VOLUME II

TABLES

Tables 3.I to 3.III are in the text.

	Type	Number of graves in which it occurred
1.	Decorated Bell Beaker	98
2.	Decorated Handled Bell Beaker	7
3.	Undecorated Bell Beaker	33
4.	Undecorated Handled Bell Beaker	34
5.	Undecorated Jug	267
6.	Decorated Jug	15
7.	Undecorated Bowl	203
8.	Decorated Bowl	17
9.	Polypod Bowl	20
10.	'Topf'	45
11.	Handled 'Topf'	27
12.	Other vessel (not belonging to any of the defined types)	16
13.	Arrowhead	33
14.	Stone Axe	9
15.	Flint Flake	27
16.	Bone Pendant	10
17.	Copper Awl	12
18.	Copper Dagger	25
19.	Wrist-guard	48
20.	V-perforated Button	22
21.	Bone Awl	6
22.	Animal Bones	28
23.	Ear-rings	5
24.	Copper Sheet	6
25.	Amber Button	8
26.	Amphora	13
27.	Flint Blade	33
28.	Sherds	11
29.	Flint Scraper	11
30.	Boar's Tusk	7
31.	Urn	9
32.	Whetstone	4

Table 3.1V A list of the object types used in the analysis of the grave associations, together with their frequencies.

(A comment on the word 'Topf': there seems to be no really adequate English translation of this German term, although it does in fact describe a quite specific pottery form - see, for example figure 3.1; the German word has therefore been retained.)

Table 3.V Matrix of the similarities between the thirty-two object types used in the analysis.

COEFFICIENTS MATRIX

S 2	0.154													
S 3	0.203	0.000												
S 4	0.078	0.000	0.207											
S 5	0.356	0.220	0.290	0.243										
S 6	0.077	0.105	0.000	0.000	0.353									
S 7	0.273	0.222	0.300	0.215	0.673	0.215								
S 8	0.242	0.101	0.045	0.044	0.313	0.063	0.064							
S 9	0.091	0.000	0.081	0.079	0.430	0.059	0.000	0.055						
S 10	0.146	0.000	0.027	0.077	0.455	0.178	0.435	0.082	0.037					
S 11	0.071	0.000	0.068	0.066	0.368	0.052	0.315	0.048	0.000	0.089				
S 12	0.146	0.000	0.003	0.046	0.232	0.000	0.236	0.000	0.057	0.043	0.050			
S 13	0.304	0.087	0.061	0.010	0.341	0.049	0.212	0.045	0.081	0.027	0.068	0.087		
S 14	0.425	0.000	0.071	0.140	0.230	0.000	0.117	0.000	0.091	0.000	0.000	0.097	0.213	
S 15	0.398	0.090	0.102	0.033	0.327	0.104	0.252	0.096	0.044	0.089	0.075	0.050	0.337	0.149
S 16	0.221	0.000	0.000	0.045	0.364	0.084	0.315	0.159	0.075	0.000	0.069	0.000	0.196	0.000
	0.138													
S 17	0.328	0.000	0.057	0.112	0.218	0.000	0.177	0.000	0.000	0.212	0.121	0.072	0.057	0.000
	0.061	0.000												
S 18	0.362	0.000	0.000	0.138	0.263	0.107	0.158	0.149	0.000	0.094	0.039	0.052	0.247	0.152
	0.116	0.140	0.185											
S 19	0.342	0.164	0.077	0.075	0.332	0.008	0.271	0.120	0.071	0.044	0.029	0.084	0.333	0.264
	0.232	0.242	0.157	0.457										
S 20	0.195	0.000	0.038	0.000	0.419	0.113	0.202	0.053	0.144	0.339	0.124	0.000	0.038	0.000
	0.042	0.000	0.258	0.043	0.067									
S 21	0.089	0.000	0.099	0.000	0.427	0.000	0.172	0.000	0.000	0.000	0.204	0.115	0.197	0.000
	0.204	0.000	0.125	0.104	0.094	0.107								
S 22	0.069	0.000	0.133	0.097	0.356	0.103	0.407	0.095	0.043	0.145	0.073	0.000	0.133	0.000
	0.110	0.000	0.120	0.152	0.085	0.032	0.102							
S 23	0.526	0.000	0.000	0.115	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.132	0.116	0.000
	0.000	0.000	0.142	0.240	0.111	0.000	0.000	0.000						
S 24	0.000	0.000	0.000	0.000	0.256	0.117	0.429	0.000	0.000	0.095	0.102	0.000	0.000	0.000
	0.000	0.000	0.125	0.104	0.168	0.213	0.000	0.203	0.000					
S 25	0.339	0.134	0.000	0.000	0.258	0.096	0.240	0.000	0.000	0.295	0.082	0.000	0.078	0.000
	0.062	0.000	0.313	0.165	0.213	0.256	0.200	0.161	0.000	0.146				
S 26	0.131	0.110	0.215	0.106	0.283	0.000	0.246	0.000	0.064	0.000	0.057	0.070	0.108	0.000
	0.057	0.000	0.000	0.000	0.049	0.000	0.000	0.000	0.000	0.000	0.000			
S 27	0.223	0.067	0.122	0.297	0.409	0.000	0.242	0.000	0.000	0.053	0.034	0.093	0.334	0.071
	0.169	0.196	0.057	0.211	0.282	0.000	0.197	0.165	0.116	0.000	0.000	0.000		
S 28	0.253	0.000	0.000	0.000	0.237	0.000	0.095	0.000	0.000	0.114	0.000	0.000	0.061	0.000
	0.192	0.000	0.108	0.000	0.112	0.069	0.000	0.064	0.000	0.000	0.000	0.084	0.061	
S 29	0.354	0.117	0.000	0.120	0.237	0.079	0.142	0.000	0.071	0.114	0.064	0.077	0.485	0.102
	0.256	0.000	0.175	0.046	0.224	0.069	0.000	0.064	0.145	0.000	0.108	0.000	0.182	0.091
S 30	0.307	0.000	0.000	0.040	0.294	0.000	0.148	0.000	0.097	0.000	0.000	0.000	0.433	0.254
	0.450	0.122	0.000	0.092	0.410	0.000	0.155	0.000	0.000	0.000	0.000	0.000	0.087	0.000
	0.234													
S 31	0.061	0.000	0.071	0.000	0.173	0.000	0.407	0.085	0.000	0.000	0.075	0.000	0.000	0.000
	0.000	0.000	0.098	0.000	0.000	0.000	0.000	0.074	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000												
S 32	0.521	0.000	0.141	0.000	0.254	0.000	0.000	0.000	0.150	0.000	0.000	0.000	0.821	0.362
	0.144	0.000	0.197	0.290	0.271	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.141	0.000
	0.171	0.197	0.000											

