

WHERE HAVE ALL THE ENDINGS GONE?

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Abstract:

Compared to Classical Arabic the contemporary Arabic dialects are marked by the absence of a number of morphological features, including nominal declension and verbal moods. Any explanation of this difference has to deal with two issues: the linguistic input during the Islamic conquests, and the nature of the process of language acquisition in the conquered territories. In this paper both issues are discussed within the framework of a model for language contact that distinguishes between linguistic changes in first- and second-language learning.

Keywords: case endings, declension, language change, reduction, reanalysis, slow/fast speech, language acquisition, second-language learning, history of Arabic

1 The Demise of the Endings

Why do morphological features disappear?¹ Examples abound: morphological reduction occurred in the shift from Latin to the Romance languages, from Arabic to the modern Arabic dialects, from Old English to Modern English, from Sanskrit to the modern Indian languages, from Classical Nahuatl to modern spoken Nahuatl, and the list could easily be expanded. A complementary question is: why do some languages retain their complex inflectional morphology over a considerable period of time, without losing it? In principle, our brain is able to handle almost any degree of complexity, as Carstairs-McCarthy (2010:139) remarks speaking about stem alternation: “Provided that the alternants are differentiated in an orderly and reliable way, the brain will be satisfied”. The occurrence or non-occurrence of change is what Weinreich, Labov, and Herzog (1968:102; see Hickey 2012:394) define as the actuation problem:

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Why do changes in a structural feature take place in a particular language at a given time, but not in other languages with the same feature, or in the same language at other times?

One way of approaching the issue of retention vs. loss of morphological features is by assuming that it is possible to calculate the stability of grammatical features. Van Gijn (2015) surveys various methods to do so, for instance by comparing languages within one genealogical family in order to find out to what extent they deviate from the expected pattern. Such methods all too often suggest that there is some inherent characteristic that renders features more or less stable or, alternatively, that their permanence is determined areally. It is not clear what the added value of an index of potential stability is, as against (socio)historical accounts documenting actual loss. Kulikov's (2011:455) classification of languages into case-increasing, case-reducing, and case-stable ones is not helpful either since it implies that loss of morphology is a matter of typology, rather than a socio- or psycho-linguistic issue. The position taken in the present paper is that complex structures are not by nature stable or unstable, but that they may be affected by second-language acquisition, especially when the learners speak an unrelated language (Kusters 2003).²

Several general theories have been proposed to account for the loss of morphological marking. Barðdal and Kulikov (2009) present two causes as the main factors. The first explanation considers phonetic changes to be the motor behind case syncretism or loss, since it renders forms indistinguishable from each other. As a typical example of such a process they mention the loss of distinction between *montem* [acc. sg.] and *monte* [abl. sg.] in Latin. After the elision of the final nasal, the argument goes, people could no longer hear the difference between the two and started to confuse the accusative with the ablative (Barðdal and Kulikov 2009:472). This phonetic explanation does not, however, explain the numerous instances of the accusative being used for the ablative in phrases like *cum filios suos tres* instead of *cum filiis suis tribus* 'with his three sons' (Herman 2000:53). In the case of Arabic, a phonetic change consisting in the deletion of final short vowels is often suggested as the cause of the loss of the declensional system, but here, too, the phonetic explanation is insufficient to explain the loss of non-vocalic endings, such as the plural endings *-ūna/-īna* or the nunated endings, in which the short vowel is followed by *-n* (Hanitsch 2019:6ff.). Phonetic change is sometimes associated with a process of erosion, which "reaches its endpoint when the case marker is lost", as Heine (2011:459) formulates it. This comes close to

² In fact, there is evidence that native speakers distinguish between complex and non-complex structures when addressing foreigners, as illustrated by Hiri Motu, a contact language spoken in Papua New Guinea, based on the Oceanic language Motu. Native speakers of Motu use different constructions, depending on whether their interlocutors speak a Papuan or a related Oceanic language (Dutton 1985).

positing a general drift affecting language, independently from the speakers' behavior. Bybee et al. (2016:421) view attrition as driven by the speakers' tendency towards ease of articulation in high frequency items, yet they formulate this in terms of "general phonetic tendencies in the language".

The second explanation of language change mentioned by Barðdal and Kulikov (2009:473f.) proposes functional mergers as the source for identical case forms. Thus, for instance, in Ancient Greek the Indo-European cases genitive and ablative are said to have merged because of their common semantic load of denoting origin (Bortone 2002). Phonetic processes alone cannot explain this syncretism. Adams (2013:252–254) remarks that in Latin there was an increasing functional overlap between the accusative and the nominative, so that people tended to use these two cases outside their traditional domain. Consequently, "any explanation of developments in the case system must allow for encroachment by the accusative on the nominative, whatever weight is to be given to phonetic attrition as blurring the distinctions between case endings" (2013:202). In this explanation, as in the phonetic one, the crucial issue remains that of actuation: why did these forms merge at this particular time, in this particular language, while elsewhere they remained separate?

As an alternative explanation of the loss of inflectional endings redundancy is sometimes advanced. When word order becomes more or less fixed, the argument goes, case endings marking the syntactic roles in the sentence will become redundant. In such a situation, children no longer learn to use the endings correctly, which eventually leads to their loss as markers of syntactic roles. Yet, lack of necessity as such can never be a sufficient cause, because other languages with complex systems retain these, even when there is no obvious need for them.

In Arabic linguistics, the classic polemic between Corriente (1971) and Blau (1972–1973) centered around this point (Sharkawi 2010:69–72). Corriente argued that case endings in Classical Arabic lacked functional yield. He only acknowledged a case morph as functional when changing it into another case morph produced a different meaning. Since this was not always the case, he concluded that "noun flexion" was nothing but "a secondary redundant set of morphs" (1971:44). In his view, the modern Arabic dialects did not represent a shift from a synthetic structure to an analytic one since Classical Arabic had never been a synthetic language in the first place, as witnessed by the coexistence of pausal and contextual forms. Blau showed that, linguistically speaking, Corriente's argument made no sense: "Redundancy is a widespread phenomenon in language, and one must not consider redundant features as such a secondary set" (1972–1973:31). He also pointed out (1972–1973:33) that word order in Classical Arabic was indeed less fixed than in the Arabic dialects in accordance with its synthetic structure.

A similar shift from synthetic to analytic structure took place in the Romance languages, as well as in a good many other languages.³ Adams (2013:259) warns against regarding this tendency as some sort of autonomous force governing change in a given language. He adds that for the native speakers it does not make any difference whether syntactic functions are expressed by a case ending or by a prepositional construction. There is no reason to regard prepositional constructions as less ambiguous and more transparent than case endings (Adams 2013:257–320). Consequently, the explanation for the shift to analytic endings must be sought elsewhere.

