

Sequence in the Older Futhark

1. In his recent comprehensive article in this journal arguing for the superiority of a North Etrurian origin of the runes Bernard Mees (2000: 76 ff.)¹ convincingly established the ordering principle according to which pairs of runes in an established sequence of the older futhark comprise one from the first and one from the second half of the source alphabet divided at the point between L and M. However, apart from observing that within the pairs containing the first four letters of the source alphabet a curious retrograde ordering within the pair was the rule — i.e. $\Phi A TB RC XD$ instead of $A\Phi BT$, etc., cf. $FU EM HN$, etc. — Mees was forced to conclude that “the exact mechanical principle behind the order of the rune-row remains obscure” (ibid.: 79).

One possible reason why Mees was unable to penetrate further into the mystery of runic ordering is that some of his equations of runic staves with the source alphabet may be susceptible of improvement. Otherwise Mees' perception that the ordering of the futhark follows partly an *athbash* (i.e. of the type $AZ BY CX DW$, etc.) and partly an *albam* (i.e. of the type $AL BM CN DO$) ordering is close to the truth and constitutes the basis for the present offering, which can be read as an essentially positive response to Mees' paper. The ordering that emerges from these considerations has been disturbed by the relocation of three pairs from their natural places to the third *ætt*. An explanation for this phenomenon is offered at the appropriate place below.²

¹ I am most grateful to Bernard for sending me an offprint of his splendid article. Without it the present study would have been impossible. But any errors of fact and opinion in what is presented here are of course entirely mine.

² Thus the argument here is totally divorced from and stands parallel to the very shrewd and almost magically successful presentation by Griffiths (1999). Starting with a Greek alphabetic order, Griffiths manages to get all the consonants of the rune-row into the right order by means of a short series of pairings and certain symmetrical manoeuvres. This neat system comes at the cost of some very debatable, not to say anachronistic runic-Greek equivalents, such as the runic **k** deriving from the Greek qoppa, while runic **ŋ** derives from Greek kappa. These oddities are explained by reference to allegedly similar, though reversed, processes in ogam, which in reality turn out to be a set of unrelated phenomena

One weakness of Mees' approach, which may prove temporary, deserves mention at the outset since it concerns matters of principle as well as letter shapes. This is the view that the inventor of the runes adopted the Venetic/Lepontic principle of using the aspirates of the base alphabet to represent voiced or lenis sounds. If this were so it would be a puzzle why the three Venetic symbols were not simply taken over en masse. Instead we find that runic **b**, being simply the B of the base alphabet is not based on an aspirate at all, while runic **g** is based on the eastern Greek or 'blue' cross chi X, which is hardly attested in Etruria in this function (see below), and not on the western or 'red' chi Ψ of Venetic and Lepontic, which, with variants in which (as in some versions of eastern Greek psi) the slant arms cross the *hasta* to form an apparent merger of 'red' and 'blue' chi, is the common Etrurian form. Thus no special line of development or influence is traceable from Venetic/Lepontic to runic, although other features of the analysis given below do bear out certain Italian features, such as the use of gamma C as runic **k** and digamma V as runic **f**. If the runic practice with respect to the inherited voiced obstruents requires an explanation then an obvious one would be that the Germanic dialect of the inventor had chiefly or exclusively plosive /b/ and spirant /d/ and /g/.

On the matter of chi X in Etruria: the Marsiliana d'Albegna and other early abecedaria found in Etruria do not constitute proof that aspirate X was known in this shape in this part of the world. Mees (personal communication) informs me that since this alphabet has two letters representing ksi (Ξ and X) it is generally believed that it was "borrowed" before the red-blue distinction came into being; but this simple conclusion seems to be highly debatable. It is true that the Marsiliana letter forms are mostly distinctly Euboean (Jeffery 1961: 236) except that the eastern or 'blue' ksi Ξ and san M are otherwise unknown in Euboean inscriptions. Indeed the 'closed' ksi of Marsiliana is unknown outside Etruria, and even there it occurs only in abecedaria (e.g. Rix 1991, 1: 38).³