Cycle Number	Edge removed	Number of clusters	Within-group similarities	Between-group similarities	Total similarity
1	1 - 5	2	32.725	19.212	51.937
2	1 - 5 1 - 32	3	26.285	25.653	51.937
3	1 - 5 1 - 32 5 - 7	4	18.256	33.681	51.937
4	1 - 5 5 - 7 13 - 32 19 - 30	5	16.098	35.839	51.937

Table 3.VI Summary of the groups produced by DNDRIT on the thirty-two Bell Beaker artifact types

Cluster I

1. Decorated Bell Beaker
13. Arrowhead
14. Stone Axe
15. Flint Flake
17. Copper Awl
18. Copper Dagger
19. Wrist-guard
23. Ear-ring
25. Amber Button
28. Sherds
29. Flint Scraper
30. Boar's Tusk
32. Whetstone

Cluster II

2. Decorated Handled Bell Beaker
3. Undecorated Bell Beaker
4. Undecorated Handled Bell Beaker
5. Undecorated Jug
6. Decorated Jug
7. Undecorated Bowl
8. Decorated Bowl
9. Polypod Bowl
10. 'Topf'
11. Hnadled 'Topf'
12. Pot (type unknown)
16. Bone Pendant
20. V-perforated Button
21. Bone Awl
22. Animal Bones
24. Copper Sheet
26. Amphora
27. Flint Blade
31. Urn

Table 3.VII A list of the members of the two clusters produced after the first cycle of the program DNDRIT

