W-, serves as a plural suffix for both genders.

We are not the first to propose such an origin of the external plural suffixes. The pre-Proto-Semitic reconstruction as *-w-u/i- and *-w-at-u/i-, which changed to *-ū/ī- and *-āt-u/i- through the sound change affecting postconsonantal glides, has been attributed to Zaborski (1976) and more clearly put forward by Voigt (1999).¹¹ These scholars adduce supporting evidence from Afroasiatic, where we find an especially clear parallel in Ancient Egyptian. In the hieroglyphic script, which does not usually write vowels, the masculine plural suffix is attested as -w, while the feminine plural is -wt (Allen 2013: 60);¹² as the singular feminine suffix is -t, the feminine plural can be analysed as plural -w- + feminine -t. Thus, ‘brother’ is *sn*; ‘brothers’ is *snw*; ‘sister’ is *snt*;

was then monophthongized: *mak.wan- > *ma.kwan- ≈ *ma.kyan- > *ma.kān-; *bin.yat- > *bi.nyat- ≈ *bi.niat- > *bi.nāt-.

- 11 Similar but slightly different suggestions have been made by other scholars. Diakonoff (1988: § 3.4.2–3) sees *-a- or *-ā- as the original Afroasiatic plural morpheme, which merged with the ‘feminine’ *-at- suffix to become the ‘feminine’ plural *-āt-; this then triggered analogical lengthening in the ‘masculine’. These *-ā- suffixes are not directly attested anywhere, however. Tropper (2004) sees *-ū as the originally case-neutral masculine plural suffix; while this accounts for the striking similarities in the verbal paradigms, the contraction of *-ū-at- to *-āt- is ad hoc, and it remains unclear how the feminine case endings came into being and why the plural does not distinguish between genitive and accusative. Petráček’s (1965) brief article is intermediate between the suggestions by Tropper (2004) and Voigt (1999), as he reconstructs a plural morpheme *-ū-, but with an allomorph *-w- causing the contraction in the feminine. Takács (2011: 9–10) makes the same comparison to Ancient Egyptian that we consider, but reconstructs the plural morpheme as *-aw-, hence “Sem. *-āt- < *-aw-at- (?) ‘fem. pl. ending’”; in our opinion, however, so-called triphthongs like *awa were preserved in Proto-Semitic, only contracting later in some of the individual languages (cf. Suchard 2016: 317–9; Van Putten 2017; pace Huehnergard 2019: 52). Finally, many other scholars note the iconicity of lengthening a vowel to form a plural suffix. While this is certainly an important observation, it does not amount to a historical explanation of how this lengthening came to mark the plural (cf. Tropper 2004: 201). See also the excellent literature review in Hasselbach (2007).
- 12 The feminine plural is also often written simply as -t; it is unclear whether this is a different form of the suffix or a defective spelling.

and ‘sisters’ is *snwt*. Many nouns have given up the use of this plural suffix in Coptic, the last offshoot of Ancient Egyptian, which is written alphabetically. But forms like *cnḥ(ō)γ/cnē(ō)γ/snēu* ‘brothers’ confirm the semivocalic nature of the suffix. Contrary to some interpretations, Wilson-Wright (2016: 27–8) reconstructs the plural suffix as **-w* (thus also Voigt 1999: 14) or **-wV*; the various preceding vowels that appear in Coptic then belong to the noun stem, not the plural suffix.¹³

The order of the number and gender suffixes in the Egyptian feminine plural is striking. Cross-linguistically, it is normal for nouns to mark gender closer to the stem than number, as gender is an inherent feature of the lexeme while number is inflectional (Greenberg 1966: 93; Booij 2000: 365–6). In Egyptian, however, we see that the plural suffix *-w* comes immediately after the noun stem and is followed by the feminine suffix *-t*. The exact parallel in our pre-Proto-Semitic reconstruction **-W-at-u/i-* cannot be coincidental.¹⁴ We may therefore identify our pre-Proto-Semitic glide **-W-* with Ancient Egyptian *-w* and, together with Voigt, reconstruct the pre-Proto-Semitic plural ending as **-w-* as well.

Hasselbach (2007: 128–9) levels some criticisms against this reconstruction, which we should address. First, in her view, this explanation does not account for the two-case inflection of the plural (nominative/oblique) compared to the three-case (‘triptotic’) inflection of most singulars and broken plurals. The underlying assumption is that the Semitic case endings are unmarked for number and should therefore be used equally for the singular, broken plural, and external