In the final paragraph of their survey Barðdal and Kulikov (2009:478) briefly refer to the connection between the decline of a case system and the degree of language contact. In the present article, I argue that in the case of Arabic it is only language contact that is responsible for the loss of endings. Current theories about the history of Arabic before and after the period of the Islamic conquests center around two issues, both highly controversial. First of all, there is fundamental disagreement about the structure of the language before the conquests, and secondly, there is no consensus about the way Arabic became the majority language in the conquered territories. These issues will be discussed in sections 3 and 4 below. Section 2 deals with the connection between language contact and language change.

2 Acquiring a New Language

In their classic study of language contact Thomason and Kaufman (1988) introduced a fundamental distinction between two different processes of language change as the result of language contact. Native speakers of a language may borrow linguistic items or features from speakers of another language with whom they come into contact, usually because this language is perceived as more prestigious. On the other hand, when people learn a new language or when they or their children shift to this language, they inevitably reanalyze the linguistic input and import new features, rendering their variety of the language different from that of native speakers. The mechanisms involved in these two processes of language acquisition are quite different, yet, in extreme cases, their outcome may look similar.⁴ Subsequently, both in borrowing and in shifting, the impact of the changes

³ For a definition of the notion of 'synthetic' in verbal inflection, see Bickel and Nichols (2005).

⁴ Muysken (2010) even distinguishes between eleven different scenarios in his analysis of language contact leading to language change. In fact, these may all be subsumed under the two processes posited by Thomason and Kaufman: either second-language learners introduce new features in their second language; or first-language speakers borrow features from another language.

in the speech community at large is determined by demographic factors (Trudgill 2011:56–58).

In his modified version of Thomason and Kaufman's model, Van Coetsem (2000) distinguishes between 'transfer under recipient language agentivity (borrowing)' and 'transfer under source language agentivity (imposition)'. Lucas (2015) regards Van Coetsem's model as an improvement on the model developed by Thomason and Kaufman, primarily because it connects both forms of contact-induced language change with the notion of 'dominance'.⁵ Fundamentally, though, Van Coetsem's model does not appear to differ much from the one introduced by Thomason and Kaufman, in which dominance relations are used implicitly. In both models, the two processes of language change are instantiations of what Labov (2007) calls 'diffusion', which covers contact-induced changes by adult native speakers and second-language learning, while he refers to first-language learning by children as 'transmission' (see Joseph 2012).

An example may serve to illustrate the difference between the two processes and the need to distinguish between them. Thomason (2015:34f.) mentions two instances of borrowed morphology: Lithuanian acquired three cases from Finnish, and Cappadocian Greek acquired 1st and 2nd person plural suffixes from Turkish. Formulating it in this way, with the focus on languages as agents, masks the difference between the two. In fact, speakers of Finnish, when shifting to Lithuanian, began to use three new locative cases in Lithuanian, illative, allative and adessive, as a result of interference from the grammar of their original language (Kulikov 2011:444). In this case, the innovations were produced by the new speakers of a language. In the case of Cappadocian Greek, innovations were introduced by native speakers of Greek, who became bilingual in Greek and Turkish. For the verbal inflection they borrowed personal suffixes from Turkish (Janse 2001:475). The end product of the changes in both Lithuanian and Cappadocian Greek exhibits a mixture of two morphological structures, but the processes of language acquisition by which this mixture is reached are quite different.⁶

The distinction between first- and second-language acquisition is connected with the use of different levels of phonetic realization on a continuum from full to reduced speech, the former being associated with a slow and formal style of speaking, the latter with fast and casual speech. Tucker and Ernestus (2016) argue

⁵ See also Winford (2007); Lucas and Manfredi (2020:13–15). Lucas (2015) introduces two additional categories of contact-induced change, 'convergence' and 'restructuring'. The former refers to multilingual communities in which the languages involved become gradually more alike, the latter to cases where the new learners impose features that are not derived from their first language but result from universal strategies of second-language learning.

⁶ More examples of the introduction of new cases in contact situations are given by Johansson (2011).

that the study of casual speech is of paramount importance for language processing and production. Against the common assumption that the reduced variant gradually becomes dominant and eventually displaces the fuller version in a process of erosion, they point out that in reality, the two variants may coexist for a long time.

It is here that the distinction between first- and second language acquisition comes into play. Initially, children learn all utterances as unanalyzed chunks (Tomasello 2003), but in regular first-language acquisition they are exposed over time to all speech variants across the continuum: even in speech directed to infants, speakers freely vary between full and reduced speech (Lahey and Ernestus 2014). Besides, in primary school children are trained to handle the full forms in writing (Wray and Grace 2007:559), which helps them analyze the composition of even strongly reduced speech.

Ernestus and Warner (2011) show that while native listeners comprehend even extremely reduced speech in context, non-native listeners find this very difficult or impossible. In second-language learning, most communication takes place in a work environment or on the street where the learners are exposed almost exclusively to an informal style of speech with a high degree of phonetic reduction.⁷ Second-language learners rely on the linguistic input provided by native speakers, who use informal language and tend to leave out anything redundant, including case endings, which are not strictly needed for comprehension (see also Wray and Grace 2007).

The locus for changes in the morphological system lies therefore in a process of second-language acquisition, which is based on a two-way adaptation: native speakers use a foreigner-directed register, which is then processed by the second-language learners. Both sides of this process are essential for successful communication between them. In first-language acquisition, children also tend to simplify the input they receive when learning the language, but through their exposure to multiple variants in the speech community, they end up adopting the full version of the language as well. In natural, i.e. unmonitored, learning circumstances, learners process a reduced input and, consequently, they have to fall back on reanalysis and restructuring.