that happen to involve similar sounds. Thus in Griffiths' system runic appears to use C for **k** but gives it the place of (archaic Greek) qoppa, while ogam Q (= four strokes emerging to the left and at right angles to the guide line), representing a different phoneme from ogam C [k] (= three strokes similarly disposed), is given the place of C, while C is given the place of kappa. In both runic and ogam S and Z apparently exchange places, and so on. The discrepancies affecting Griffiths' system and the one presented here are thus about the same. On the other hand Griffiths' idea of writing on a writing tablet appears fruitful and is incorporated here (see below).

³ Unlike the 'red' ksi X which the Etruscans apparently heard as [si] and used for /s/ in "the southern cities of Veii, Caere, and Tarquinia in the Archaic period" (Bonfante/Bonfante 1983: 66; Rix 1991, 1: 38 f.). Otherwise the X sign did not figure in Etruscan epig-

Cristofani (1979: 380 f.) concludes that the "lack of uniformity of scripts in southern Etruria suggests a variety of writing traditions" and mentions the possibility that crescent gamma and san "came to Etruria in the wake of trade with Corinth." The same source may also be responsible for the introduction of 'blue' ksi, which may ultimately represent Ionian influence (Jeffery 1961: 32, 80). If the Corinthians managed to insert 'blue' ksi and san into their alphabet, it seems possible that somewhere in Etruria their 'blue' readings of X as chi and Ψ as psi might have taken root.⁴ Indeed Mees (p.c.) believes 'blue' chi X to be evidenced in the Camunic inscriptions where X and Ψ appear to be variants, as they are in some parts of archaic Greece (cf. the two writings of Χθονιαι in parallel inscriptions found at Hermion in Jeffery 1961: 178 f. and plate 33, nos. 8 and 9; cf. also *ibid.* p. 263). If this proves correct then it will facilitate the hypothesis of a North Etrurian origin of the Germanic runes, although the explanation of the order given below works better if the end of the base alphabet presents the order Φ X, as in the 'blue' Ionic abecedarium dated to 660–650 BC (Johnston 1990, plate 79, no. 7), rather than the Marsiliana 'red' order X (with inapplicable value) then Φ.⁵ In short, all the evidence points to a 'red-blue' composite.

And so: to the analysis.

2. We begin with an acceptable ordering of the runes (1) and assign equivalents in Graeco-Roman, etc., transliteration (2), largely following Mees, and, after discussion of any differences, proceed to unpack this to yield the source alphabet.

(1) **f u þ a r k g w : h n i j ð p r s : t b e m l g d o**

(2) **V U Φ A R C X D : H N I Ž K P Š S : T B E M L Q Θ O**

The only differences with Mees at this point are (a) identification of

raphy except as a numeral, e.g. on the Magliano lead plaque (Rix 1991, 2: 26–7 no. AV 4.1). In the abecedarium on the little bird-shaped bottle from Viterbo of c. 600–500 BC (Jeffery 1961, plate 48, no. 22; better photographs and the earlier date in Bonfante/Bonfante 1983: 108 f.) this "ksi" X has been replaced with a second ordinary sigma, the enigmatic 'blue' ksi Ξ still holding its own between N and O.

⁴ Actually Jeffery (1961: 410) transliterated the Marsiliana and other early Etruscan abecedaria as purely eastern 'blue' Greek alphabets of the Ionic/Argive-Corinthian type.

⁵ Cf. the 'red' Boeotian abecedaria on the c. 420 BC cup (Jeffery 1961, plate 10, no. 20) which have no ksi between N and O but have at or near their ends ksi +, phi Φ, chi Ψ, i.e. the same graphic characters as at the end of the Marsiliana abecedarium, apart from a 45° rotation of the non-vertical stroke of the Marsiliana "ksi" into horizontal position.

the **j** rune with hush sibilant \check{Z} instead of double-I or similar; and (b) identification of the **ᚱ** rune with hush sibilant \check{S} instead of Z.