13 The evidence from other branches of Afroasiatic is less clear-cut. In Cushitic, *-(V)w(V)* is one of the most common plural suffixes (Appleyard 2011: 47), which may well be Proto-Cushitic or even older (Zaborski 1986: 298). As *-(V)t(V)*, *-(V)n(V)*, and other suffixes are also widespread and reconstructible, however, it is unclear whether this suffix must be related to our pre-Proto-Semitic **-W-*; the greater number of plural suffixes increases the odds of a chance resemblance. In Berber, *w* is one of a few consonants that may be inserted between a noun stem and the plural ending, as in Burkina Faso Tuareg *e-lām : i-lāmaw-ān* ‘skin(s)’, *t-eṭ-ṭ : t-eṭṭaw-en* ‘eye(s)’, or *ta-ləqqe : ti-ləqqaw-en* ‘dependent person(s)’ (Kossmann 2012: 54); see also Van Putten (2018) on the interchange between **y* and **w* in a feminine suffix that may go back to the shared ancestor of Berber and Semitic. But since this *w* is still followed by the regular plural endings *-ān* and *-en*, it is debatable whether it should be seen as (part of) a plural ending or rather part of a separate plural stem (stem allomorphy in the plural also occurs without *w*-suffixation in Berber). Finally, a number of Chadic languages attest *-au* or *-o* as a plural suffix. According to Newman (1990: 36, 50), however, these were probably innovated separately in the individual languages; **-au* or **-aw* is not reconstructible as a Proto-Chadic plural suffix. Ancient Egyptian *-w* thus remains the most important comparandum.

14 That Egyptian and pre-Proto-Semitic violate this universal, marking number closer to the stem than gender, may be due to the generally more derivational character of pluralization in both language families and in Afroasiatic in general, also evidenced by the broken plural system where the (normally) inflectional feature of number conditions a completely different, unpredictable, form of the stem. As a reviewer of this article suggests, the loose association of the ‘feminine’ suffix with the actual feminine gender may also play a role (see n. 6). On inflection and derivation as a continuum, see Bybee (1985: 81–110). The more typical situation is perhaps illustrated by Modern Hebrew which, it has been argued, marks gender closer to the noun than number on the basis of examples like *txun-i-ot* ‘linguistic features’, where *-i-* is analysed as a reduced form of the feminine suffix *-it*, and *-ot* is the reflex of the ‘feminine’ plural suffix (Ritter 1993).

Table 1. The five inflection classes of Proto-Semitic

Case	Triptotic inflection	Diptotic inflection	Dual inflection	'Masculine' external plural inflection	'Feminine' external plural inflection
Nominative	*-u-	*-u	*-ā-	*-ū-	*(-āt)-u-
Genitive	*-i-				
Accusative	*-a-	*-a	*-ay-	*-ī-	*(-āt)-i-

plural. In fact, the triptotic inflection is just one of five different inflection classes we can reconstruct for Proto-Semitic (see Table 1; cf. Al-Jallad and Van Putten 2017: 89)

The reconstruction of the external plural suffixes advanced here would bring this down to four classes for pre-Proto-Semitic, merging the 'masculine' and 'feminine' external plural inflections into one external plural class with nominative *-u- and oblique *-i-. While it is striking that most of these endings consist of vowels only and that most inflection classes have *-u- as the nominative ending, these are clearly distinct systems. In fusional languages like those of the Semitic family, we have no more reason to expect singular and plural case endings to resemble each other than in the similarly fusional Indo-European languages (where most singular and plural case endings look completely unrelated). Moreover, it is clear from this overview that three-case inflection is actually the exception, not the rule: of the four or five inflectional classes, only one distinguishes the genitive from the accusative. Thus, we find it unproblematic to reconstruct *-u- and *-i- as the nominative and oblique plural case endings, which happen to resemble the nominative and genitive triptotic case endings, but are functionally distinct.

Hasselbach's second objection is that this explanation depends on the supporting evidence from Afroasiatic, and that *-w- primarily occurs in postvocalic position there, where the elision of postconsonantal glides should not apply. The resemblance to the III-w kinship terms 'brother', 'sister', and 'husband's father/mother', however, leads us to the pre-Proto-Semitic reconstruction as postconsonantal *-W- on internal grounds alone. The Afroasiatic and especially Egyptian evidence then serves to confirm the identification of this unidentified *-W- as the bilabial glide *-w-, but is not essential to the reconstruction. As for the postvocalic or postconsonantal position of this *-w-, it is easy to see how the immense time scales at work in Afroasiatic reconstruction may have played a role here. Either the vowels we find preceding *-w- in the other branches of Afroasiatic could be secondary, or an original, Proto-Afroasiatic vowel could have been lost on the way to Semitic. The reconstruction of postconsonantal *-w- is only assured for a very recent precursor of Proto-Semitic and need not be of Proto-Afroasiatic date by any means. Thus, our internal arguments for the reconstruction *-W(-at)-u/i- make Voigt's account quite compelling, despite Hasselbach's arguments to the contrary.¹⁵

15 Instead of a phonological solution as put forward here, by Voigt (1999), and by others, Hasselbach's (2007) own explanation for the origin of the external plural suffixes derives

4. Plural **a*-insertion as epenthesis

We have established that the **CVCaC-ū-* and **CVCaC-āt-* plural patterns of **CVCC-(at-)* nouns may have been a feature of Proto-Semitic. We have also seen that the external plural suffixes that are characteristic of these patterns should be reconstructed as **-w-u/i-* and **-w-at-u/i-* for a recent ancestor of Proto-Semitic on internal and comparative grounds. For this stage of pre-Proto-Semitic, we can therefore hypothetically reconstruct this pluralization pattern as follows:

	‘dog(s)’	‘land(s)’
singular	<i>*kalb-u/i/a-</i>	<i>*ʔarṣ-u/i/a-</i>
plural	<i>*kalab-w-u/i-</i>	<i>*ʔaraṣ-w-at-u/i-</i>

As noted above, it has been suggested that the **a* inserted in these forms was epenthetic (e.g. Murtonen 1964). The reconstruction of a pre-Proto-Semitic plural suffix **-w-* creates a plausible environment for this kind of epenthesis to take place. The vowel then serves to break up what would otherwise be a cluster of three consonants. This cluster is created by the addition of the plural suffix **-w-* to the stem; in the singular, there is no plural suffix, no three-consonant cluster, and hence no epenthesis. We can therefore reconstruct an even earlier stage of pre-Proto-Semitic, where the plural of **CVCC-(at-)* nouns could simply be formed by adding the **-w-* plural suffix and plural case endings to the unchanged singular stem. Schematically, the development we propose is shown in Table 2.

The inserted **-a-* in the plural is then originally not the morphological hallmark of a distinct plural stem, but the result of a sound change, triggered by the following consonantal suffix. That this reconstructible Proto-West-Semitic pattern can thus be explained from pre-Proto-Semitic implies that it did, in fact, occur in Proto-Semitic and was lost in Akkadian, rather than being a Proto-West-Semitic innovation of unclear origin.

This account explains why **a*-insertion in the plural is characteristic of **CVCC-(at-)* nouns. This is the only frequently occurring class of nouns or adjectives in Semitic that ends in two consonants.¹⁶ In other classes of nouns

them from the suffix conjugation of predicative adjectives: third person masculine plural **-ū* and third person feminine plural **-ā*. Ultimately, she traces these forms, as well as the dual nominative ending **-ā-* and the oblique ‘masculine’ external plural **-ī-*, back to the use of stem-internal long vowels in broken plural formation. While associating the various masculine plural **-ū(-)* morphemes is attractive, the derivation of the nominal suffixes put forward by Hasselbach seems overly abstract to us; it is hard to envision a situation in which speakers would – or even could – create the forms in the way she suggests. It is also unclear why the case endings on the ‘feminine’ plural are short **-u/i-* if they were copied from long ‘masculine’ **-ū/ī-*, as Hasselbach proposes.

- 16 An important class of counterexamples is formed by the decade numerals in Central Semitic, which are formed by adding the external ‘masculine’ plural suffix to the corresponding numbers from ‘3’ to ‘10’ (‘20’ being formed from ‘10’). In the case of **CVCC-* stems, this is not accompanied by *a*-insertion: cf. Classical Arabic *ʕaṣr-ū/ī-na* ‘20’, *ḥams-ū/ī-na* ‘50’, *sabʕ-ū/ī-na* ‘70’, *tisʕ-ū/ī-na* ‘90’, and Biblical Hebrew *ʕeśr-ī-m*

Table 2. Epenthesis of *a and elision of *w in the external plurals

	‘dog’	‘dogs’	‘land’	‘lands’
Pre-Proto-Semitic I	*kalb-u/i/a-	*kalb-w-u/i-	*ʔarš-u/i/a-	*ʔarš-w-at-u/i-
Pre-Proto-Semitic II	*kalb-u/i/a-	*kalab-w-u/i-	*ʔarš-u/i/a-	*ʔaraš-w-at-u/i-
Proto-Semitic	*kalb-u/i/a-	*kalab-ū/ī-	*ʔarš-u/i/a-	*ʔaraš-āt-u/i-

and adjectives, the conditioning factor – two stem-final consonants, followed by the plural suffix *-w- – was absent, so we do not find the epenthetic *-a- vowel (or any other vowels changing to *a, which we might expect if this were truly a morphological way to mark the plural stem; cf. the processes described for non-Semitic branches of Afroasiatic by Greenberg 1955).

There are a few other words, however, where we may wish to reconstruct a stem-final cluster of two consonants: stems consisting of just two consonants, *CC-, without any vowel. While controversial, we find the arguments for their reconstruction put forward by Testen (1985) convincing.¹⁷ Based on the seemingly irregular behaviour affecting the words for ‘son’ and ‘two (m.)’ in three separate branches of Semitic (Aramaic, Modern South Arabian, and Arabic),¹⁸ Testen reconstructs the Proto-Semitic stems of these words as *bn- and *θn-, with an initial consonant cluster. Clusters can then also be reconstructed for other words that show the same behaviour in one or more of these languages as well.¹⁹

‘20’, *šibš-ī-m* ‘70’, *tišš-ī-m* ‘90’. However, this way of forming the decades is a Central Semitic innovation: other Semitic languages like Akkadian and Classical Ethiopic attest a suffix *-ā, which can be reconstructed for Proto-Semitic (Huehnergard 2005: 182–4). When the decades were adapted to incorporate the external plural suffix in Proto-Central-Semitic, the pre-Proto-Semitic epenthesis rule was clearly no longer operative. Apparently, speakers did not formally consider the decades to be plural forms of the numerals they were based on, or a-insertion was no longer a productive part of the *CVCC- pluralization process.