Table 3.VIII Print-out of MODE analysis of grave goods, all graves included.

```
MODE ANALYSIS

DISTANCE THRESHOLD = AVERAGE OF 2K LARGEST SIMILARITIES


PROGRAM SELECTS STANDARD K = 2
PROGRAM SELECTS STANDARD MINPUS = 2


PROGRAM PARAMETERS ARE -
DENSITY LEVEL K =  2.0
MINIMUM NUMBER OF CLUSTERS CONTROL MINC =  1
MINIMUM ENCLOSURE RATIO = 0.00
MINIMUM CLUSTER SIZE FOR OUTPUT MINPUS =  2


NOW INTRODUCE DENSE POINT   5 AT COEFFICIENT    0.496 AND FORM NEW CLUSTER NUCLEUS   5
NOW INTRODUCE DENSE POINT   7 AT COEFFICIENT    0.486 JOINS CLUSTER   5 AND NEW CLUSTER CODE IS   5
NOW INTRODUCE DENSE POINT   1 AT COEFFICIENT    0.457 AND FORM NEW CLUSTER NUCLEUS   1
NOW INTRODUCE DENSE POINT  13 AT COEFFICIENT    0.420 AND FORM NEW CLUSTER NUCLEUS  13
NOW INTRODUCE DENSE POINT  30 AT COEFFICIENT    0.400 JOINS CLUSTER  13 AND NEW CLUSTER CODE IS  13
NOW INTRODUCE DENSE POINT  32 AT COEFFICIENT    0.398 FORMS CLUSTER   1 FROM FUSION OF CLUSTERS    1  13
NOW INTRODUCE DENSE POINT  19 AT COEFFICIENT    0.385 JOINS CLUSTER   1 AND NEW CLUSTER CODE IS   1
NOW INTRODUCE DENSE POINT  10 AT COEFFICIENT    0.381 JOINS CLUSTER   5 AND NEW CLUSTER CODE IS   5

CLASSIFICATIONS PRIOR TO FUSION
  MODE NUCLEI GROUP  1 KL= 2   8 DENSE  2 CLUSTERS ENC RATIO 0.63 COEF .   0.381
   1    0    0    0    5    0    5    0    5    5    0    0    1    1    1    0    0    1    1    5
   5    5    1    5    0    0    5    0    1    1    5    1
 MODE COMPLETE GROUP  1 KL= 2   8 DENSE  2 CLUSTERS ENC RATIO 0.63 COEF    0.381
   1    5    5    5    5    5    5    5    5    5    5    1    1    1    5    1    1    1    5
   5    5    1    5    1    5    5    1    1    1    5    1
NOW FUSE CLUSTERS    1    5 AT COEFFICIENT    0.356. NEW CLUSTER CODE IS   1
NOW INTRODUCE DENSE POINT  15 AT COEFFICIENT    0.355 JOINS CLUSTER   1 AND NEW CLUSTER CODE IS   1
NOW INTRODUCE DENSE POINT  29 AT COEFFICIENT    0.333 JOINS CLUSTER   1 AND NEW CLUSTER CODE IS   1
NOW INTRODUCE DENSE POINT  18 AT COEFFICIENT    0.328 JOINS CLUSTER   1 AND NEW CLUSTER CODE IS   1
NOW INTRODUCE DENSE POINT  27 AT COEFFICIENT    0.327 JOINS CLUSTER   1 AND NEW CLUSTER CODE IS   1
NOW INTRODUCE DENSE POINT  14 AT COEFFICIENT    0.326 JOINS CLUSTER   1 AND NEW CLUSTER CODE IS   1
NOW INTRODUCE DENSE POINT  20 AT COEFFICIENT    0.318 JOINS CLUSTER   1 AND NEW CLUSTER CODE IS   1
NOW INTRODUCE DENSE POINT  25 AT COEFFICIENT    0.302 JOINS CLUSTER   1 AND NEW CLUSTER CODE IS   1
NUMBER OF CLUSTERS =   1
ENCLOSURE RATIO =  0.82
END CONDITIONS SATISFIED
JOB ENDS
```

Cluster I		Cluster II	
1.	Decorated Bell Beaker	5.	Undecorated Jug
13.	Arrowhead	7.	Undecorated Bowl
14.	Stone Axe	9.	Polypod Bowl
15.	Flint Flake	10.	'Topf'
18.	Copper Dagger	20.	V-perforated Button
19.	Wrist-guard	21.	Bone Awl
23.	Ear-ring	22.	Animal Bones
29.	Flint Scraper	24.	Copper Sheet
30.	Boar's Tusk	27.	Flint Blade
32.	Whetstone	31.	Urn

