

EDITIONS OF *BEOWULF*: A LEXICO-GRAMMATICAL COLLATION

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This edition of *Beowulf* – text and interlinear glosses – collates the variants of form, lemma, morphology, syntax (=government) and translation of eleven editions of the poem from Klaeber 3rd 1936 to Klaeber 4th 2008 – seven are English or American, two German, one French and one Italian.

The collation has been made on the basis of a uniform lexico-grammatical markup of the texts, each word form having been annotated for lemma, class, morphology, government and Italian translation; this lemmatization is reproduced in the interlinear glosses (the grammatical abbreviations are expanded by positioning the cursor on them).

A base edition is visualized in the top frame, the variants of form (in the line) and of lemma, morphology, government and translation (in the glosses) present in the others being highlighted in various colours (lines without highlights have no variants): clicking on the line number there appears in the bottom frame the corresponding line of the other editions with the variants highlighted, in the line and/or glosses (and clicking on the abbreviation of the edition one can see the context of the line in another window).

There appears also a transcript of the line as it presents itself in the manuscript, with numbering of folio and folio line.

An alternative mode of consultation is by concordances of lemmas, forms or Italian translations. In the top left corner one can select a word from the appropriate list, or type it also with the help of regular expressions (?=character present 1 or zero times; *=group of zero or more characters), and in the top frame are visualized the lines and the glosses of the base edition in which it appears directly or indirectly (if present in the other editions: the search is on the lexicon of all of them). One can go back to the text of the base edition by clicking its name in the left column.

THE EDITIONS

Kl3 = Klaeber 3rd 1936

Beowulf and The Fight at Finnsburg, edited, with introduction, bibliography, notes, glossary, and appendices by Fr. Klaeber, Third edition with first and second supplements, Lexington, Massachusetts, D. C. Heath and company 1950.

Do = Dobbie 1953

Beowulf and Judith, edited by Elliott van Kirk Dobbie, New York, Columbia University Press 1953 (The Anglo-Saxon Poetic Records IV).

Sc = v. Schaubert 1963

Heyne-Schückings Beowulf. Herausgegeben von Else von Schaubert, 3 Teilen, Achtzehnte Auflage, Paderborn, Verlag Ferdinand Schöningh 1961-1963.

Wb = Wrenn-Bolton 1973

Beowulf. With the Finnesburg Fragment, edited by C. L. Wrenn and W. F. Bolton, University of Exeter 1988 (=1973 edition with supplementary bibliography).

Ni = Nickel 1982

Beowulf und die kleineren Denkmäler der altenenglischen Heldensage Waldere und Finnsburg, In drei Teilen herausgegeben von Gerhardt Nickel, Heidelberg, Carl Winter Universitätsverlag 1976-1982.

Cr = Crépin 1991

Beowulf. Edition diplomatique et texte critique, traduction française, commentaires et vocabulaire par André Crépin, 2 vols., Göppingen, Kümmerle Verlag 1991.

Ja = Jack 1995

Beowulf. A Student Edition, edited by George Jack, Oxford, Clarendon Press 1994 (reprinted with corrections, and revisions 1995).

Mr = Mitchell-Robinson 1998

Beowulf, an edition with relevant shorter texts, edited by Bruce Mitchell and Fred C. Robinson, Oxford, Blackwell 1998.

Ki = Kiernan 1999

Electronic Beowulf, edited by Kevin Kiernan, 2 CD-ROMs, The British Library 1999 (2004).

Br = Brunetti 2003

Beowulf, edited by Giuseppe Brunetti, Roma, Carocci 2003.

Kl4 = Klaeber 4th 2008

Klaeber's Beowulf and The Fight at Finnsburg, edited, with introduction, commentary, appendices, glossary, and bibliography by R. D. Fulk, Robert E. Bjork, John D. Niles, Toronto, Buffalo, London, University of Toronto Press 2008.

The line numbering of Kiernan 1999, different from the others, has been modified by introducing empty lines (390, 2229, 2230) and double lines (divided by a bar: 1164, 1166, 1168, 1706, 2996). An empty line, 2229, is also in Klaeber 4th 2008, owing to a dittograph in the MS.

TRANSCRIPT OF THE MS

The transcript of the MS is based on Kiernan 1999, with corrections and revisions in the light of Klaeber 4th 2008 and R. D. Fulk, "Some Contested Readings in the *Beowulf* Manuscript", *Review of English Studies* 56, 2005, pp. 192-223. Besides folio and line numbering it has also the line numbering of modern editions.

The letters in italics are the expansion of abbreviations (**þæt**, **þonne**, **-am**, **-im**, **-um** ...). In 520, 913, 1702 **epel** expands a runic sign. The conjunction **ond** has been left in abbreviation (7).

Between round brackets are letters or words from the Thorkelin transcripts A and B.

Between angle brackets are the scribes' corrections: <x|y> stands for 'x corrected to y'; <xx> stands for 'letter/s or word added' (in 1372 after **hafelan** the scribe marked the place of insertion with a kind of semicolon, without adding anything).

Points within round brackets (...) mark an indefinite number of lost or illegible letters.

Colons within square brackets [:::] mark a presumable number of illegible or erased letters.

REPRESENTATIONS OF THE VARIANCE

The lexicographic differences can be counted by categories and represented graphically as a space of distances between the editions.