3 Arabic before Islam

In the wake of the Islamic conquests, speakers of Arabic came to represent the new power, while their language became the language of the empire. The question is what kind of Arabic provided the input for the new learners of the language. Their provenance is not always clear: Arabia as a geographical notion was a construct

⁷ An exception is the artificial context of classroom learning, in which students are exposed only to a formal style, resulting in a morphologically complete, but stilted form of speech.

applied by Greek geographers since the time of Herodotus; originally, it referred to a region between Egypt and Palestine, while its coverage of the entire Arabian Peninsula, whose inhabitants were then called ‘Arabs’ is a later extension (Retsö 2003:249f.). Various other regions were also identified as Arabia, such as the Jazira, the region between the Euphrates and the Tigris. According to Al-Jallad (2018:315), before Islam Arabic was spoken widely in Mesopotamia, the Fertile Crescent, and North Arabia and he suggests that there was “a continuous tradition of writing Arabic in the region throughout the first millennium BCE”. In Akkadian, Hebrew, and Aramaic texts groups of Arabs are mentioned as early as the first half of the first millennium BCE, sometimes as allies and sometimes as troublesome enemies, but frequently associated with camels allowing them to retreat to the desert. Groups of Arabs were used as frontier guards or as police force by the Persian, Byzantine, or Himyarite empires (Retsö 2003:580).⁸

The identification of the language of these written testimonies is problematic. Al-Jallad calls all varieties of Arabic and North Arabian in the pre-Islamic period collectively ‘Old Arabic’. He rejects the definition of Old Arabic as a linguistic variety, the alleged predecessor of Classical Arabic as it was described by the grammarians: “Old Arabic does not refer to a homogeneous linguistic entity but instead to the entire corpus of inscriptions produced before the Islamic conquests” (2018:322; see also Fiema et al. 2015:385). Yet, later on, he states that it is possible to “form a rather detailed picture of Old Arabic” (2018:324), which he then sets out to sketch as if the people who left behind these inscriptions all belonged to the same speech community.

The notion of Arabic as a language with a long history is even more manifest in a later statement by Al-Jallad (2020:37):

Arabic first appears in the epigraphic record in the early first millennium BCE, and for most of its pre-Islamic history, the language interacted in diverse ways with a number of related Semitic languages and Greek.

‘The language’ is the key term here, suggesting that ‘Arabic’ had a history going back almost two millennia. The Bayir inscription from Jordan, usually dated to 500 BCE (Hayajneh et al. 2015) is a case in point. This bilingual inscription contains a text in Aramaic and in addition two lines dedicated to the patron gods of Moab, Edom, and Ammon, with some forms resembling Arabic, but there is no indication that the people who wrote the inscription regarded themselves as Arabs or speakers of Arabic.⁹ Retsö (2003:111) points out that when an inscription

⁸ From the first half of the third century CE onwards, the camel-riding warriors were often called *Sarakēnoi* in the Greek sources, and *Ṭayyāyē* in the Syriac/Aramaic sources (Retsö 2003:517ff.). The self-identification of the new Umayyad and Abbasid empires as ‘Arab’ dates from the period after the conquests (Cooperson 2014).

⁹ The edition by Hayajneh et al. (2015) gives the text as follows: *h mlkm w-kms^l w qws^l b km ‘wdn/h ’s^lhy m mdwbt [or mdws^lt]* “O Mlkm and Kms^l and Qws^l, we seek your protection [for] this/these sources from leakage [or: destruction, pollution]”.

contains features that look like Arabic, this does not mean that the people who left behind this inscription regarded their own language as Arabic. In fact, the authors of the Bayir inscription may very well have thought of themselves as speakers of the language of Moab, Edom, and Ammon.

It is not clear how the tribes living in the peninsula identified themselves. According to Retsö (2003:592), the name 'Arabs' is not an ethnonym at all, but the name of a specific group of soldiers, with a distinct way of fighting and with their own religious rituals. He believes that these Arabs used a special language for their rituals, too, identical with that of soothsayers (*kuhhān*) and poets (*šu'arā'*). It was this special language, he claims, that was referred to in the Qur'ān, when it identified itself as an Arabic Book (*kitāban 'arabiyyan*). The idea of the language of the Qur'ān as a special language is, however, hardly compatible with the emphasis the Qur'ān puts on the connection between text and audience. In a number of verses, the text states quite clearly that it was sent down by God in Arabic so that people might understand it (Q. 12/2). This ties in with the notion that God sends to each *'umma* a prophet with a revealed book in their own language (Q. 14/4), which implies that the language of the Qur'ān must have been familiar for its intended audience, at first the people of Qurayš in Mecca and later the people in Medina (see also Hoyland 2022).

In itself, this conclusion does not necessarily imply that the Qurayš used the language of the Qur'ān and poetry as their colloquial language. Since the days of Vollers' (1906) thesis of the fundamental difference between *Volkssprache* and *Schriftsprache* many variants of this idea have circulated. Most scholars reject his theory but still maintain that there was a separate colloquial language. Sharkawi (2010:80f.), for instance, claims that in pre-Islamic times the Classical Arabic language as it was codified later on by the grammarians served only for the composition of poetry and for the Qur'ān, not for any other functions. Yet, according to later historians, letters were written and treaties were put to writing during the Prophet Muḥammad's life. Noth (1973:60) concludes that there is no way to determine to what extent the text of those documents as transmitted by the historians is authentic, but he also points out that often historians refer to documents they have seen personally, which purport to date from the time of the Prophet. Whether the transmitted text is authentic is largely immaterial here; at any rate, there must have been written documents on topics other than literature or religion. Such documents are unlikely to have been written in a colloquial language that deviated entirely from the language of the poetry and the Qur'ān. That grammarians were less inclined to use such texts as linguistic evidence may be due to their non-verbatim transmission, which disqualified them as evidence of actual speech (Mirza 2010).

There is one feature of the language of the Qur'ān that grammarians universally regarded as a core feature of what Arabic was: its use of case markers as indices of syntactic roles. The issue of case marking in the variety of Arabic that served as the

source for second-language acquisition is related to the question of whether a case system can be reconstructed for the putative Proto-Semitic language (Hasselbach 2013), or whether this was an independent innovation in Akkadian and Classical Arabic (Owens 2006). On the basis of his reconstruction of Proto-Arabic, Owens believes that there must have existed a case-less variety of Arabic that was chronologically parallel with, if not older than, Classical Arabic (2018:144). But he also states (2015:167): “The basic assumption is that at the time of Sibawaih, ca. 150/770, Arabic had the type of free variation among final vowels as Amorite had.” This clearly implies that in his view the system of case endings was in decline at the time of Sibawayhi.¹⁰ With the later canonization of Classical Arabic by the grammarians, Owens argues, the Classical Arabic case system became fixed for all time, while the caseless variety became the predecessor of the modern Arabic dialects.¹¹ Hence, he does not believe that the disappearance of the case endings is in need of an explanation, because in the linguistic model to which the new speakers were exposed these endings were never there in the first place.