Table 3.IX Members of the two 'nuclei' clusters produced by program MODE from the 32 object types used in the analysis

	Bohemia	Moravia
1-grave sites sithout Cluster 1 goods	22	9
1-grave sites with Cluster 1 and 2 goods	11	12
Total number of 1-grave sites	35	22
Sites without Cluster 1 when 1-grave sites excluded	12	8

Table 3.X Table of 1-grave sites in Bohemia and Moravia

Table 3.XI Print-out of MODE analysis of stave goods, Moravian graves only.

```
MODE ANALYSIS

DISTANCE THRESHOLD = AVERAGE OF 2K LARGEST SIMILARITIES


PROGRAM SELECTS STANDARD K = 2
PROGRAM SELECTS STANDARD MINPUS = 2


PROGRAM PARAMETERS ARE -
DENSITY LEVEL K =  2.0
MINIMUM NUMBER OF CLUSTERS CONTROL MINC =  1
MINIMUM ENCLOSURE RATIO = 0.80
MINIMUM CLUSTER SIZE FOR OUTPUT MINPUS =  2


NOW INTRODUCE DENSE POINT   5 AT COEFFICIENT    0.567 AND FORM NEW CLUSTER NUCLEUS   5
NOW INTRODUCE DENSE POINT   7 AT COEFFICIENT    0.520 JOINS CLUSTER   5 AND NEW CLUSTER CODE IS   5
NOW INTRODUCE DENSE POINT   1 AT COEFFICIENT    0.500 AND FORM NEW CLUSTER NUCLEUS   1
NOW INTRODUCE DENSE POINT  13 AT COEFFICIENT    0.493 AND FORM NEW CLUSTER NUCLEUS  13
NOW INTRODUCE DENSE POINT  30 AT COEFFICIENT    0.456 JOINS CLUSTER  13 AND NEW CLUSTER CODE IS  13
NOW INTRODUCE DENSE POINT  10 AT COEFFICIENT    0.448 JOINS CLUSTER   5 AND NEW CLUSTER CODE IS   5
NOW INTRODUCE DENSE POINT  19 AT COEFFICIENT    0.439 AND FORM NEW CLUSTER NUCLEUS  19
NOW INTRODUCE DENSE POINT  14 AT COEFFICIENT    0.425 FORMS CLUSTER   1 FROM FUSION OF CLUSTERS    1  19
NOW INTRODUCE DENSE POINT  29 AT COEFFICIENT    0.422 FORMS CLUSTER   1 FROM FUSION OF CLUSTERS    1  13
NOW INTRODUCE DENSE POINT  32 AT COEFFICIENT    0.420 JOINS CLUSTER   1 AND NEW CLUSTER CODE IS   1

CLASSIFICATIONS PRIOR TO FUSION
  MODE NUCLEI GROUP  1 KL= 2  10 DENSE  2 CLUSTERS ENC RATIO 0.75 COEF    0.420
   1    5    0    0    5    5    5    0    5    5    5    0    1    1    1    0    1    1    1    5
   5    5    1    0    0    5    0    1    1    1    5    1
 MODE COMPLETE GROUP  1 KL= 2  10 DENSE  2 CLUSTERS ENC RATIO 0.75 COEF    0.420
   1    5    5    5    5    5    5    5    5    5    5    1    1    1    1    1    1    1    1    5
   5    5    1    1    5    5    5    1    1    1    5    1
NOW FUSE CLUSTERS    1    5 AT COEFFICIENT    0.409. NEW CLUSTER CODE IS   1
NOW INTRODUCE DENSE POINT  20 AT COEFFICIENT    0.409 JOINS CLUSTER   1 AND NEW CLUSTER CODE IS   1
NOW INTRODUCE DENSE POINT  15 AT COEFFICIENT    0.395 JOINS CLUSTER   1 AND NEW CLUSTER CODE IS   1
NUMBER OF CLUSTERS =   1
ENCLOSURE RATIO =  0.82
END CONDITIONS SATISFIED
JOB ENDS
```