COLLATION WITH A BASE EDITION

A line-by-line collation with a base edition sums up for each of the others the differences in lemmas and, for the same lemmas, the differences in morphology, translation, forms and syntax (=government). Here are the counts for four different choices of the base edition:

	Kl3				
	lemmas	morphology	translation	forms	syntax
Kl3	0	0	0	0	0
Do	84	22	91	113	14
Sc	123	32	103	77	14
Wb	106	35	119	66	12
Ni	317	47	157	257	13
Ja	66	23	123	53	9
Cr	268	38	136	112	18
Mr	144	41	207	26	27
Ki	269	66	146	107	26
Br	135	42	207	24	29
Kl4	175	40	86	42	16

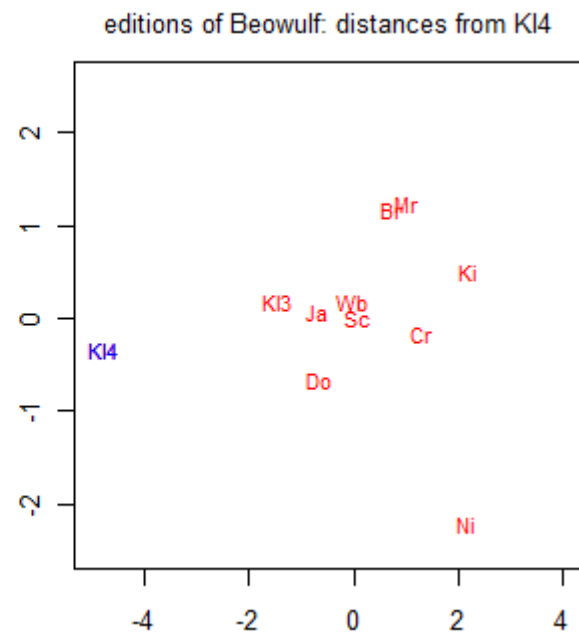
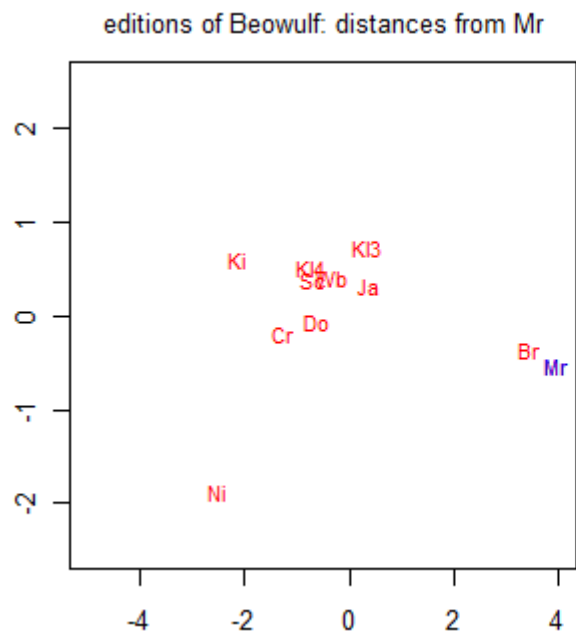
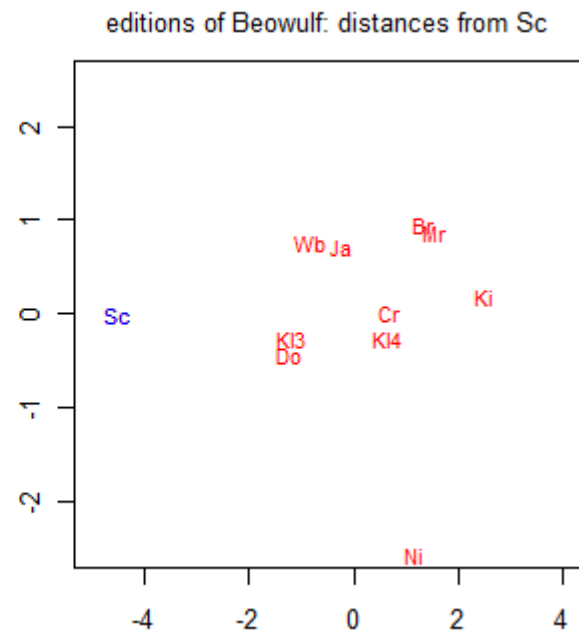
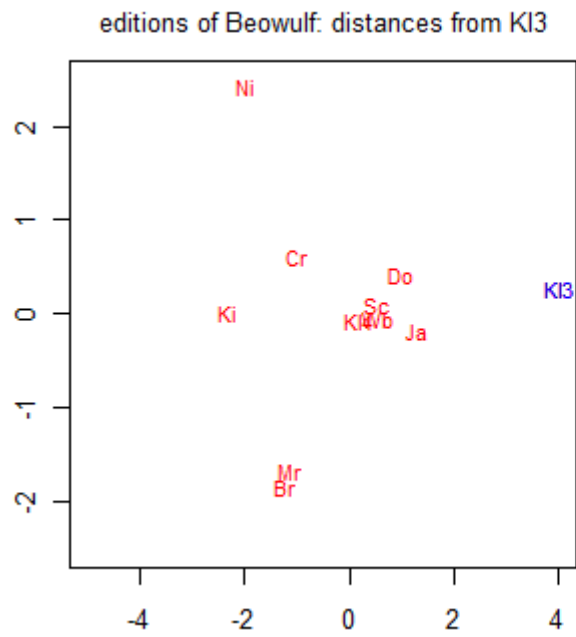
	Sc				
	lemmas	morphology	translation	forms	syntax
Kl3	133	32	103	79	14
Do	110	36	78	98	15
Sc	0	0	0	0	0
Wb	107	44	138	40	17
Ni	285	40	149	240	18
Ja	271	44	157	65	25
Cr	121	47	155	59	22
Mr	174	66	230	90	28
Ki	274	80	176	122	35
Br	155	63	229	88	28
Kl4	227	55	156	103	20