Owens’ reconstruction of the history of Arabic is rejected by Al-Jallad and van Putten (2017). With respect to the Arabic varieties spoken in the Arabian Peninsula, Al-Jallad insists that these possessed a case system, traces of which can be reconstructed from the inscriptions in Safaitic and other varieties of Ancient North Arabian. He concedes (2018:325–327) that “case inflection had disappeared in some pre-Islamic dialects”, as demonstrated by some of the transcriptions of Arabic in Greek characters (Graeco-Arabica). His corpus contains both inscriptions with and without traces of case endings. Perhaps, some of the pre-Islamic varieties at the periphery of the Arabian Peninsula may have originated as language varieties of people who depended on Arabic-speaking tribes. The status of these tribes was seldom such that their language could be regarded as prestigious, but in cultural centers like Petra or Hira some of them may have wielded sufficient military and political power to induce people to learn their language.

¹⁰ In this connection Owens cites the opinion of the grammarian Qūṭrub (d. 206/821), according to whom declensional vowels are not markers of syntactic functions but selected purely for euphonic purposes (see also Sartori 2018, 2021). This is based on a misunderstanding, however: Qūṭrub did not intend to prove that Arabic was a caseless language; his point was that it would be wrong logically to hold that the case markers were semantically motivated because of the imperfect correlation between syntactic function and phonetic marker (Versteegh 1981).

¹¹ While Larcher (2005) and van Putten (2022) emphasize the role of the grammarians in shaping the structure of Classical Arabic, some scholars go even further and maintain that the grammarians invented the entire declensional system. According to Sartori (2018) they did so, possibly under the influence of other linguistic traditions, in order to make Arabic worthy of being the language of a world religion, allegedly by assigning existing phonetic variants to specific syntactic functions. In this theory it remains inexplicable why the grammarians would have gone to the trouble of setting up a declensional system, containing both diptosis and triptosis.

Having defended the existence of a case system in the early stages of Arabic, Al-Jallad and van Putten (2017:105) then follow the traditional explanation of the loss of inflectional morphology in the modern dialects in terms of phonetic changes: in their view, the loss of final short vowels led automatically to the loss of case endings. Or, as they put it (2017:113):

The caseless system can easily be derived from the case system through simple sound laws and analogies. Losing the final unstressed part of a word is cross-linguistically so incredibly common, that it is hardly surprising that it happened multiple times.

Note, however, that this does not account for the elision of the nunated endings or for the loss of distinction between *-ūna/-īna* in the masculine plural, among other things.¹²

In his reply, Owens (2018:153) points out that if Arabic is credited with an inherited case system, as Al-Jallad and van Putten do, a plausible explanation is needed for its putative loss. This argument applies to the transition from Proto-Semitic to those Semitic languages that do not have case endings just as much as it does to the transition from an alleged Proto-Arabic case system to the caseless languages. Owens' main objection to Al-Jallad and van Putten's view is that they force the data into one mold, insisting on the existence of a case system in Proto-Arabic without providing an explanation for its loss. He advocates an approach that allows for "multiple pathways" in the history of Arabic, which leaves room for the existence of different varieties of Proto-Arabic, some of them without case endings. Even so, positing the existence of a pre-Islamic variety of Arabic without case endings, while obviating the need to explain their disappearance, does nothing to explain a host of other phenomena in the emerging dialects.

At any rate, the discussion about the varieties of Arabic outside the peninsula is largely irrelevant for the Arabicization process, because, as Lentin (2018:171) observes, the dialects in the Levant did not contribute to the initial Arabicization of the new empire. Even if one were to concede that most inhabitants of the Syrian steppe and the settlements on the desert's edge, as well as large parts of the Jazira, spoke Arabic, as Procházka (2018:260) believes, neither they nor the nomadic speakers of Arabic in this area were the ones responsible for the large-scale campaigns of the seventh century. The same conclusion applies to the pre-Islamic speakers of Arabic in the Sinai Peninsula, who did not partake in the conquest of Egypt (Sharkawi 2010:169). The Islamic conquests were initiated and organized by the new Islamic elite consisting mainly of *muhājirūn* and Qurašī aristocrats, while

¹² They also refer to the loss of distinction between the verbal moods because of the loss of final short vowels, but here too it should be noted that not all endings depend on the presence of a short vowel as ending. For criticism see Owens (2018:117f.) and Hanitsch (2019:6f.).

the enlisted warriors stemmed mostly from the Tihāma, Yemen, and Ḥadramawt (Kennedy 2007:42f., 147, 161; Hoyland 2015:164).

Al-Jallad (2021) is right when he states that the local circumstances in each of the conquered territories were very different, so that it would be wrong to regard any modern dialect as “a monogenetic descendent of a pre-Islamic variety”. This underlines the need to focus on the acquisition process and the model to which the new learners were exposed, in particular the composition of the invading army in each individual area.

4 Arabicization

If pre-Islamic Arabic was indeed a synthetic type of language with a functional case system, as the grammarians claimed, its disappearance in the modern dialects calls for an explanation. The first thing to consider here is the contribution of the people who carried out the military campaigns and provided the linguistic model for the new learners of the language. The total number of participants in these expeditions was relatively low, considering the vast territory that was being conquered. For the invasion of Iraq, Donner (1981:229) reckons with 20,000 Arab settlers in Kufa, as against 500,000 local inhabitants, and not many more than 1,000 in Basra (1981:230), later supplemented by new immigrants from the peninsula (Kennedy 2007:133–138). The total number of warriors in Syria is estimated at 30,000, in small contingents, in Iraq at 6,000 to 12,000. In Egypt 3,500 to 4,000 men took part in the initial conquest, later supplemented by 12,000, as against 3 million local inhabitants (Kennedy 2007:57, 143).¹³ The final conquest of North Africa in 647 CE was carried out by approximately 5,000 to 10,000 warriors (Kennedy 2007:107). An educated guess for the entire period of the conquests puts the total number at 250,000 to 300,000 Arab participants, as against 25–30 million inhabitants of the conquered territories (Hoyland 2015:158).

Apparently, then, the initial conquests were carried out by rather small groups of warriors. Magodov (2017:429f.) refers to the effect of plagues on the demography of the conquered lands, but even if these had taken away a third of the indigenous population, their numerical superiority would still have been large, the more so since the plagues must also have made victims among the Arabs. Besides, in spite of their victories against the Persians and the Byzantines, the Arab armies did sustain losses, which could only partly be compensated by reinforcements from the sedentary Arabs in the Levant and the Jazira. Most of these had converted to Christianity, and while some of them joined the invading warriors, others like the

¹³ Estimates vary widely. According to Sharkawi (2010:160ff.) the original invasion was carried out by 16,000 to 20,000 men, later supplemented by 12,000. By the beginning of the Umayyad caliphate, he claims that there were 40,000 Arabs in Egypt, and under the caliphate of Marwān ibn al-Ḥakam (54/684) 40,000.