Table 3.XII Print-out of MODE analysis of grave goods, Bohemian graves only.

```
MODE ANALYSIS

DISTANCE THRESHOLD = AVERAGE OF 2K LARGEST SIMILARITIES


PROGRAM SELECTS STANDARD K = 2
PROGRAM SELECTS STANDARD MINPOS = 2


PROGRAM PARAMETERS ARE -
DENSITY LEVEL K =  2.0
MINIMUM NUMBER OF CLUSTERS CONTROL MINC =  1
MINIMUM ENCLOSURE RATIO = 0.80
MINIMUM CLUSTER SIZE FOR OUTPUT MINPOS =  2


NOW INTRODUCE DENSE POINT  31 AT COEFFICIENT    0.547 AND FORM NEW CLUSTER NUCLEUS  31
NOW INTRODUCE DENSE POINT  30 AT COEFFICIENT    0.522 AND FORM NEW CLUSTER NUCLEUS  30
NOW INTRODUCE DENSE POINT   5 AT COEFFICIENT    0.507 AND FORM NEW CLUSTER NUCLEUS   5
NOW INTRODUCE DENSE POINT   7 AT COEFFICIENT    0.506 FORMS CLUSTER   5 FROM FUSION OF CLUSTERS    5  30
NOW FUSE CLUSTERS    5   31 AT COEFFICIENT    0.505  NEW CLUSTER CODE IS   5
NOW INTRODUCE DENSE POINT   1 AT COEFFICIENT    0.485 JOINS CLUSTER   5 AND NEW CLUSTER CODE IS   1
NOW INTRODUCE DENSE POINT  25 AT COEFFICIENT    0.450 JOINS CLUSTER   1 AND NEW CLUSTER CODE IS   1
NOW INTRODUCE DENSE POINT  19 AT COEFFICIENT    0.448 JOINS CLUSTER   1 AND NEW CLUSTER CODE IS   1
NOW INTRODUCE DENSE POINT  13 AT COEFFICIENT    0.420 JOINS CLUSTER   1 AND NEW CLUSTER CODE IS   1
NOW INTRODUCE DENSE POINT  27 AT COEFFICIENT    0.392 JOINS CLUSTER   1 AND NEW CLUSTER CODE IS   1
NOW INTRODUCE DENSE POINT  14 AT COEFFICIENT    0.372 JOINS CLUSTER   1 AND NEW CLUSTER CODE IS   1
NOW INTRODUCE DENSE POINT  15 AT COEFFICIENT    0.354 JOINS CLUSTER   1 AND NEW CLUSTER CODE IS   1
NOW INTRODUCE DENSE POINT  23 AT COEFFICIENT    0.344 JOINS CLUSTER   1 AND NEW CLUSTER CODE IS   1
NOW INTRODUCE DENSE POINT  24 AT COEFFICIENT    0.341 JOINS CLUSTER   1 AND NEW CLUSTER CODE IS   1
NOW INTRODUCE DENSE POINT   3 AT COEFFICIENT    0.340 JOINS CLUSTER   1 AND NEW CLUSTER CODE IS   1
NOW INTRODUCE DENSE POINT  16 AT COEFFICIENT    0.337 JOINS CLUSTER   1 AND NEW CLUSTER CODE IS   1
NOW INTRODUCE DENSE POINT  18 AT COEFFICIENT    0.333 JOINS CLUSTER   1 AND NEW CLUSTER CODE IS   1
NOW INTRODUCE DENSE POINT  29 AT COEFFICIENT    0.328 JOINS CLUSTER   1 AND NEW CLUSTER CODE IS   1
NOW INTRODUCE DENSE POINT  22 AT COEFFICIENT    0.296 JOINS CLUSTER   1 AND NEW CLUSTER CODE IS   1
NOW INTRODUCE DENSE POINT  10 AT COEFFICIENT    0.286 JOINS CLUSTER   1 AND NEW CLUSTER CODE IS   1
NUMBER OF CLUSTERS =   1
ENCLOSURE RATIO =  0.81
END CONDITIONS SATISFIED
JOB ENDS
```

Cluster 1

1.	Decorated Bell Beaker	19.	Wrist-guard
13.	Arrowhead	23.	Ear-ring
14.	Stone Axe	28.	Sherds
15.	Flint Flake	29.	Flint Scraper
17.	Copper Awl	30.	Boar's Tusk
18.	Copper Dagger	32.	Whetstone

Cluster 2

2.	Decorated Handled Bell Beaker	11.	Handled 'Topf'
5.	Undecorated Jug	20.	V-perforated Button
6.	Decorated Jug	21.	Bone Awl
7.	Undecorated Bowl	22.	Animal Bones
9.	Polypod Bowl	26.	Amphora
10.	'Topf'	31.	Urn

Table 3.XIII Members of the two 'nuclei' clusters produced by program MODE from the 32 object types used in the analysis. Moravian graves only.