	Mr				
	lemmas	morphology	translation	forms	syntax
Kl3	150	41	207	26	27
Do	152	53	233	123	29
Sc	170	66	230	88	28
Wb	146	59	216	79	28
Ni	358	66	239	260	31
Ja	284	57	215	114	34
Cr	110	44	201	66	24
Mr	0	0	0	0	0
Ki	275	87	231	103	43
Br	18	6	17	4	5
Kl4	238	64	225	56	28

	Kl4				
	lemmas	morphology	translation	forms	syntax
Kl3	164	40	86	46	16
Do	179	39	134	133	16
Sc	206	55	156	104	20
Wb	195	55	160	91	20
Ni	371	68	198	271	18
Ja	334	61	169	126	26
Cr	157	41	160	88	17
Mr	221	63	224	58	28
Ki	315	89	186	118	31
Br	209	58	220	57	27
Kl4	0	0	0	0	0

The base edition has zero differences from itself. That Kl4 has 175 different lemmas from Kl3 means that there are, at most, 175 lines of Klaeber 4th 2008 which have one difference in lemmas from the corresponding lines of Klaeber 3rd 1936 (or fewer if there are more lemmas per line). In the same way Kl3 has 164 different lemmas from Kl4; and thus for the other lexicographic variables.

And here are the differences translated into distances:



MULTILATERAL COLLATION

One can also look for cumulative differences by collating line by line each edition with each one of the others, adding up for each one the differences in lemmas and, for the same lemmas, of morphology, translation, forms and syntax (=government). Differences in punctuation can be added – that marking sentence boundaries (. ; : ! ?).

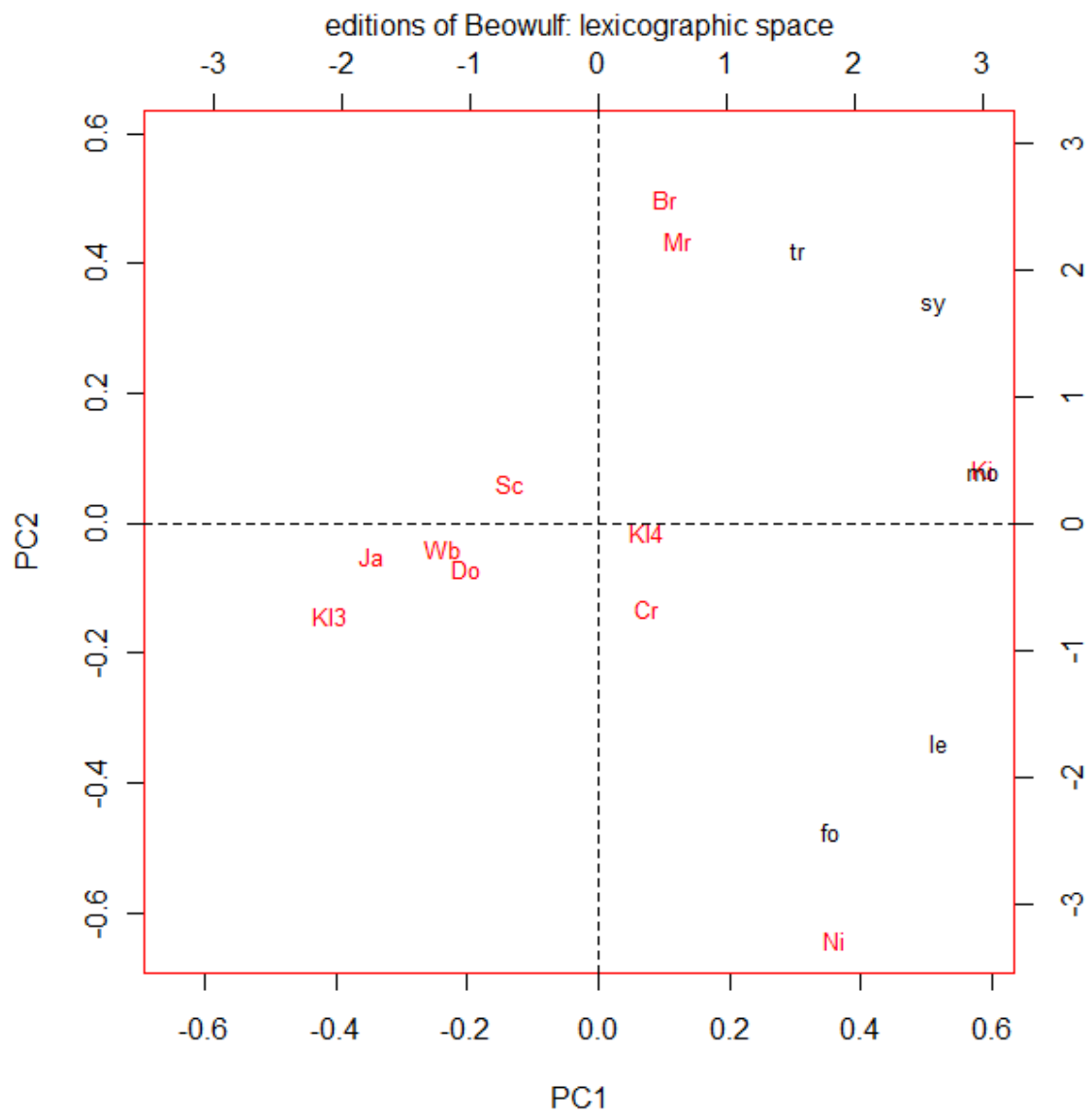
	lemmas	morphology	translation	forms	syntax	punctuation
Kl3	1699	385	1375	908	178	1695
Do	1622	443	1534	1309	213	1677
Sc	1758	506	1572	985	222	1759
Wb	1628	488	1383	958	212	2163
Ni	3277	560	1615	2575	218	1696
Cr	2722	491	1427	1157	267	2047
Ja	1421	436	1370	968	202	1830
Mr	1846	541	2014	949	277	1317
Ki	2835	781	1596	1391	331	3052
Br	1690	519	2032	922	289	330
Kl4	2483	569	1695	1090	219	1792