Tanūḥ tribe from Hira fought against them (Munt et al. 2015:455, 464). Thus, there was a constant need for new soldiers in the ever-expanding military operations and to man the garrisons in the conquered territories. One way of assuring a steady supply of new soldiers was to stimulate migration from the peninsula, at first to Iraq where new garrison cities (*amṣār*) like Basra and Kufa were founded in the countryside, rather than to Syria, where tribesmen were mostly housed in established cities. Newcomers (*rawādīf*) were not always welcomed by the soldiers who had already settled there because they claimed a share in the allowances (*‘aṭā*). An exception was usually made for members from the same tribe. This preference contributed to the relative homogeneity of the military presence (Sharkawi 2010:166), in addition to the caliphal general policy of keeping the tribes apart, even in urban settlements.¹⁴

On the outskirts of the garrison cities communities of non-Arabs fleeing the impoverished countryside sprung up (Sharkawi 2010:170). An additional factor in the contacts with the indigenous population was the presence of a considerable number of prisoners-of-war who were sold as slaves, often later to be manumitted as *mawālī*. Thus, for instance, when the city of Caesarea was conquered in 641 CE, its entire population was enslaved and sent to the Ḥijāz as *kuttāb* and labourers (Kennedy 2007:89).

Labov’s (2001:504) ‘principle of first effective settlement’ states that the language of a region is determined by the first people who actually settle there. Magidow (2017:427) applies this principle to the *amṣār* founded by the Arab conquerors, to which he refers as “independent autonomous settlements which were primarily settled by Arabic-speaking military personnel and their families”. He further assumes that the Levant was largely depopulated as the result of epidemics and earthquakes, so that the place of the original inhabitants could be taken by Arabic-speaking nomads, who eventually became the new sedentary population of the rural areas (2017:429f.). Yet, if the invading Arabs were indeed the first settlers in large parts of the Levant, living in isolation from the remaining population, it would be difficult to explain why their language was affected by any change at all.

Holes’ (2018a:17) statement that “Arabic was learnt as a second language directly from its resident native speakers, who were from the start neighbours, co-religionists, and marriage partners” is based on the assumption that after the Islamic conquests everybody instantly learnt Arabic in the same way. This is hardly tenable. Magidow’s (2021) objections to such a catastrophic speech event or, as he calls it, the ‘big-bang hypothesis’ of Arabicization are justified. Arabicization cannot have taken place everywhere all at once given the small

¹⁴ Thus, koineization in the garrison towns was less likely to occur here than in what are called in modern sociology ‘new towns’, urban settlements in previously unoccupied lands (Kerswill 2012).

number of original invaders, which ensured that in each conquered region only few people were exposed directly to the new language. Magidow (2017:421) regards the spread of Arabic as a gradual extension of repertoires within the speech community, rather than a catastrophic speech event, but it remains unclear to which speech community he is referring. His idea of acquisition of language in peer groups of children socializing with each other can hardly have worked in the circumstances of the Islamic conquests. Immediately after the conquests some of the local inhabitants must have urgently needed to communicate with the new rulers, so that some other mechanism than interaction in peer groups was the driving factor behind the language acquisition process. Those who needed to negotiate with the invaders about conditions for surrender or about taxation and food provisioning had to acquire the new language quickly, yet without having at their disposal an “abundance of target language input”, as Sharkawi (2010:141) puts it.

Sharkawi (2010:194–245) is right in stressing the importance of the factor of foreigner-directed speech, but his focus on the underlying grammaticality of this register is mistaken: most of his data derive from high-level contacts between native speakers and learners, during which the latter are usually treated respectfully. In the first century of the conquests, the prevailing demographic context of language learning was one in which learners were more likely to be ordered about than to be treated as equals. In this kind of communication, the level of grammaticality tends to be quite low. Yet, most studies of the acquisition process of Arabic in the new empire seem to assume that the process took place without major structural loss. This picture of the acquisition process as a seamless transmission of ‘the’ language is incompatible with the numerical relations and the vast expanse of terrain covered by the Arab armies.

It is commonly supposed that the invasion of the new territories took place in successive stages resulting in what are often referred to as sedentary and Bedouin dialects. Magidow (2021) does not accept this scenario, called by him the ‘little-bang hypothesis’. The labels of sedentary and Bedouin are indeed somewhat misleading. The correlation between the occurrence of certain linguistic features, such as the retention of the interdental and the voiced realization of /q/, and a nomadic lifestyle is not entirely coincidental, but it is certainly not exclusive. Some urban dialects, for instance the Muslim dialect of Baghdad or the Sunnī dialect of Bahrain, also exhibit these features. Labelling them as ‘Bedouin’ is not very helpful and calling them ‘conservative’ does not do them justice either: in Baghdad, for instance, the Muslim dialect is innovating in the sense that it does not reflect the city’s original dialect. After the massacre of the Muslim inhabitants of Baghdad during the Mongol attacks in 1258, Bedouin immigrants gradually took the place of the old Muslim population, giving rise to a Muslim Baghdadi variety with features associated with a conservative dialect type, which soon became the new prestigious variety in Baghdad. The communal dialects of Jews and Christians

in Baghdad were conservative in the sense that they retained their original structure, which at the time they originated had been highly innovating. Or, as Herin (2019:102) puts it succinctly: “[T]raditional does not necessarily mean conservative, nor does mainstream necessarily mean innovative, although these notions may at times overlap.”¹⁵

The vanguard of the original invaders may have been Bedouin in the sense of belonging to a nomadic tribe, but veterans often settled down in the conquered territories and became ‘sedentary’. They constituted the main linguistic model for the local population. In the course of the later migrations in the eleventh century CE, some of the migrating tribes such as the Banū Hilāl and the Banū Sulaym may well have arrived into depopulated areas in North-Africa (Agüadé 2018:42f.). This was certainly the case for those Bedouin tribes who re-migrated eastwards from the Maghreb into parts of Upper Egypt that had suffered heavily from the plague. They may be regarded as ‘first settlers’ in the sense referred to by Magidow, but other tribes, who migrated to Middle Egypt, “were linguistically absorbed by the local population” (Behnstedt and Woidich 2018:88).