The first of these changes reflects an early date for the fricative pronunciation of /j/ in Germanic. The motivation for this supposition will be dealt with below in the discussion of the source alphabet and how it differs from the proposed model.

The second change is supported by the palatalization evident in the second syllable of **dohtrin**. Mees (p.c.) informs me that this palatalization is usually taken as proof that **ᚱ** actually represented voiced [z]. I find this line of reasoning impossible to follow. Palatalization and voicing do not obligatorily accompany each other in any language I know of. The route from voiceless /s/ to voiced apical trilled /r/ presumably begins as a lenition of some kind involving relaxing of the apical groove and some lowering of the tongue body with perhaps some raising of the apex so that friction is initially maintained. The next step is lowering of the apex to the approximant position, presumably with some concomitant retroflexion.⁶ A small change in the vigour of the movement of the tongue in getting into the retroflex approximant position leads to the tap, which with further emphasis becomes a trill.

Scandinavian illustrates all the main stages in the process from the relaxing of the groove to produce a palatal laminar fricative ([š] = <**ᚱ**> as in **dohtrin**) to the retroflexion of apical consonants in Swedish following /r/, and to the trill of modern Icelandic.

Voicing can enter into the composition of the sound at any point along the way. Thus the word-initial trill of Ancient Greek was probably generally voiceless judging by the asper that always accompanied initial rho in accented texts; similarly the geminate seems also to have been partly voiceless. Theoretically it is possible that voicing became a component feature in Germanic even before the apical groove was lost, as the usual reconstructions with final <-z> seem to imply. This may have been the stage preserved in Gothic since devoicing of the sound conventionally transcribed <z> results in Gothic <s> — though I am unaware of any evidence that Gothic /s/ was necessarily grooved.⁷ The runic evidence points to a palatal [š] (or [ž]) as the next stage after relaxing of the

⁶ My previous comparison with Sanskrit ś (Woodhouse 1998: 213f.) appears to have struck some scholars as going a little too far, but I think this is partly the result of the somewhat exaggerated “cacuminal” terminology and partly due to my neglecting to specify that it is precisely Hirt (1932: 34) as cited by Mańczak (1990: 94) who supplies the evidence, ignored by Boutkan (1995: 43, 46 f.), of pre-Gothic rhotacism or retroflexion of PIE *-s, viz. Goth. *anþar*, *stiur*, *fidwor*, *hvaþar* = Skt. *ántaras*, *stháviras*, etc.

⁷ It is well known, for example, that owing to the deficiencies of their (languages and)

groove, a sound (sounds) which can become retroflex, as is shown by the history of East Slavic (certainly Russian, see especially Walter Wenzel in Gabka 1975: 70). I have chosen Š in preference to Ž in order to avoid, in the simplest way possible, any clash with Ž = j.

We begin the unpacking by splitting the sequence into its two — in places three — component series, without losing sight of the agreed attested order, but marking apparent discontinuities by comparison with a presumed earlier source with numbered vertical lines and boxes as in (3). For convenience, (2) is repeated.

(2) V U Φ A R C X D : H N I Ž K P Š S : T B E M L Q Θ O

(3)

U	R											T			
V	A	C	D	H	I	K	Š	:	B	E	L	Q	Θ	O	
Φ		X		N	Ž	P	S		M	Q	O				
0	1			2	3					1	2			3	

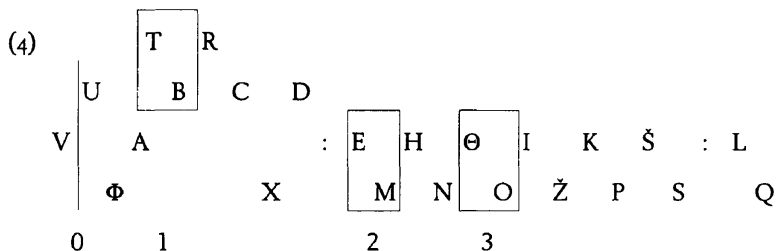
The origin of the pairs system will be discussed when we reach the stage of the source alphabet (5) below.