	Bohemia	Moravia		Bohemia	Moravia		Bohemia	Moravia
1.	36	62	12.	11	5	23.	4	1
2.	5	2	13.	14	19	24	4	2
3.	19	14	14.	5	4	25.	2	6
4.	31	3	15.	9	18	26.	7	6
5.	115	152	16.	6	4	27.	20	13
6.	4	11	17.	4	8	28.	6	5
7.	92	111	18.	9	16	29.	6	5
8.	4	13	19.	23	25	30.	1	6
9.	13	7	20.	5	17	31.	0	9
10.	10	35	21.	2	4	32.	1	3
11.	12	15	22.	12	16			

Table 3.XIV Numbers of the different grave goods found in Bohemia and Moravia

Table 3.XV Print-out of MODE analysis of grave goods, with the graves randomly divided into two halves, Group 1.

```
MODE ANALYSIS

DISTANCE THRESHOLD = AVERAGE OF 2K LARGEST SIMILARITIES


PROGRAM SELECTS STANDARD K = 2
PROGRAM SELECTS STANDARD MINPUS = 2


PROGRAM PARAMETERS ARE -
DENSITY LEVEL K =  2.0
MINIMUM NUMBER OF CLUSTERS CONTROL MINC =  1
MINIMUM ENCLOSURE RATIO = 0.80
MINIMUM CLUSTER SIZE FOR OUTPUT MINPUS =  2


NOW INTRODUCE DENSE POINT   5 AT COEFFICIENT    0.556 AND FORM NEW CLUSTER NUCLEUS   5
NOW INTRODUCE DENSE POINT   7 AT COEFFICIENT    0.553 JOINS CLUSTER   5 AND NEW CLUSTER CODE IS   5
NOW INTRODUCE DENSE POINT  32 AT COEFFICIENT    0.549 AND FORM NEW CLUSTER NUCLEUS  32
NOW FUSE CLUSTERS    5   32 AT COEFFICIENT    0.504. NEW CLUSTER CODE IS   5
NOW INTRODUCE DENSE POINT  13 AT COEFFICIENT    0.471 JOINS CLUSTER   5 AND NEW CLUSTER CODE IS   5
NOW INTRODUCE DENSE POINT   1 AT COEFFICIENT    0.468 JOINS CLUSTER   5 AND NEW CLUSTER CODE IS   1
NOW INTRODUCE DENSE POINT  27 AT COEFFICIENT    0.451 JOINS CLUSTER   1 AND NEW CLUSTER CODE IS   1
NOW INTRODUCE DENSE POINT  24 AT COEFFICIENT    0.448 JOINS CLUSTER   1 AND NEW CLUSTER CODE IS   1
NOW INTRODUCE DENSE POINT  25 AT COEFFICIENT    0.419 AND FORM NEW CLUSTER NUCLEUS  25
NOW INTRODUCE DENSE POINT  10 AT COEFFICIENT    0.413 JOINS CLUSTER   1 FROM FUSION OF CLUSTERS    1  25
NOW INTRODUCE DENSE POINT  30 AT COEFFICIENT    0.397 JOINS CLUSTER   1 AND NEW CLUSTER CODE IS   1
NOW INTRODUCE DENSE POINT  15 AT COEFFICIENT    0.396 JOINS CLUSTER   1 AND NEW CLUSTER CODE IS   1
NOW INTRODUCE DENSE POINT  21 AT COEFFICIENT    0.387 JOINS CLUSTER   1 AND NEW CLUSTER CODE IS   1
NOW INTRODUCE DENSE POINT  19 AT COEFFICIENT    0.377 JOINS CLUSTER   1 AND NEW CLUSTER CODE IS   1
NOW INTRODUCE DENSE POINT  14 AT COEFFICIENT    0.374 JOINS CLUSTER   1 AND NEW CLUSTER CODE IS   1
NOW INTRODUCE DENSE POINT   3 AT COEFFICIENT    0.357 JOINS CLUSTER   1 AND NEW CLUSTER CODE IS   1
NUMBER OF CLUSTERS =   1
ENCLOSURE RATIO =  0.82
END CONDITIONS SATISFIED
JOB ENDS
```

```
MODE ANALYSIS

DISTANCE THRESHOLD = AVERAGE OF 2K LARGEST SIMILARITIES


PROGRAM SELECTS STANDARD K = 2
PROGRAM SELECTS STANDARD MINPUS = 2


PROGRAM PARAMETERS ARE -
DENSITY LEVEL K =  2.0