What were the linguistic effects of the various acquisition processes? Those inhabitants of the new empire who came in touch with speakers of Arabic, whether during the first stages of the conquests, or during the later migrations, shifted to the new language, introducing new features into their learners’ variety. If there had only been a handful of new learners, their variety would not have made much of a difference. But the numerical superiority of the original population compared to the new rulers of the empire was such that their way of speaking was bound to prevail, and what is more, was bound to become the model for the next generations, at least as far as the spoken language was concerned. Young people were much more likely to hear someone speaking a learner’s variety of the language than that of a proper native speaker.¹⁶

The idea of a wholesale imposition of a new language on a vast scale resulting in perfect transmission is just as mistaken in the case of Arabic as it was in the case of the Romance languages. Romance linguists often assume implicitly that the inhabitants of the Roman empire ended up speaking perfect Latin (Versteegh 2021). Likewise, Arabic linguists seem to assume that after a few decades everyone was able to speak perfect Arabic as a native speaker. Yet, the numbers and the chronology of the contact between speakers and learners of Arabic through the first

¹⁵ For the chronology of the development of the different stages in Gulf Arabic see Holes (2018b).

¹⁶ Of course, it cannot be ruled out that some individuals attained near-native fluency in their new language. While Sībawayhi himself was chided for his foreign accent, Cooperson (2014) mentions the cases of the songwriter ʾIbrāhīm al-Mawṣilī (d. 188/804) and the poet Baššār ibn Burd (d. 168/783), both of Persian origin, whose Arabic was flawless thanks to their growing up in an Arabophone environment and being fortunate to receive an education. Yet, such a privileged position was reserved for only very few people.

century of the conquests must have affected the language acquisition process. In his article on the Arabic koine (1959) Ferguson posited the existence of a common ancestor for all modern Arabic dialects on the basis of a list of fourteen common features. The idea of a common ancestor has been largely abandoned in the literature (Holes 2018a:8), but any theory about the emergence of the new vernaculars still needs to account for both the differences and the commonalities between them. Ferguson's list of features does not include the loss of declensional endings, because in his view this was part of a universal drift in language, rather than a specific innovation, nor does it contain a number of common traits that are realized differently in each of the modern dialects, such as the construction of the analytical genitive, the aspectual verbal prefixes, the replacement of the internal passive and the causative, the reduction of the system of negations, and the use of analytic interrogatives. No variety of pre-Islamic Arabic exhibits any of these features, which are shared by virtually all modern dialects, except perhaps some of the nomadic dialects in the Arabian Peninsula. They are instances of what Lucas (2015) calls 'restructuring', i.e. changes implemented by second-language learners that are not based on features from their own language, but result from learning strategies during the acquisition process. Initially, these new features must have been independent local developments that emerged during the early contacts. Later on, convergence took place within each larger area. This is illustrated by the map of the genitive exponent in Behnstedt and Woidich's *Wortatlas* (2021:406), which shows the influence of the central dialects. In Egypt, for instance, Cairene *bitā* 'has become the dominant variant in a large part of the country. The numerous local variants (*hana*, *šugl*, etc.) have not disappeared entirely, but are clearly losing terrain. In the same way, local variants of the new aspectual prefixes of the verb (Hanitsch 2019) are gradually making way for those of the central dialect.

The variation in the realization of the genitive exponent and the aspectual prefixes is a perfect illustration of the polygenetic origin of the modern Arabic vernaculars. Similar developments have taken place all over the world in very different language communities as a result of language contact of the same kind as the one brought about by the Islamic conquests. The inhabitants of the vast new empire did not simply take over 'the language' as it was handed down to them, but gave it a new shape, replacing the old 'endings' with new structures.

REFERENCES

- Adams, James N. 2013. *Social variation and the Latin language*. Cambridge: Cambridge University Press.
- Agüadé, Jordi. 2018. "The Maghrebi dialects of Arabic". *Arabic historical dialectology: Linguistic and sociolinguistic approaches* ed. by Clive Holes, 29–63. Oxford: Oxford University Press. DOI: 10.1093/oso/9780198701378.003.0002.

- Al-Jallad, Ahmad. 2018. "The earliest stages of Arabic and its linguistic classification". *The Routledge handbook of Arabic linguistics* ed. by Elabbas Benmamoun and Reem Bassiouney, 315–331. London and New York: Routledge. DOI: 10.4324/9781315147062-17.
- _____. 2020. "Pre-Islamic Arabic". *Arabic and contact-induced change* ed. by Christopher Lucas and Stefano Manfredi, 37–55. Berlin: Language Science Press. DOI: 10.5281/zenodo.3744503.
- _____. 2021. "Connecting the lines between Old (Epigraphic) Arabic and the modern vernaculars". *Languages* 6.173. DOI: 10.3390/languages6040173.
- _____ and Marijn van Putten. 2017. "The case for Proto-Semitic and Proto-Arabic case: A reply to Jonathan Owens". *Romano-Arabica* 17.87–117.
- Barðdal, Jóhanna and Leonid Kulikov. 2011. "Case in decline". *The Oxford handbook of case* ed. by Andrej Malchukov and Andrew Spencer, 470–478. Oxford: Oxford University Press. DOI: 10.1093/oxfordhb/9780199206476.013.0031.
- Behnstedt, Peter and Manfred Woidich. 2018. "The formation of the Egyptian dialect area". *Arabic historical dialectology: Linguistic and sociolinguistic approaches* ed. by Clive Holes, 64–95. Oxford: Oxford University Press. DOI: 10.1093/oso/9780198701378.003.0003
- _____. and Manfred Woidich. 2021. *Wortatlas der arabischen Dialekte. IV. Funktionswörter, Adverbien, Phraseologisches: Eine Auswahl*. Leiden: E.J. Brill.
- Bickel, Balthasar and Johanna Nichols. 2005. "Inflectional synthesis in the verb". *The world atlas of language structures* ed. by Martin Haspelmath et al., 94–95. Oxford: Oxford University Press. DOI: 10.5281/zenodo.7385533
- Blau, Joshua. 1972–1973. "On the problem of the synthetic character of Classical Arabic as against Judaeo-Arabic". *Jewish Quarterly Review* 63.29–38.
- Bortone, Pietro. 2002. "The status of the Ancient Greek cases". *Studies in Greek Linguistics* 22:1.69–80.
- Bybee, Joan, Richard J. File-Muriel, and Ricardo Napoleão de Souza. 2016. "Special reduction: A usage-based approach". *Language and Cognition* 8.421–446. DOI: 10.1017/langcog.2016.19
- Carstairs-McCarthy, Andrew. 2010. *The evolution of morphology*. Oxford: Oxford University Press.
- Cooperson, Michael. 2014. "'Arabs' and 'Iranians': The use of ethnicity in the early Abbasid period". *Islamic cultures, Islamic contexts* ed. by Behnam Sadeghi, Asad Q. Ahmed, Adam Silverstein, and Robert Hoyland, 364–387. Leiden: E.J. Brill. DOI: 10.1163/9789004281714_014.
- Corriente, Federico. 1971. "On the functional yield of some synthetic devices in Arabic and Semitic morphology". *Jewish Quarterly Review* 62.20–50.
- Donner, Fred McGraw. 1981. *The early Islamic conquests*. Princeton, N.J.: Princeton University Press.