The transpositions marked in (3) probably arose as inadvertent slips partly due to reminiscences or to the contemporary influence of another sequence (thus **st**; a more fuzzy example is **be**) and partly to similarities of shape (**go** relies on the alternative sequence **od** of the last pair). These slips occurred when the system was well established so that in each case an entire pair was transported. Since all three transpositions involve removal of a pair to a later place in the sequence, it is probable that each slip occurred originally as a second writing of the pair in question while writing out the futhark for pedagogical purposes. When the mistake was discovered it eventually gave rise to confusion about the correct place of the given pair, which was resolved in the manner attested and subsequently became canonized. No doubt similar slips occurred in relation to other pairs, but the resolution of these resulted in (probably inadvertent) restoration of the original sequence of the pairs. The inadvertence that is a key feature of this explanation answers or harmonizes with Mees' (2000: 78) point that apparently graphically (etc.) motivated juxt-

scripts Greek and Latin authors tend to treat groove and slit (and other varieties of) sibilants alike.

apositions in the futhark are too unsystematic to be the result of a deliberate process.

Next we restore the aberrant numbered sections of the third *ætt* to their rightful places, the gaps bearing the same numbering in (3) as in (4).



Before writing out the immediate source alphabet for this patterning we observe that the expanded first *ætt* plus the first letter of the second *ætt* has at its core a clockwise arc containing the first five letters ABCDE surrounded by an anticlockwise arc containing the last five RTUΦX (the absence of S in this sequence and similar matters will be dealt with in due course). D, representing runic *w*, occupies the last place in the first *ætt*, while V, representing runic *f*, occupies the first. Since, as is known (and as Mees [loc. cit. p. 64 f.] himself points out), the values /w/ and /f/ are clearly related in several Italian traditions and the relations between /w/ and /u/ cannot have been totally obscure (cf. Latin V, Etruscan V and U) it seems that a certain similarity of shape between V and D — both consisting of a *hasta* with two oblique strokes to its right, usually parallel in the one and converging in the other — may have led to the transfer of the value /w/ to the D shape and the placing of the two now phonologically related signs at either end of this beginning-and-end complex containing U = u.

The remainder of the array consists of the rest of the source alphabet, minus V, split *albam* fashion after L.

Something like Griffiths' (1999: 206) fruitful idea of the writing tablet can be usefully employed here, though without the artificial requirement of first removing the vowels. Thus one can imagine the first four letters ABCD being written out boldly a little above the middle of the tablet, and the next fourteen E–Q being squeezed in rather more economically in two rows in the lower half of the tablet, the final five (R–X) then being looped decoratively around the four bold openers.

Assuming the transport of V just discussed was from its usual position

just after E, the immediate source alphabet for (4) thus had the following sequence (5):

(5) A B C D E V H Θ I K Š L M N O Ž P S Q R T U Φ X

The model alphabet from which the set in (5) was derived probably had at least the sequence as in (6), in which for clarity the additional or moved letters have been underlined and one letter found in (5) but not in (6) has been bracketed:

(6) A B C D E V Z H Θ I K Š L M N Š O (Ž) P Š Q R S T U Φ X

The only differences between (6) and the Marsiliana abecedarium is that 'red' ksi X near the end of Marsiliana has been replaced by Š between K and L and that Marsiliana 'red' chi Ψ has been replaced by 'blue' X. The sequence *phi chi* is in fact the usual one in both 'red' and 'blue' abecedaria, cf. Jeffery (1961: plate 10, no. 20; plate 48, nos. 18–20, 22; and plate 50, no. 19) for 'red' examples (including the Etruscan ones despite their inserted 'blue' ksi) and Johnston (1990: plate 79, no. 7) for a solitary 'blue' one.