MINIMUM NUMBER OF CLUSTERS CONTROL MINC =  1
MINIMUM ENCLOSURE RATIO = 0.80
MINIMUM CLUSTER SIZE FOR OUTPUT MINPUS =  2


NOW INTRODUCE DENSE POINT   5 AT COEFFICIENT    0.509 AND FORM NEW CLUSTER NUCLEUS   5
NOW INTRODUCE DENSE POINT   7 AT COEFFICIENT    0.493 JOINS CLUSTER   5 AND NEW CLUSTER CODE IS   5
NOW INTRODUCE DENSE POINT   1 AT COEFFICIENT    0.472 AND FORM NEW CLUSTER NUCLEUS   1
NOW INTRODUCE DENSE POINT  32 AT COEFFICIENT    0.424 JOINS CLUSTER   1 AND NEW CLUSTER CODE IS   1
NOW INTRODUCE DENSE POINT  19 AT COEFFICIENT    0.422 AND FORM NEW CLUSTER NUCLEUS  19
NOW INTRODUCE DENSE POINT  18 AT COEFFICIENT    0.397 FORMS CLUSTER   1 FROM FUSION OF CLUSTERS   19   1
NOW INTRODUCE DENSE POINT  13 AT COEFFICIENT    0.387 JOINS CLUSTER   1 AND NEW CLUSTER CODE IS   1
NOW INTRODUCE DENSE POINT  30 AT COEFFICIENT    0.386 JOINS CLUSTER   5 AND NEW CLUSTER CODE IS   5
NOW INTRODUCE DENSE POINT  20 AT COEFFICIENT    0.369 JOINS CLUSTER   5 AND NEW CLUSTER CODE IS   5

CLASSIFICATIONS PRIOR TO FUSION
  MODE NUCLEI GROUP  1 KL= 2   9 DENSE  2 CLUSTERS ENC RATIO 0.69 COEF    0.369
   1    0    0    0    5    0    5    0    5    5    5    0    1    5    0    5    1    1    1    5
   0    5    1    0    1    5    5    0    1    5    5    1
 MODE COMPLETE GROUP  1 KL= 2   9 DENSE  2 CLUSTERS ENC RATIO 0.69 COEF    0.369
   1    5    5    5    5    5    5    1    5    5    5    5    1    5    1    5    1    1    1    5
   5    5    1    5    1    5    5    5    1    5    5    1
NOW INTRODUCE DENSE POINT  14 AT COEFFICIENT    0.368 FORMS CLUSTER   1 FROM FUSION OF CLUSTERS    1   5
NOW INTRODUCE DENSE POINT  10 AT COEFFICIENT    0.362 JOINS CLUSTER   1 AND NEW CLUSTER CODE IS   1
NOW INTRODUCE DENSE POINT  29 AT COEFFICIENT    0.348 JOINS CLUSTER   1 AND NEW CLUSTER CODE IS   1
NOW INTRODUCE DENSE POINT  22 AT COEFFICIENT    0.333 JOINS CLUSTER   1 AND NEW CLUSTER CODE IS   1
NUMBER OF CLUSTERS =   1
ENCLOSURE RATIO =  0.82
END CONDITIONS SATISFIED
JOB ENDS
```

Table 3.XVI(a) Print-out of MODE analysis of grave goods, with the graves randomly divided into two halves, Group 2.

Cluster 1

1. Decorated Bell Beaker
13. Arrowhead
17. Copper Awl
18. Copper Dagger
19. Wrist-guard
23. Ear-ring
25. Amber Button
29. Flint Scraper
32. Whetstone

Cluster 2

5. Undecorated Jug
7. Undecorated Bowl
9. Polypod Bowl
10. 'Topf'
11. Handled 'Topf'
14. Stone Axe
16. Bone Pendant
20. V-perforated Button
22. Animal Bones
26. Amphora
27. Flint Blade
30. Boar's Tusk
31. Urn

Table 3.XVI(b) Members of the two 'nuclei' clusters produced by program MODE from the 32 object types used in the analysis, with the graves randomly divided into two halves. Group 2.