The lexicographic variables have very different orders of magnitude; it is useful to standardize them (that is, to measure them in $\pm$ standard deviations from the respective mean, which is made equal to zero) in order to appreciate their incidence in each edition.

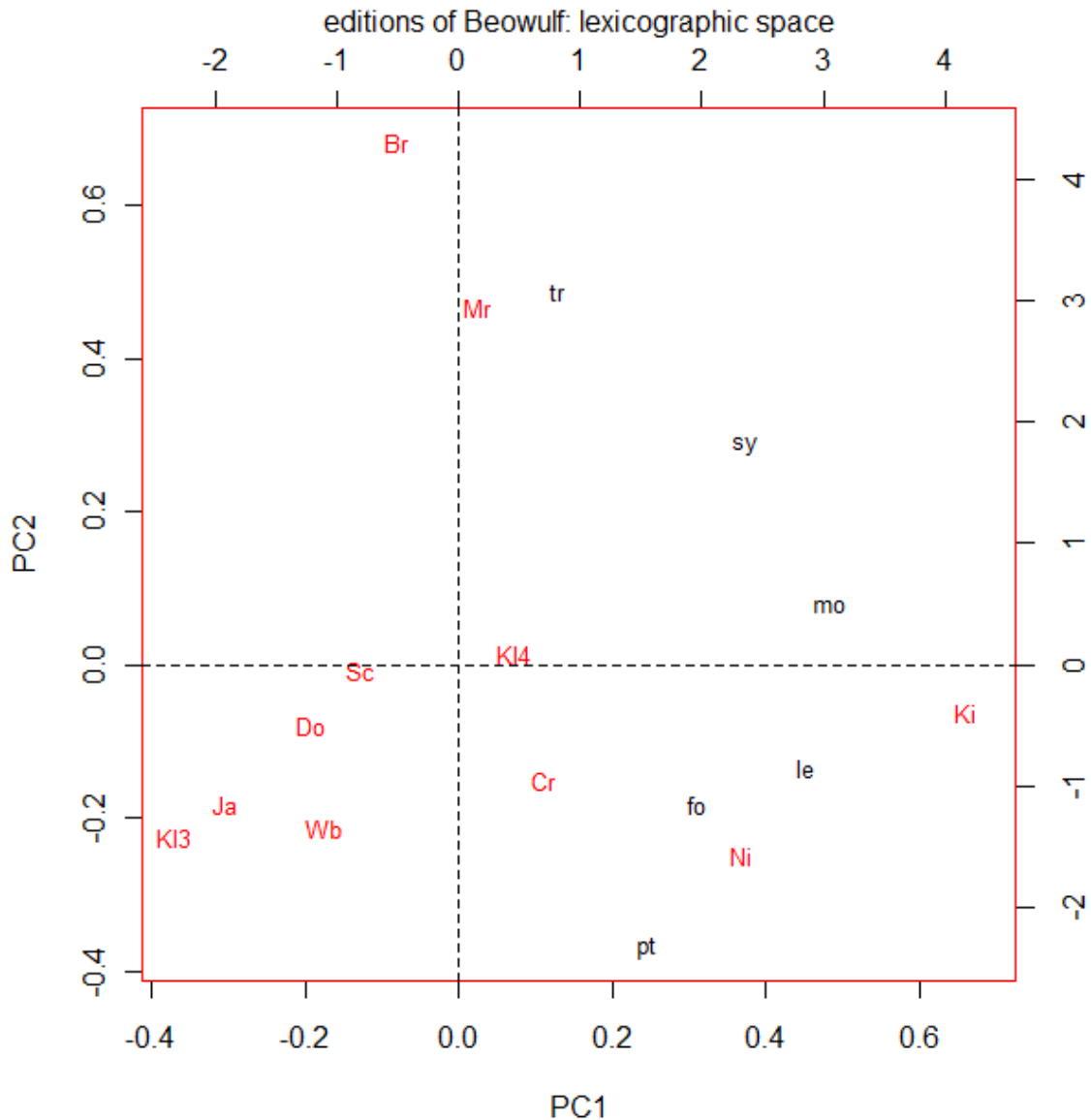
	lemmas	morphology	translation	forms	syntax	punctuation
Kl3	-0.63	-1.31	-0.96	-0.61	-1.33	-0.10
Do	-0.75	-0.75	-0.29	0.22	-0.57	-0.13
Sc	-0.53	-0.14	-0.12	-0.45	-0.37	0.00
Wb	-0.74	-0.31	-0.93	-0.50	-0.59	0.62
Ni	1.91	0.39	0.06	2.84	-0.46	-0.10
Cr	1.02	-0.28	-0.74	-0.09	0.62	0.44
Ja	-1.07	-0.82	-0.98	-0.48	-0.81	0.11
Mr	-0.39	0.21	1.76	-0.52	0.83	-0.69
Ki	1.20	2.54	-0.02	0.39	2.02	2.00
Br	-0.64	-0.01	1.83	-0.58	1.10	-2.21
Kl4	0.63	0.48	0.40	-0.23	-0.44	0.05