Now it is necessary to explain the derivation of the source alphabet (5) from the model alphabet (6).

The elimination of Z and the adaptation of D to **w** and K to **ī** were probably part of a single reform aimed at simplifying and systematizing the several signs in (6) that consisted essentially of a *hasta* with two lines projecting in the direction of the writing. Z did not quite fit the pattern, was not needed to denote an affricate, nor apparently even **d** after the model of Venetic, and was dropped. "Two-pronged" D (with the prongs converging) and V, the two letters which were symmetrically disposed on either side of three-pronged E, were adapted to represent the two consonantal sounds related to **u** (and ultimately all deriving from the same Semitic sign), viz. **w**, the original value of V, and **f**, the Italian-developed value of V. With Z gone, A and K also became more symmetrically disposed about E, and as A represented a vowel, K, as Mees (2000: 63) proposed, was adapted to do the same, viz. **ī**, since C already existed with the value **k**.

In the other half of the alphabet there were three symbols for sibilants each separated from its nearest sibilant neighbour by two other letters. It appears that the mysterious ksi, which appears never to be used in Italian writing (and is denoted here for convenience by Š, the symbol used by Hoch [1994: 13] for interpreted Semitic samek in Egyptian transcriptions), and its neighbour san, commonly denoted Ś, were abandoned in

favour of a third, apparently doubled symbol placed midway between the two to denote /j/ (our *Ž*); whether this was really formed from two Is or two Cs or two Ss can hardly be determined now. Then, in a curious twist, sigma S was moved into the spot formerly occupied by san. This may be a further sign of North Etrurian influence since in North Etruscan⁸ writing, according to the shrewd observations of Rix (1991, 1: 21 f.), it is san M (commonly transliterated *Š*) that represents grooved /s/, in contradistinction to South Etruscan writing where the same (or a related) sound is represented by sigma S.⁹ Perhaps this represents an attempt by the rune-inventor to bridge a regional gap by taking the South Etruscan symbol for *s* while giving it a North Etruscan position in the sequence.

On the other hand, transport of letters from one position to another seems to be a particular disease of sibilants.¹⁰ We would no doubt be forced to rely on a transport of this kind to account for the *Š* that I have inserted between K and L in the model alphabet, were it not for the fact that the Ugaritic sequence — the source of the Phoenician and thus ultimately the basis of the Greek — has precisely this feature, i.e. *Š* between K and L, and the further fact that the Ugaritic cuneiform sign from which the graphic shape of Phoenician *šin* is descended bears a remarkable resemblance to a tailless form of the runic *ᚱ* to which according to the present analysis it may be ancestral (see, e.g., Gordon 1965: 11 ff.).

Ugaritic also comes tantalizingly close to supplying both the values and the order of seven of the last eight letters of our source alphabet (5), remembering that Semitic *šade* is the ancestor of North Etruscan *san* (=

⁸ The usefulness of being able to distinguish simply between the North (or any feature) of Etruria from the Northern variety (or any other subdivision or feature) of the Etruscan language prompts the adoption of a modern adjective, such as *Etrurian* (used in English in this spelling and in this meaning at least since 1667 by Milton, OED 1971 s.v.), beside the Latin-based *Etruscan*. Mees himself (2000: 53) draws attention to the confusion that has been caused by slavish adherence to Mommsen's (ibid.: 47) apparently unwitting descent into this unseemly terminological homonymy, without, however, (like many other scholars) feeling called upon to suggest a remedy.

⁹ It is possible of course that Rix has got the phonetics wrong and that the North generally pronounced [s] where the South pronounced [š] and vice versa, in which case all Rix's emendations of Etruscan sibilant transcription represent an etymological if not a phonological simplification. (None of which means that I do not wholeheartedly applaud Rix's efforts to bring clarity to another muddy area of Italian linguistics.)