17 See also Blau (2006: 188–94); Suchard (2017: 213–7).

18 To which Blau (2006) and Suchard (2017) add Hebrew. The relevant features are the shift of *n to r in Aramaic and Modern South Arabian, the absence of a vowel between the two radicals in Classical Arabic *ibn-*, *iθn-ā/ay-ni*, and the lack of pretonic lengthening in Biblical Hebrew suffixed forms like *bən-ī* ‘my son’.

19 Note that the evidence supports the reconstruction of words with initial consonant clusters in (the last stage of) Proto-Semitic, but says nothing about how old these clusters are. It is quite possible that in an earlier, pre-Proto-Semitic stage, these stems contained a vowel, which was elided before Proto-Semitic. If so, the *i reconstructible in **bin-t* ‘daughter’ (cf. Classical Arabic *bin-t*, Biblical Hebrew *bit-t* before suffixes) and **θin-t* ‘two (f.)’ (cf. Classical Arabic *θin-t-ā/ay-ni*, Biblical Hebrew *št-āyi-m* < **šit-t-āy-m*; Bravmann 1952) is original and was preserved if the syllable was closed by the feminine suffix *-t- but elided in the open syllables of the masculines: **bin-u/i/a-* > **bn-u/i/a-* and **θin-ā/ay-* > **θn-ā/ay-*. Classical Arabic attests the byforms *ibn-at-* ‘daughter’ and *iθn-at-ā/ay-ni* ‘two (f.)’; if these are not analogically modelled after the masculines, they reflect **bn-at-* and **θn-at-*, also with elision in an open syllable before the other allomorph of this feminine suffix, *-at-. Aramaic absolute *bər-ā*, construct *baṭ* etc. ‘daughter’ might reflect both forms: **bn-at-* > *bər-ā* with the *n > r

If the **-a-* in the plural stem of the **CVCC-(at-)* nouns is an epenthetic vowel inserted to break up a consonant cluster, we should also expect it to appear in the words of this **CC-* type. Supposing that these also formed their plural by suffixing **-w-*, the expected development would be pre-Proto-Semitic I **CC-w-u/i-* > pre-Proto-Semitic II **CaC-w-u/i-* > Proto-Semitic **CaC-ū/ī-*. And in fact, this is exactly what we observe in the word for ‘sons’. While the singular stem can be reconstructed as Proto-Semitic **bn-* based on the arguments alluded to above, the plural is marked by an **a*-vowel and the ‘masculine’ external plural suffix: **ban-ū/ī-*.²⁰ This matches the predicted development: pre-Proto-Semitic I **bn-w-u/i-* > pre-Proto-Semitic II **ban-w-u/i-* > Proto-Semitic **ban-ū/ī-*. Here, too, the **-a-* in the plural stem can be explained as an epenthetic vowel inserted to break up the consonant cluster created by the plural suffix **-w-*.²¹ This confirms that the same insertion in the plural stems of **CVCC-(at-)* nouns is phonological in origin, not morphological.²²

5. Conclusion

In this paper we have provided a solution for the appearance of **a* in external plurals of **CVCC-* nouns in various Semitic languages. This vowel has previously been considered a remnant of the broken plural system in Northwest Semitic, but we have shown that these **CVCaC-ū-* forms can be reconstructed for Proto-Semitic, long before the Northwest Semitic loss of broken plurals.

shift in clusters and **bin-t-* > *baṭ* with **n*-assimilation. If so, *tar-t-ē-n* etc. ‘two (f.)’ may reflect **θn-at-ay-na* with resyllabification.

- 20 Cf. Classical Arabic *ban-ū/ī-*, Biblical Hebrew *bān-ī-m*, Aramaic *bān-ī-n*, etc. with no **n* > *r* shift, and Mehri (Modern South Arabian) *ḥə-būn* (with *ū* < **a*).

- 21 The few other nouns that can be reconstructed as **CC-* stems, such as **sm-* ‘name’, either form broken plurals, as in Classical Arabic *ʔasmāʔ-* (singular *ism-*), or are reshaped after the singular stem, as in Biblical Hebrew *šēm-ōl* (singular *šēm*). These developments may either reflect later analogies or a different Proto-Semitic plural formation.

A possible second example of **a*-insertion in a **CC-* cluster occurs in Classical Arabic sg. *ḏ-ū/ī/ā*, *ḏāt-u/i/a* ‘the one of (m./f.)’, pl. *ḏaw-ū/ī*, *ḏaw-āt-u/i*, the singular forms of which are reconstructible for Proto-Semitic as **θ-ū/ī/ā* and **θāt-u/i/a* (cf. Huehnergard 2019: 55). The long case vowels in the masculine and lengthened feminine suffix suggest a pre-Proto-Semitic reconstruction as **θw-* for the singular stem; the plurals then developed like **θw-w-u/i* > **θaw-w-u/i* > **θaw-ū/ī* > *ḏaw-ū/ī* and **θw-w-at-u/i* > **θaw-w-at-u/i* > **θaw-āt-u/i* > *ḏaw-āt-u/i*. But it is unclear whether the Classical Arabic plural forms can be reconstructed for Proto-Semitic and whether the sequence of two **w* sounds in **θw-w-* would really behave this way.