Klaeber 3rd 1936 has all negative values, that is below the mean; Kiernan 1999 all positive except one (and three are the highest of the respective variables); von Schaubert 1963 and Klaeber 4th 2008 have the smallest values, but with different signs.

Here is a graph of the distances which shows the relationships between editions and lexicographic variables. The variables (in black) are arranged bow-like in the two right quadrants: they are in a smaller scale (marked on the sides PC1 and PC2) and indicate the directions from the centre in which they locate the editions according to their weight in each of them. Thus Brunetti 2003 and Mitchell-Robinson 1998, high up in the top right quadrant, are marked off by semantic and syntactic differences; Nickel 1982 is marked off by those of forms and lemmas; and the position of Kiernan 1999 adds the differences in lemmas and syntax to those in morphology. Klaeber 3rd 1936, with all its negative values, is in the farthest place from all the variables. And the remaining editions look like a flight migrating to the centre (the zero of the standardized data) – nearest which is Klaeber 4th 2008, which most approximates the mean of the differences, also because of its alternance of signs.

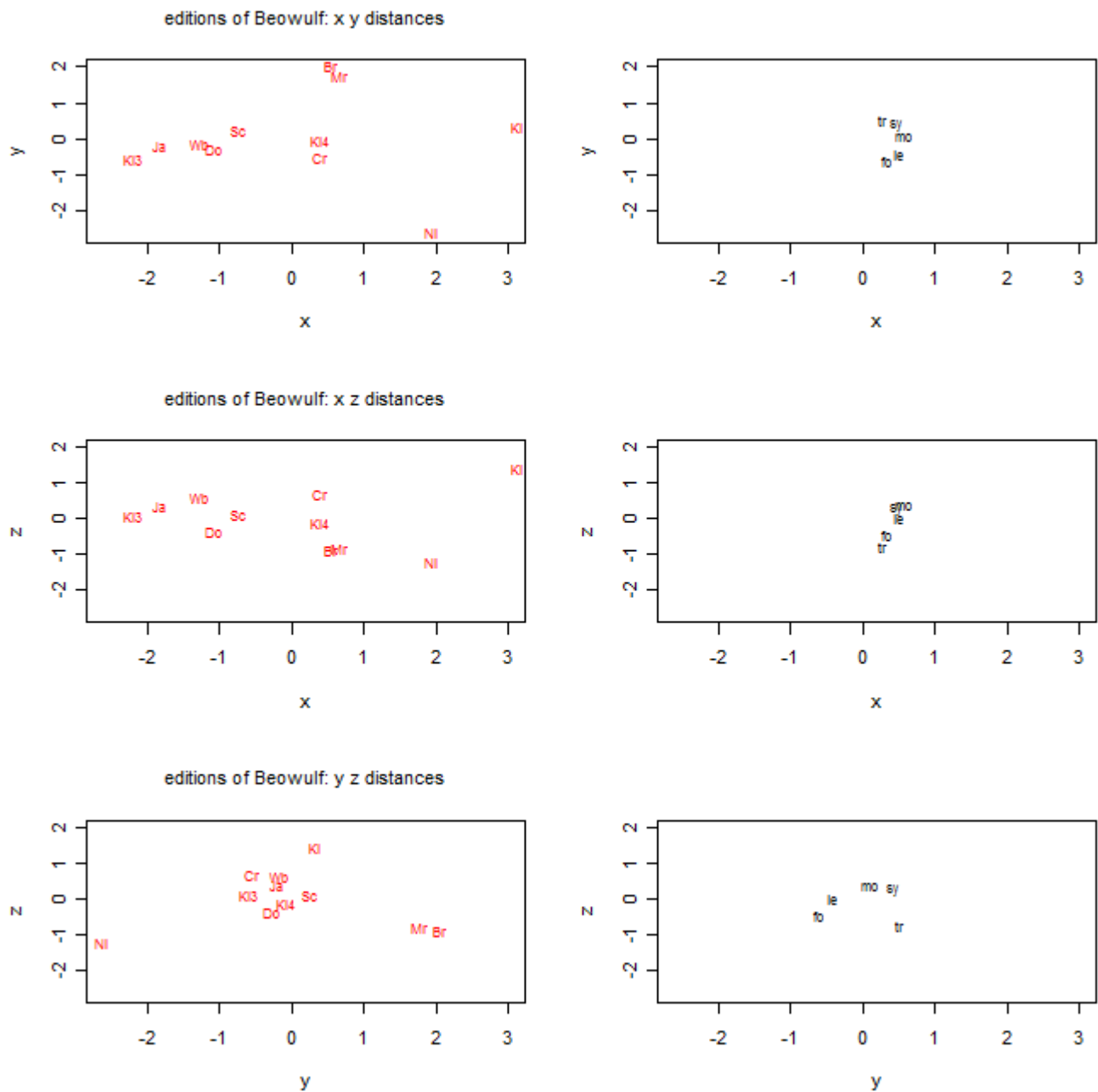