- Dutton, Tom. 1985. *Police Motu: Iena sivarai (Its story)*. Port Moresby: The University of Papua New Guinea Press.
- Ernestus, Mirjam and Natasja Warner. 2011. "An introduction to reduced pronunciation variants". *Journal of Phonetics* 39.253–260. DOI: 10.1016/S0095-4470(11)00055-6.
- Ferguson, Charles A. 1959. "The Arabic koine". *Language* 25.616–630.
- Fiema, Zbigniew T., Ahmad Al-Jallad, Michael C.A. Macdonald, and Laïla Nehmé. 2015. "Provincia Arabia: Nabataea, the emergence of Arabic as a written language, and Graeco-Arabica". *Arabs and empires before Islam* ed. by Greg Fisher, 373–433. Oxford: Oxford University Press. DOI: 10.1093/acprof:oso/9780199654529.003.0008.
- Gijn, Rik van. 2015. "Aspects of the diachronic (in)stability of complex morphology". *Linguistic Discovery* 13:2.1–22. DOI: 10.1349/PS1.1537-0852.A.465.
- Hanitsch, Melanie. 2019. *Verbalmodifikatoren in den arabischen Dialekten: Untersuchungen zur Evolution von Aspektsystemen*. Wiesbaden: Harrassowitz.
- Hasselbach, Rebecca. 2013. *Case in Semitic: Roles, relations, and reconstruction*. Oxford: Oxford University Press.
- Hayajneh, Hani, Mohammad I. Ababneh, and Fawwaz Al-Khraysheh. 2015. "Die Götter von Ammon, Moab und Edom in einer neuen frühnordarabischen Inschrift aus Südost Jordanien". *Fünftes Treffen der Arbeitsgemeinschaft Semitistik in der Deutschen Morgenländischen Gesellschaft vom 15.-17. Februar 2012 an der Universität Basel* ed. by Viktor Golinets et al., 79–105. Münster: Ugarit-Verlag.
- Herin, Bruno. 2019. "Traditional dialects". *The Routledge handbook of Arabic sociolinguistics* ed. by Enam Al-Wer and Uri Horesh, 93–105. London & New York: Routledge. DOI: 10.4324/9781315722450-7
- Herman, József. 2000. *Vulgar Latin*. English transl. by Roger Wright. University Park, Penn.: The Pennsylvania State University Press. [First published, *Le latin vulgaire*. Paris: Presses Universitaires de France, 1967.]
- Hickey, Raymond. 2012. "Internally- and externally-motivated language change". *The Handbook of historical sociolinguistics* ed. by Juan M. Hernández-Campoy and J. Camilo Conde-Silvestre, 387–407. Chichester: Wiley Blackwell. DOI: 10.1002/9781118257227.ch21
- Holes, Clive. 2018a. "Introduction". *Arabic historical dialectology: Linguistic and sociolinguistic approaches* ed. by Clive Holes, 1–28. Oxford: Oxford University Press. DOI: 10.1093/oso/9780198701378.003.0001.
- _____. 2018b. "The Arabic dialects of the Gulf: Aspects of their historical and sociolinguistic development". *Arabic historical dialectology: Linguistic and sociolinguistic approaches* ed. by Clive Holes, 112–147. Oxford: Oxford University Press. DOI: 10.1093/oso/9780198701378.003.0005

- Hoyland, Robert G. 2015. *In God's path: The Arab conquests and the creation of an Islamic empire*. Oxford: Oxford University Press.
- _____. 2022. “‘*Arabī* and ‘*ajamī* in the Qur’ān: The language of revelation in Muḥammad’s Hijāz”. *Scripts and scripture: Writing and religion in Arabia circa 500–700 CE (Late Antique and Medieval Islamic Near East)* ed. by Fred M. Donner and Rebecca Hasselbach-Andee, 105–115. Chicago, Ill.: Oriental Institute of the University of Chicago.
- Janse, Mark. 2001. “Morphological borrowing in Asia Minor Greek”. *Proceedings of the 4th International Conference on Greek Linguistics, Nicosia, September 17–19, 1999*, 473–479. Thessaloniki: University Studio Press. DOI: 10.1163/9789004394506_004.
- Johansson, Lars. 2011. “Case and contact linguistics”. *The Oxford handbook of case* ed. by Andrej Malchukov and Andrew Spencer, 494–501. Oxford: Oxford University Press. DOI: 10.1093/oxfordhb/9780199206476.013.0033
- Joseph, Brian D. 2012. “Lexical diffusion and the regular transmission of language change in its sociohistorical context”. *The handbook of historical sociolinguistics* ed. by Juan M. Hernández-Campoy and J. Camilo Conde-Silvestre, 408–426. Chichester: Wiley Blackwell. DOI: 10.1002/9781118257227.ch22
- Kennedy, Hugh. 2007. *The great Arab conquests: How the spread of Islam changed the world we live in*. London: Weidenfeld and Nicolson.
- Kerswill, Paul. 2012. “Contact and new varieties”. *The handbook of historical sociolinguistics* ed. by Juan M. Hernández-Campoy and J. Camilo Conde-Silvestre, 230–251. Chichester: Wiley Blackwell. DOI: 10.1002/9781119485094.ch12.
- Kulikov, Leonid. 2011. “Evolution of case systems”. *The Oxford handbook of case* ed. by Andrej Malchukov and Andrew Spencer, 439–457. Oxford: Oxford University Press. DOI: 10.1093/oxfordhb/9780199206476.013.0029.
- Kusters, Wouter. 2003. *Linguistic complexity: The influence of social change on verbal inflection*. Utrecht: LOT Publications.
- Labov, William. 2001. *Principles of linguistic change*. II. *Social factors*. Malden, Mass.: Blackwell.
- _____. 2007. “Transmission and diffusion”. *Language* 83.344–387. DOI: 10.1353/lan.2007.0082.
- Lahey, Mybeth and Mirjam Ernestus. 2014. “Pronunciation variation in infant-directed speech: Phonetic reduction of two highly frequent words”. *Language Learning and Development* 10.308–327. DOI: 10.1080/15475441.2013.860813.
- Larcher, Pierre. 2005. “Arabe pré-islamique – arabe coranique – arabe classique : Un continuum ?”. *Die dunklen Anfänge: Neue Forschungen zur Entstehung und frühen Geschichte des Islam* ed. by Karl-Heinz Ohlig and Gerd-Rüdiger Puin, 248–265. Berlin: Hans Schiler.