- 22 One may wonder whether our argumentation might not be reversed, positing syncope in the singular rather than epenthesis in the plural. The singular forms like **kalb-u/i/a-* and **ʔarš-u/i/a-* would then go back to **kalab-u/i/a-* and **ʔaraš-u/i/a-*; the original stem vowel was preserved in the plural because the syllable was closed by the following **-w-*, but lost in an open syllable in the singular. But this is contradicted by the many counterexamples of Proto-Semitic stems which preserve **a* and other vowels in this position, e.g. **waraq-u/i/a-* ‘green’, cf. Akkadian *waraq-*, Biblical Hebrew *yārāq*. Dolgopolsky (1999: 91–107) posits a phonemic stress distinction between **kálab-u/i/a-* > **kalb-u/i/a-* etc. and **warāq-u/i/a-* > **waraq-u/i/a-* etc. to account for this, but this is unsupported by other reliable evidence and thus ad hoc. The same objections apply to the earlier suggestion along the same lines by Philippi (1894: 374–8).

Internal evidence from other lexemes within the Semitic language family as well as comparative evidence from Afroasiatic points towards a pre-Proto-Semitic plural suffix *-w-, which lengthened the following vowel in Proto-Semitic, whether this was a case vowel or part of the ‘feminine’ suffix *-at-. Consequently, we can reconstruct a pre-Proto-Semitic plural form *CVCC-w(-at)-u/i-, with a cluster of three consonants. This cluster is a plausible environment for an epenthetic vowel to occur. Hence, we have proposed a development in three stages: pre-Proto-Semitic I *CVCC-w(-at)-u/i- > pre-Proto-Semitic II *CVCaC-w(-at)-u/i- > Proto-Semitic *CVCaC-ū/- and *CVCaC-āt-u/i-. Additional support for this derivation comes from a stem consisting of two consonants only, which also had a three-consonant cluster in the plural: *bn-w-u/i- > *ban-w-u/i- > *ban-ū/-.

We therefore argue that the *CVCaC-ū- plural pattern is not a Northwest Semitic remnant of the broken plurals, but originated through a pre-Proto-Semitic sound change. Concerning the classification of Northwest Semitic, the existence of *CVCaC-ū- plurals appears to be a shared retention rather than a shared innovation. The nearly complete regularity of this pluralization pattern for *CVCC- nouns in Northwest Semitic may still be a shared Proto-Northwest-Semitic innovation. On the other hand, it may also reflect the loss of the broken plural system in these languages. With broken plurals off the table, *CVCaC-ū- may have been the only common pluralization pattern for these nouns. As this provides a plausible scenario of parallel innovation of the typically Northwest Semitic pluralization system, our suggestion calls into question the strongest argument for a phylogenetic node more closely uniting Ugaritic, Aramaic, and Canaanite within the larger Central Semitic subgroup (cf. Kogan 2015: 228–9).²³

We have largely bypassed the genuine broken plurals, as we have shown that the forms discussed in this paper are unrelated to them. But we may need to reopen the discussion on their value for the classification of the Semitic languages. Based on the similarity between the *CVCaC-ū- plurals and Akkadian forms which combine a modified plural stem with external plural endings (Huehnergard 1987a: 181–8), it is now accepted practice to reconstruct a highly productive broken plural system for Proto-Semitic; Northwest Semitic and Akkadian then lost most broken plural forms and added external plural endings to some others. But if we exclude the *CVCaC-ū- plurals, the various stem-

23 The other commonly accepted shared innovations of Northwest Semitic are: (1) the shift of initial *w- to *y- except in the word *wa- ‘and’; and (2) the *i vowel in the second syllable of the D- and C-stem suffix conjugation stems *CaCCiC- and *haCCiC- (possibly a retention from Proto-Semitic). To these we may add the sound change of *wwVC to *wCVC reflected in the D-stem of II-w roots like *qawwim- > *qawmim- and elsewhere, which is well attested in Hebrew, identifiable in Ugaritic, and has left traces in Aramaic (Barth 1897; Suchard 2016: 323–4). Like *w- > *y-, this innovation is phonological and not morphosyntactic in nature, but both sound changes are typologically so rare that together, they support the existence of a Northwest Semitic subfamily. Some of the shared Aramaic-Canaanite features identified by Pat-El and Wilson-Wright (2018) may also be Proto-Northwest-Semitic innovations that were lost or cannot be identified in Ugaritic.

modifying pluralization strategies in different branches of Semitic look rather different.