In the next graph punctuation has been added. Even if somewhat disarranged, the positions are more or less the same: but Brunetti 2003 soars by virtue of a light, non-disambiguating punctuation – which leaves undetermined whether a subordinate depends on the main clause that precedes or follows it (the full stop marks the discourse unit of the *verse paragraph*). Its low number of differences is like the common factor of the punctuation of all the editions.



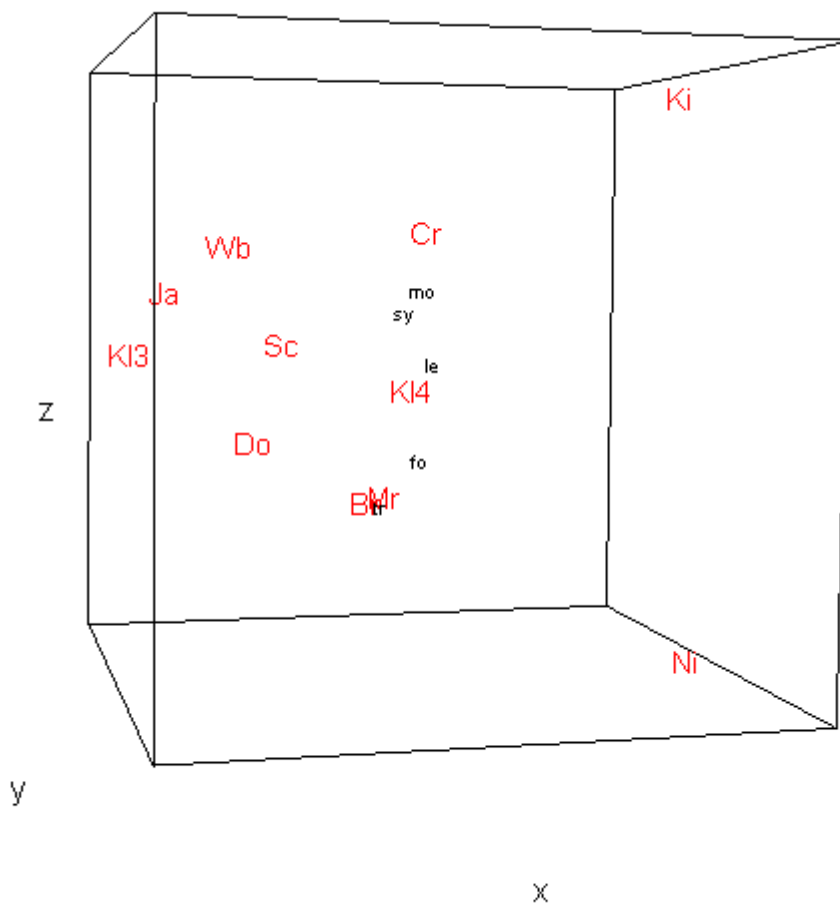
LEXICOGRAPHIC SPACE

In these representations the editions are seen as points in a multidimensional space, in which they vary (=are distant) from each other according to the dimension (=lexicographic variable). Statistical methods find the dimensions with the most significant variation: *multidimensional scaling* for the collation with the base edition, and *principal components analysis* for the multilateral one. In the latter case the two dimensions represented (=components, PC1 and PC2) explain 82% of the variance (without punctuation); 94% by adding a third dimension. Here are the three views, with editions and variables in flanking frames (the variables are here in their scale):



Klaeber 4th 2008 is still nearest to the centre; and Nickel 1982, Kiernan 1999, Brunetti 2003 and Mitchell-Robinson 1998 are still marked off by the same variables.