- Lentin, Jérôme. 2018. "The Levant". *Arabic historical dialectology: Linguistic and sociolinguistic approaches* ed. by Clive Holes, 170–205. Oxford: Oxford University Press. DOI: 10.1093/oso/9780198701378.003.0007.
- Lucas, Christopher. 2015. "Contact-induced language change". *The Routledge handbook of historical linguistics* ed. by Claire Bowern and Bethwyn Evans, 519–536. London: Routledge. DOI: 10.4324/9781315794013.ch24.
- _____. and Stefano Manfredi. 2020. "Introduction". *Arabic and contact-induced change* ed. by Christopher Lucas and Stefano Manfredi, 1–33. Berlin: Language Science Press. DOI: 10.5281/zenodo.3744501
- Magidow, Alexander. 2017. "Linguistic history and the history of Arabic: A speech community approach". *Arabic in context: Celebrating 400 years of Arabic at Leiden University* ed. by Ahmad Al-Jallad, 405–440. Leiden: E.J. Brill. DOI: 10.1163/9789004343047_015.
- _____. 2021. "The old and the new: Considerations in Arabic historical dialectology". *Languages* 6, 163. DOI: 10.3390/languages6040163.
- Mirza, Sarah Zubair. 2010. *Oral tradition and scribal conventions in the documents attributed to the Prophet Muḥammad*. Ph.D. diss., University of Michigan.
- Munt, Harry et al. 2015. "Arabic and Persian sources for Pre-Islamic Arabia". *Arabs and empires before Islam* ed. by Greg Fisher, 434–500. Oxford: Oxford University Press. DOI: 10.1093/acprof:oso/9780199654529.003.0009.
- Muysken, Pieter. 2010. "Scenarios for language contact". *The handbook of language contact* ed. by Raymond Hickey, 265–281. Malden, Mass.: Blackwell. DOI: 10.1002/9781444318159.ch13.
- Owens, Jonathan. 2006. *A linguistic history of Arabic*. Oxford: Oxford University Press.
- _____. 2015. "Reflections on Arabic and Semitic: Can Proto-Semitic case be justified?" *Kervan: International Journal of Afro-Asiatic Studies* 19.159–172. DOI: 10.13135/1825-263X/1675.
- _____. 2018. "Where multiple pathways lead: A reply to Ahmad Al-Jallad and Marijn van Putten". *Case and mood endings in Semitic languages: Myth or reality?* ed. by Lutz Edzard, Manuel Sartori, and Philippe Cassuto, 95–161. Wiesbaden: Harrassowitz. DOI: 10.2307/j.ctvc47q.9.
- Noth, Albrecht. 1973. *Quellenkritische Studien zu Themen, Formen und Tendenzen früh-islamischer Geschichtsüberlieferung*. I. *Themen und Formen*. Bonn: Selbstverlag des orientalischen Seminars der Universität Bonn.
- Procházka, Stephan. 2018. "The Northern Fertile Crescent". *Arabic historical dialectology: Linguistic and sociolinguistic approaches* ed. by Clive Holes, 257–292. Oxford: Oxford University Press. DOI: 10.1093/oso/9780198701378.003.0009.
- Putten, Marijn van. 2022. *Quranic Arabic: From its Hijazi origins to its Classical reading traditions*. Leiden: E.J. Brill.

- Retsö, Jan. 2003. *The Arabs in Antiquity: Their history from the Assyrians to the Umayyads*. London & New York: RoutledgeCurzon.
- Sartori, Manuel. 2018. “La flexion désinentielle et l’arabe : État de la question et discussion d’arguments récents”. *Case and mood endings in Semitic languages: Myth or reality?* ed. by Lutz Edzard, Manuel Sartori, and Philippe Cassuto, 68–94. Wiesbaden: Harrassowitz. DOI: 10.2307/j.ctvc4m4f7q
- _____. 2021. “Restriction and exhaustion in Arabic: Evaluation of the relevance of the inflectional declension”. *Al-Karmil Studies in Arabic Language and Literature* 42.161–188. DOI: 10.1163/29497841-04201015
- Sharkawi, Muhammad al-. 2010. *The ecology of Arabic: A study of Arabicization*. Leiden: E.J. Brill.
- Thomason, Sarah Grey. 2015. “When is the diffusion of inflectional morphology not dispreferred?” *Borrowed morphology* ed. by Francesco Gardani, Peter Arkadiev and Nino Amiridze, 27–46. Berlin: de Gruyter. DOI: 10.1515/9781614513209.27
- _____. and Terrence Kaufman. 1988. *Language contact, creolization and genetic linguistics*. Berkeley, Cal.: University of California Press.
- Tomasello, Michael. 2003. *Constructing a language: A usage-based theory of language acquisition*. Cambridge, Mass. & London: Harvard University Press.
- Trudgill, Peter. 2011. *Sociolinguistic typology: Social determinants of linguistic complexity*. Oxford: Oxford University Press.
- Tucker, Benjamin V. and Mirjam Ernestus. 2016. “Why we need to investigate casual speech to truly understand language production, processing and the mental lexicon”. *The Mental Lexicon* 11:3.375–400. DOI: 10.1075/ml.11.3.03.tuc.
- Van Coetsem, Frans. 2000. *A general and unified theory of the transmission process in language change*. Heidelberg: Winter.
- Versteegh, Kees. 1981. “A dissenting grammarian: Quṭrūb on declension”. *Historiographia Linguistica* 8.403–429. DOI: 10.1075/sihols.28.12ver.
- _____. 2021. “The ghost of Vulgar Latin: History of a misnomer”. *Historiographia Linguistica* 48:2.205–227. DOI: 10.1075/hl.00091.ver.
- Weinreich, Uriel, William Labov, and Marvin I. Herzog. 1968. “Empirical foundations for a theory of language change”. *Directions for historical linguistics* ed. by Winfred P. Lehmann and Yakov Malkiel, 95–195. Austin, Tex.: University of Texas Press.
- Winford, Donald. 2007. “Some issues in the study of language contact”. *Journal of Language Contact* Thema 1.22–40. DOI: 10.1163/000000007792548288.
- Wray, Alison and George W. Grace. 2007. “The consequences of talking to strangers: Evolutionary corollaries of socio-cultural influences on linguistic norms”. *Lingua* 117.543–578. DOI: 10.1016/j.lingua.2005.05.005.