¹⁰ Thus Jeffery (1961) reports transport of *ksi* into *san*'s place and *san* into *sigma*'s in a Corinthian abecedarium (p. 117, v. plate 20, no. 16), and of *san* into *sigma*'s and *ksi* to (near) the end of the sequence in Metapontion one (p. 256, v. plate 50, no. 19), the latter shift being apparently common in the 'red' alphabets as a whole, cf. also those of Boeotia

/s/) and that runic **g** probably represents a voiced velar or uvular spirant like Ugaritic *g* and that Ugaritic *t* was in all probability a voiceless interdental spirant.¹¹ U cannot be included because it is essentially missing from the Ugaritic script.¹² Only T is out of place, since Ugaritic places it at the end of the sequence, as in (7). For convenience of comparison, the corresponding letters of our source alphabet (5) are repeated.

(5) P S Q R T (U) Φ X
 (7) p s q r t g t

No doubt it would be going too far to claim such a widely based Ugaritic influence on the runes, but the presence of Š between K and L is not without interest. From the point of view of Semitic, it is now recognized that there were less prestigious dialects of later Canaanite which, like Ugaritic, had richer consonantal inventories than those of recorded Phoenician and Hebrew (cf., e.g., Hoch 1994: 415 ff.), and it has long been known or suspected that Hebrew had at least one more consonantal phoneme than Phoenician (cf., e.g., Blau 1977 vs. Diem 1974). Some scholars, such as Rendsburg (1997: 69 f.) and Swiggers (1981), developing a well formulated if faulty argument by Speiser (1942), have proposed that the Gileadite dialect of Hebrew still distinguished /t/ from /š/ around the eleventh century BC; they may be right but unfortunately for the present study their thesis is both otiose and not proved by the evidence they rely on.¹³

Regarding the question of evidence, it must be said that new material is constantly coming to light and presenting new problems of reading and interpretation. A case in point is Camunic (see Morandi 1998),

and Lakonia (ibid.: plate 10, no. 20 and plate 39, no. 66, respectively). This same transport, together with that of san to a place beside sigma, occurs also in a Messapic abecedarium (ibid.: 283, v. plate, no. 15). A less usual transport — of ksi into heta's place, no doubt due to a confusion of graphic shapes — is reported for an Etruscan abecedarium (ibid. 237, v. plate 48, no. 21).

¹¹ The point here is that Canaanite /š/ and (voiceless interdental fricative) /t/ fell together in Phoenician (and Hebrew) so that Phoenician /š/ represents the Ugaritic sign for /š/ put in the Ugaritic place of /t/ which thus becomes the original place of Greek sigma.

¹² Gordon's *u* represents a sequence of glottal stop followed by /u/, i.e. a "syllabic" sign, which follows two places after T in the Ugaritic sequence, a fact which cannot be connected with the similar placement of epsilon in Greek abecedaria except on the principle that newcomers to an alphabet are frequently relegated to the end of the sequence.

¹³ Divergent, though reconcilable, opposing views have been published most notably by Faber (1992) and Hendel (1996), a matter I propose to deal with at length in due course (see also Woodhouse, in press, section 1).

which Mees (p.c.) now prefers as the source of the futhark. Camunic, however, does not have the necessary transported Š.

It cannot therefore be excluded that a model alphabet of the type required and of an appropriate chronology to underpin the present analysis may some day come to light.