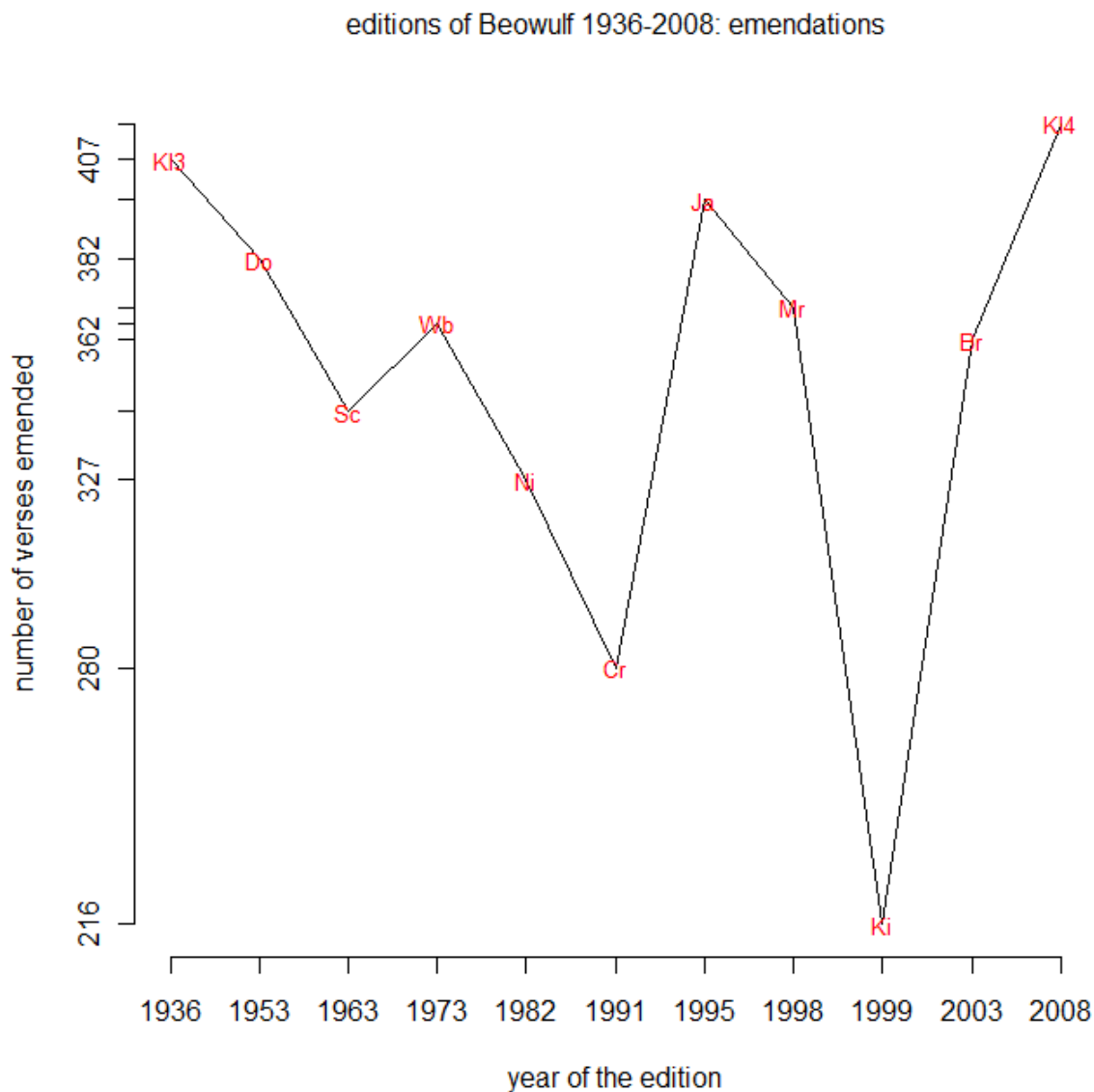
A very good introduction to the use of these statistical methods is R. H. Baayen, *Analyzing Linguistic Data. A Practical Introduction to Statistics using R*, Cambridge University Press 2008. As for R, the open source statistical language and environment used here for computations and graphs, see the R Foundation for Statistical Computing, Vienna, Austria. ISBN 3-900051-07-0, URL <http://www.R-project.org>.



[See animation](#)

EMENDATIONS

Emendations deserve a representation by itself, since the practice of conjectural *emendatio* is controversial in the textual criticism of Old English poetry. The graph of their number shows the conservative trend of 20th-century *Beowulfs*: the notoriously ‘ultra-conservative’ von Schaubert 1963 has been surpassed in succession by Nickel 1982 (a revision of the liberal Holthausen 1905-1948), Crépin 1991 and Kiernan 1999 (who sees the manuscript as the archetype of a composite poem co-authored by one of the two scribes). Jack 1995 and Mitchell-Robinson 1998 have returned to the liberal tradition of Klaeber 3rd 1936, strenghtened by Klaeber 4th 2008.



As a whole the eleven editions emend 470 verses, with only 92 emendations common to all (there is a margin of uncertainty in the counts, as sometimes editors disagree on manuscript readings). The table below reports the number of emendations of each one (in red) and of those common to each pair.

	Kl3	Do	Sc	Wb	Ni	Cr	Ja	Mr	Ki	Br	Kl4
Kl3	407	334	296	318	264	217	360	321	117	312	323
Do	334	382	291	306	266	217	337	294	119	291	306
Sc	296	291	344	313	279	221	296	271	117	270	274
Wb	318	306	313	366	272	223	321	290	119	291	293
Ni	264	266	279	272	327	237	264	244	113	241	248
Cr	217	217	221	223	237	280	216	210	120	208	211
Ja	360	337	296	321	264	216	397	316	115	318	315
Mr	321	294	271	290	244	210	316	370	121	351	292
Ki	117	119	117	119	113	120	115	121	216	122	130
Br	312	291	270	291	241	208	318	351	122	362	289
Kl4	323	306	274	293	248	211	315	292	130	289	416