In Northwest Semitic, the examples are mainly limited to a few cases of complete pattern replacement with singular inflection like Biblical Hebrew *rēkeb* ‘chariotry’ (sg. *rakkāb* ‘charioteer, horseman’?) and Syriac *hemr-ā* ‘donkeys’ (sg. *hmār-ā*). It is quite unclear whether these examples should not simply be interpreted as collectives, a category which is distinguished from broken plurals in languages that have them.²⁴ The handful of mixed plural formations, with internal stem replacement and external plural suffixes, consists of biradical stems that gain an extra radical in the plural (like Biblical Hebrew sg. *ʔām-ā* ‘maidservant’, pl. *ʔāmāh-ōt*), complete or nearly complete reduplication (like Biblical Hebrew sg. *sal* < **sall-* ‘basket’, pl. *sal~sill-ōt*; Biblical Aramaic m. sg. *raḥ* ‘great’, m.pl. *raḥ~raḥ-īn*), and the well-known example of Biblical Hebrew sg. *pēsel* ‘idol’, pl. *pāsīl-īm*.²⁵

In Akkadian, we find that plurals always take external plural endings. Some nouns additionally mark their plural stem by partial reduplication (sg. *alak-t-* < **halak-(a)t-* ‘road’, pl. *alk~ak-āt-* < **halak~ak-āt-*; sg. *ab-* ‘father’, pl. *ab~b-ū-* *ī*) or suffixation of *-ān-* or **-āy-*.²⁶ Pattern replacement in the stem itself is not synchronically attested, although Huehnergard (1987a) suggests that this may originally have occurred in the plurals suffixed with **-āy-*, but is now obscured by back formation (as with *ṣuḥḥār-ū/ē* ‘servants’, sg. *ṣuḥḥār-* replacing original *ṣaḥīr-*?) or the ambiguity of the cuneiform script (as with *a-wi-lu-ū/le-e* ‘men’, i.e. *awīl-ū/ē* or *āwīl-ū/ē?*, sg. *awīl-*).

Finally, in the branches sometimes collectively referred to as ‘South Semitic’ – Arabic, Ethiosemitic, Ancient South Arabian, and Modern South Arabian – we find the classic broken plural system, with large-scale unpredictable stem replacement, frequent addition or deletion of a feminine suffix, frequent prefixation of **ʔa-*, and a clear distinction between plurals and collectives, but without special plural endings or reduplication (cf. Ratcliffe 1998a).

Having lost the Northwest Semitic **CVCaC-ū-* plurals as an intermediate category showing both morphological, non-reduplicative pattern replacement and suffixation, there is little that obviously connects the different internal pluralization strategies in the various subfamilies of Semitic. In the light of our non-morphological explanation of the origin of the **CVCaC-ū-* plurals, we therefore

24 In Classical Arabic, for instance, collectives with non-human referents take masculine singular agreement, while broken plurals with non-human referents take feminine singular agreement. Singulatives can be derived from collectives, but not from broken plurals. In Classical Ethiopic, broken plurals insert *-ī-* (probably the old external ‘masculine’ oblique plural ending) between their stem and suffixed pronouns, like external plurals; collectives do not. Fox (2003: 90 n. 6) argues that in Biblical Hebrew, the expression *šānē rēkeb sūsīm* ‘two horsemen(?)’ (2 Kgs 7: 14) shows that *rēkeb* is treated as a plural, but plural numerals also occur with uncontested collectives, as in *ʔāsārā ḥāqār bārīʔīm wə-ʔešrīm bāqār rəʔī ū-mēʔā šōn* ‘ten fattened cattle, twenty pastured cattle, and one hundred caprids’ (1 Kgs 5: 3).

25 For a rather speculative and maximalist discussion of possible broken plural forms in Biblical Hebrew combined with a very useful review of the literature, see Wallace (1988).

26 Cf. Huehnergard (1987a) for the identification of the latter suffix and Van Putten (2018) for its reconstruction with **y*.

believe that the reconstruction of nominal pluralization in Semitic must be reconsidered.