References

- Blau, Joshua, 1977, "Weak" phonetic change and the Hebrew *šîn*. *Hebrew Annual Review* 1: 67–119.
- Bonfante, Giuliano and Larissa Bonfante, 1983, *The Etruscan language: an introduction*. Manchester: Manchester University Press.
- Boutkan, Dirk, 1995, *The Germanic 'auslautgesetze'*. (Leiden Studies in Indo-European 4.) Amsterdam/Atlanta, Georgia: Rodopi.
- Cristofani Mauro, 1979, Recent advances in Etruscan epigraphy and language, in: *Italy before the Romans: the Iron Age, Orientalizing and Etruscan periods*, ed. David and Francesca R. Ridgway. London/New York/San Francisco: Academic Press, pp. 373–412.
- Diem, Werner, 1974, Das problem von *šîn* im Althebräischen und die kanaanäische Lautverschiebung. *Zeitschrift der Deutschen Morgenländischen Gesellschaft* 124: 221–252.
- Faber, Alice, 1992, Second harvest: šibbōleθ revisited (yet again). *Journal of Semitic Studies* 37: 1–10.
- Gabka, Kurt (ed.), 1975, *Die russische Sprache der Gegenwart, 1: Einführung in das Studium der russischen Sprache; Phonetik und Phonologie*. Düsseldorf: Brücken (list of authors on p. 4).
- Gordon, Cyrus H., 1965, *Ugaritic textbook*. (Analecta Orientalia 38.) Rome: Pontificium Institutum Biblicum [reprinted with Supplement 1967].
- Griffiths, Alan, 1999, The fuþark (and ogam): order as a key to origin. *Indogermanische Forschungen* 104: 164–210.
- Hendel, Ronald S., 1996, Sibilants and šibbōlet (Judges 12:6). *Bulletin of the American Schools of Oriental Research* 301: 69–75.
- Hirt, Hermann, 1932, *Handbuch des Urgermanischen, 2*. Heidelberg: Carl Winter.
- Hoch, James E., 1994, *Semitic words in Egyptian texts of the New Kingdom and the Third Intermediate Period*. Princeton: Princeton University Press.
- Jeffery, L. H., 1961, *The local scripts of archaic Greece*. Oxford: Clarendon [reissued with Supplement and some revised plates and some new plates by A. W. Johnston, 1990].
- Johnston, A. W., 1990, Supplement to Jeffery 1961 (q.v.).

- Mańczak, Witold, 1990, La restriction de la règle de Verner à la position médiane et le sort du *s* final en germanique. *Historische Sprachforschung* 103: 92–101.
- Mees, Bernard, 2000, The North Etruscan thesis of the origin of the runes. *Arkiv för Nordisk Filologi* 115: 33–82.
- Morandi, Alessandro, 1998, Epigrafia camuna: osservazioni su alcuni aspetti della documentazione. *Revue Belge de Philologie et d'Histoire* 76/1 (Antiquité): 99–124.
- OED 1971 = The compact edition of the Oxford English dictionary. 1st ed. Oxford: Oxford University Press.
- Rendsburg, Gary A., 1997, Ancient Hebrew phonology, in: *Phonologies of Asia and Africa (including the Caucasus)*, 1, ed. Alan S. Kaye with tech. advisor Peter T. Daniels. Winona Lake, Indiana: Eisenbrauns, pp. 65–83.
- Rix, Helmut, 1991, *Etruskische Texte: editio minor*, 1: Einleitung, Konkordanz, Indices; 2: Texte. (*ScriptOralia* 23/24, Reihe A: Altertumswissenschaftliche Reihe 6/7). Tübingen: Gunter Narr.
- Speiser, Ephraim Avigdor, 1942, The shibboleth incident (Judges 12:6). *Bulletin of the American Schools of Oriental Research* 85: 10–13.
- Swiggers, Pierre, 1981, The word *šibbōlet* in Jud. xii.6. *Journal of Semitic Studies* 26: 205–207.
- Woodhouse, Robert, 1998, Verner's and Thurneysen's laws in Gothic as evidence for obstruent development in early Germanic. *Beiträge zur Geschichte der deutschen Sprache und Literatur* 120: 194–222.
- , in press, Hebrew *šibbōlet* 'ear of grain; (olive) branch' and 'stream, torrent, flood': an etymological appraisal. *Studia etymologica cracoviensia*.