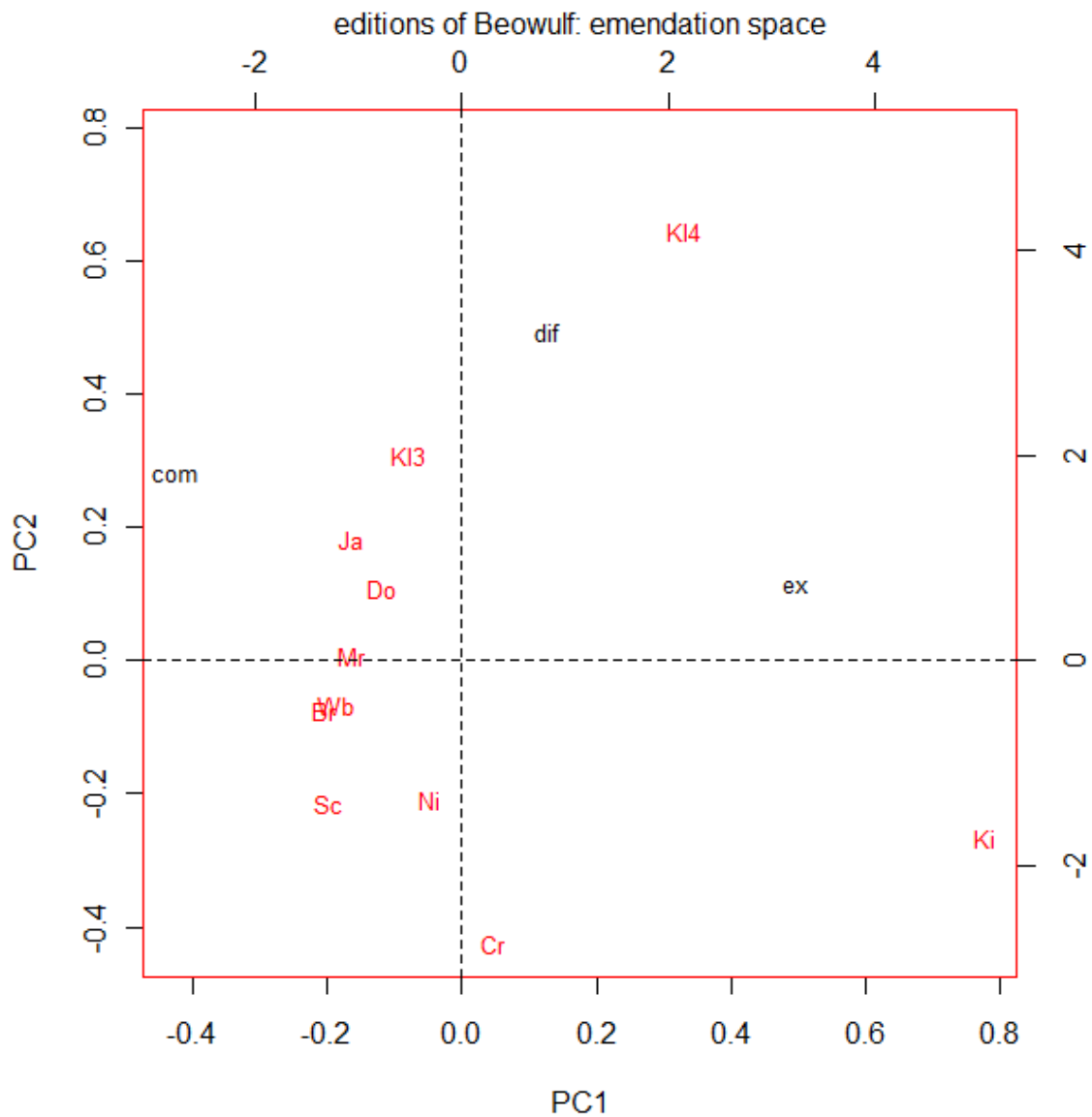
By adding up, for each edition, the emendations in common with each of the others, and doing the same with the different ones and then adding the exclusive ones,

	emend.	common	different	exclusive
Kl3	407	2862	1208	17
Do	382	2761	1059	12
Sc	344	2628	812	4
Wb	366	2746	914	7
Ni	327	2428	842	14
Cr	280	2080	720	16
Ja	397	2858	1112	9
Mr	370	2710	990	7
Ki	216	1193	967	64
Br	362	2693	927	3
Kl4	416	2681	1479	52

and standardizing the data,

	em	com	dif	ex
Kl3	0 .94	0 .71	0 .98	-0 .08
Do	0 .51	0 .51	0 .27	-0 .33
Sc	-0 .13	0 .23	-0 .91	-0 .73
Wb	0 .24	0 .48	-0 .42	-0 .58
Ni	-0 .41	-0 .17	-0 .77	-0 .23
Cr	-1 .21	-0 .88	-1 .35	-0 .13
Ja	0 .77	0 .70	0 .52	-0 .48
Mr	0 .31	0 .40	-0 .06	-0 .58
Ki	-2 .29	-2 .69	-0 .17	2 .25
Br	0 .18	0 .37	-0 .36	-0 .78
Kl4	1 .09	0 .34	2 .27	1 .65

it is possible to graph the distances between the editions:



The position of Klaeber 4th 2008 registers the greatest number of differences along the vertical axis and the second highest number of exclusive emendations along the horizontal one (where the maximum is Kiernan 1999). Klaeber 3rd 1936 is balanced between the common (the highest number) and the different ones (the second highest number). The remaining editions scale down vertically.