References

- Al-Jallad, Ahmad and Marijn van Putten. 2017. "The case for Proto-Semitic and Proto-Arabic case: a reply to Jonathan Owens", *Romano-Arabica* 17, 87–117.
- Allen, James P. 2013. *The Egyptian Language: An Historical Study*. Cambridge: Cambridge University Press.
- Appleyard, David. 2011. "Semitic-Cushitic/Omotc relations", in S. Weninger et al. (eds), *The Semitic Languages. An International Handbook*. (Handbooks of Linguistics and Communication Science 36.) Berlin: De Gruyter Mouton, 38–53.
- Barth, Jacob. 1897. "Die Pôlêl-Conjugation und die Pôlâl-Participien", in G.A. Kohut (ed.), *Semitic Studies in Memory of Rev. Dr. Alexander Kohut*. Berlin: Calvary, 83–93.
- Blau, Joshua. 2006. "Topics in Hebrew grammar" [Hebrew], *Lěšonenu* 68/3–4, 183–200.
- Blau, Joshua. 2010. *Phonology and Morphology of Biblical Hebrew*. (Linguistic Studies in Ancient West Semitic 2.) Winona Lake: Eisenbrauns.
- Booij, Geert. 2000. "Inflection and derivation", in G.E. Booij, C. Lehmann and J. Mugdan (eds), *Morphologie/Morphology*, vol. 1. (Handbooks of Linguistics and Communication Science 17.) Berlin: Walter de Gruyter, 360–69.
- Bravmann, Meir M. 1952. "Hebrew *štayim* in the light of Syriac and Turcic", *Proceedings of the American Society for Jewish Research* 21, 1–2.
- Brockelmann, Carl. 1908. *Grundriss der vergleichenden Grammatik der semitischen Sprachen*, vol. I: Laut- und Formenlehre. Berlin: Reuther & Reichard.
- Bybee, Joan. 1985. *Morphology. A Study of the Relation Between Meaning and Form*. (Typological Studies in Language 9.) Amsterdam: John Benjamins.
- Diakonoff, Igor M. 1988. *Afrasian Languages*. Moscow: Nauka.
- Dolgopolsky, Aharon. 1999. *From Proto-Semitic to Hebrew*. Milan: Centro Studi Camito-Semitici.
- Dufour, Julien. 2016. "*Recherches sur le verbe sudarabique moderne*", Unpublished habilitation thesis, École pratique des hautes études.
- Fox, Joshua. 2003. *Semitic Noun Patterns*. (Harvard Semitic Studies 59.) Winona Lake: Eisenbrauns.
- Frajzyngier, Zygmunt and Erin Shay. 2012. "Introduction", in Z. Frajzyngier and E. Shay (eds), *The Afroasiatic Languages*. Cambridge: Cambridge University Press, 1–17.
- Greenberg, Joseph H. 1955. "Internal *a*-plurals in Afroasiatic (Hamito-Semitic)", in J. Lukas (ed.), *Afrikanische Studien* (Veröffentlichungen des Instituts für Orientforschung der Deutschen Akademie der Wissenschaften zu Berlin 26.) Berlin: Akademie-Verlag, 198–204. Reprinted in K. Denning and S. Kemmer (eds), *On Language: Selected Writings of Joseph H. Greenberg*. Palo Alto: Stanford University Press, 1990, 397–404.
- Greenberg, Joseph H. 1966. "Some universals of grammar with particular reference to the order of meaningful elements", in J.H. Greenberg (ed.), *Universals of Language*, second ed. Cambridge, MA: The MIT Press, 73–113.
- Gzella, Holger. 2011. "Northwest Semitic in general", in S. Weninger et al. (eds), *The Semitic Languages. An International Handbook*. (Handbooks of Linguistics and Communication Science 36.) Berlin: De Gruyter Mouton, 425–51.
- Hasselbach, Rebecca. 2007. "External plural markers in Semitic: a new assessment", in C.L. Miller (ed.), *Studies in Semitic and Afroasiatic Linguistics Presented to Gene B.*

- Gragg. (Studies in Ancient Oriental Civilization 60.) Chicago: Oriental Institute, 123–38.
- Huehnergard, John. 1987a. “Three notes on Akkadian morphology”, in D.M. Golomb (ed.), *Working with no Data. Semitic and Egyptian Studies Presented to Thomas O. Lambdin*. Winona Lake: Eisenbrauns, 181–93.
- Huehnergard, John. 1987b. *Ugaritic Vocabulary in Syllabic Transcription*. (Harvard Semitic Studies 32.) Atlanta: Scholars Press.
- Huehnergard, John. 1991. “Remarks on the classification of the Northwest Semitic languages”, in J. Hoftijzer and G. van der Kooij (eds), *The Balaam Text from Deir ‘Alla Reevaluated*. (Leiden: Brill), 282–93.
- Huehnergard, John. 2005. “Features of Central Semitic”, in A. Gianto (ed.), *Biblical and Oriental Essays in Memory of William L. Moran*. (Biblica et Orientalia 48.) Rome: Pontificio Istituto Biblico, 155–203.
- Huehnergard, John. 2007. “Northwest Semitic languages”, in K. Versteegh (ed.), *Encyclopedia of Arabic Language and Linguistics*, vol. III. Leiden: Brill, 408–22.
- Huehnergard, John. 2008. “Afro-Asiatic”, in R.D. Woodard (ed.), *The Ancient Languages of Syria-Palestine and Arabia*. Cambridge: Cambridge University Press, 225–46.
- Huehnergard, John. 2019. “Proto-Semitic”, in J. Huehnergard and N. Pat-El (eds), *The Semitic Languages*, second ed. (Routledge Language Family Series.) London: Routledge, 49–79.
- Kogan, Leonid. 2015. *Genealogical Classification of Semitic. The Lexical Isoglosses*. Boston: De Gruyter.
- Kossmann, Maarten. 2012. “Berber”, in Z. Frajzyngier and E. Shay (eds), *The Afroasiatic Languages*. (Cambridge Language Surveys.) Cambridge: Cambridge University Press, 18–101.
- Murtonen, A. 1964. *Broken Plurals. Origin and Development of the System*. Leiden: Brill.
- Levy, Mary. 1971. “The plural of the noun in Modern Standard Arabic”, PhD thesis, Massachusetts Institute of Technology.
- Newman, Paul. 1990. *Nominal and Verbal Plurality in Chadic*. Dordrecht: Foris.
- Noorlander, Paul M. 2016. “The problem of classifying Ugaritic: a study on the debate on the classification of Ugaritic and its relationship to the history of Hebrew”, *Kleine Untersuchungen zur Sprache des Alten Testaments und seiner Umwelt* 20, 51–92.
- Nöldeke, Theodor. 1898. *Kurzgefasste syrische Grammatik*. Second ed. Leipzig: Tauchnitz.
- Nöldeke, Theodor. 1904–05. “Zur semitischen Pluralendung”, *Zeitschrift für Assyriologie* 18, 68–72.
- Pat-El, Na’ama and Aren Wilson-Wright. 2018. “Features of Aramaeo-Canaanite”, *Journal of the American Oriental Society* 138/4, 781–806.
- Petráček, Karel. 1965. “Die Isomorphie in der Arabischen Pluralbildung”, in A. Heinz et al. (eds), *Symbolae linguisticae in honorem Georgii Kurylowicz* (Wrocław: Polish Academy of Sciences), 227–9.
- Philippi, F. 1894. “Die semitische Verbal- und Nominalbildung in ihrem Verhältnis zu einander”, *Beiträge zur Assyriologie und vergleichenden semitischen Sprachwissenschaft* 2, 359–89.
- Ratcliffe, Robert R. 1998a. “Defining morphological isoglosses: the ‘broken’ plural and Semitic subclassification”, *Journal of Near Eastern Studies* 57/2, 81–123.
- Ratcliffe, Robert R. 1998b. *The “Broken” Plural Problem in Arabic and Comparative Semitic: Allomorphy and Analogy in Non-Concatenative Morphology*. Amsterdam: John Benjamins.

- Ritter, Elizabeth. 1993. "Where's gender?", *Linguistic Inquiry* 24/4, 795–803.
- Sivan, Daniel. 2001. *A Grammar of the Ugaritic Language*. Second ed. Leiden: Brill.
- Suchard, Benjamin D. 2016. "The Hebrew verbal paradigm of hollow roots: a triconsonantal account", *Zeitschrift der Deutschen Morgenländischen Gesellschaft* 166/2, 317–32.
- Suchard, Benjamin D. 2017. "A triconsonantal derivation of the *lamed-he* paradigm", *Kleine Untersuchungen zur Sprache des Alten Testaments und seiner Umwelt* 22, 205–21.
- Takács, Gábor. 2011. "Semitic–Egyptian relations", in S. Weninger et al. (eds), *The Semitic Languages: An International Handbook*. (Handbooks of Linguistics and Communication Science 36.) Berlin: De Gruyter Mouton, 7–18.
- Testen, David. 1985. "The significance of Aramaic $r < *n$ ", *Journal of Near Eastern Studies* 44/2, 143–6.
- Tropper, Josef. 2004. "Gedanken zum Pluralmarker {ū} im Semitischen", *Journal of Semitic Studies* 49/2, 199–213.
- Van Putten, Marijn. 2017. "The development of the triphthongs in Quranic and Classical Arabic", *Arabian Epigraphic Notes* 3, 47–74.
- Van Putten, Marijn. 2018. "The feminine endings *-ay and *-āy in Semitic and Berber", *Bulletin of the School of Oriental and African Studies* 81/2, 205–25.
- Voigt, Rainer. 1999. "Nominal (and verbal) nasalization and the nominal plural morphemes in Semito-hamitic", in M. Lamberti and L. Tonelli (eds), *Afroasiatica Tergestina. Papers from the 9th Italian Meeting of Afro-Asiatic (Hamito-Semitic) Linguistics. Trieste, April 23–24, 1998*. Padua: Unipress, 10–22.
- Wallace, Constance V. 1988. "Broken and double plural formations in the Hebrew Bible", Unpublished PhD thesis, New York University.
- Weninger, Stefan. 2011. "Reconstructive morphology", in S. Weninger et al. (eds), *The Semitic Languages. An International Handbook*. (Handbooks of Linguistics and Communication Science 36.) Berlin: De Gruyter Mouton, 151–78.
- Wilson-Wright, Aren. 2016. "Father, brother, and father-in-law as III-w nouns in Semitic", *Bulletin of the School of Oriental and African Studies* 79/1, 23–32.
- Zaborski, Andrzej. 1976. "The Semitic external plural in an Afroasiatic perspective", *Afroasiatic Linguistics* 3/6, 111–19.
- Zaborski, Andrzej. 1986. *The Morphology of Nominal Plural in the Cushitic Languages*. (Veröffentlichungen der Institute für Afrikanistik und Ägyptologie der Universität Wien 39.) Vienna: Afro-Pub.