	Sample 1	Sample 2		Sample 1	Sample 2		Sample 1	Sample 2
1.	46	50	12.	8	8	23.	1	4
2.	2	5	13.	15	18	24.	3	3
3.	17	16	14.	5	4	25.	4	4
4.	13	22	15.	10	17	26.	6	7
5.	142	124	16.	5	5	27.	17	16
6.	6	8	17.	5	7	28.	4	7
7.	113	90	18.	10	15	29.	4	7
8.	8	9	19.	22	25	30.	4	5
9.	12	8	20.	7	15	31.	5	2
10.	22	23	21.	3	3	32.	1	3
11.	14	13	22.	11	17			

Table 3.XVII Numbers of the different grave goods in randomly divided samples 1 and 2.

Cluster 1

1.	Decorated Bell Beaker	5.	Undecorated Jug
18.	Copper Dagger	7.	Undecorated Bowl
19.	Wrist-guard	9.	Polypod Bowl
23.	Ear-ring	10.	'Topf'
		24.	Copper Sheet
		27.	Flint Blade

Enclosure ratio 0.49 at coefficient 0.353

Table 3.XVIII Members of the two 'nuclei' clusters produced by program MODE from the 27 object types (five rare types removed from the original total). Bohemian graves only.

Decorated Bell Beakers with continuous zones

Moravia

No Begleitkeramik	Begleitkeramik
	1. Blažovice Gr. 14: bowl, jug.
	2. Šlapanice (1025) Gr. 16: 'Topf', 2 small jugs.
	3. Šlapanice (1025) Gr. 13: 'Topf', small jug.
	4. Šlapanice (1025) Gr. 9: small jug.
	5. Šlapanice (1025) Gr. 25-6: Urn, small jug.
	6. Šlapanice (1025) Gr. 21: small jug, bowl.
	7. Šlapanice (1025) Gr. 38: Bowl, small jug, small vessel.
	8. Šlapanice (1025) Gr. 28: Undecorated Bell Beaker, small jug.
	9. Svatobořice Gr. 16: Small jug, bowl.
	10. Svatobořice Gr. 22: Small jug, bowl.
	11. Stražnice Gr. 1: Handled 'Topf'.
	12. Stražnice Gr. 1: Bowl, 'Topf'.

Table 4.I (a) Associations of decorated Bell Beakers with continuous (i.e. non-metopic) zones. Moravia.

Table 4.I (b)

Decorated Bell Beakers with continuous zones

Bohemia

No Begleitkeramik

1. Zabovřesky Gr. 3: 2 Decorated Bell Beakers, 5 arrowheads, flint scraper, flint blade, 2 flint flakes, boars tusk.
2. Radotín I Gr. 1: Decorated Bell Beaker, flint scraper, copper awl.
3. Neškaredice: Decorated Bell Beaker.
4. Kolín Gr. 1: 2 Decorated Bell Beakers.
5. Chaře I Gr. 2: Decorated Bell Beaker.
6. Sulejovice I Gr. 3: Decorated Bell Beaker, 2 decorated handled Bell Beakers, wrist-guard, 3 arrowheads.
7. Praha-Bubeneč II Gr. 1: Decorated Bell Beaker, dagger, 2 ear-rings.

Begleitkeramik

1. Bylany I Gr. 2: 4 Decorated Bell Beakers, 3 flint arrowheads, 1 small jug, 1 vessel, 1 flint blade, 2 wrist-guards, smoothing stone.
2. Bylany I Gr. 5: 2 Decorated Bell Beakers, 1 small jug.
3. Kolín VI Gr. 9: Decorated Bell Beaker, 1 jug.
4. Chaře I Gr. 1: Decorated Bell Beaker, bowl, vessel.
5. Praha-Dolní Liboč: Decorated Bell Beaker, jug, undecorated Bell Beaker, flint blade, flint arrowhead, stone axe, whetstone.
6. Řež I Gr. 3: 2 Decorated Bell Beakers, bowl, 2 undecorated Bell Beakers, small jug.
7. Rožďalovice I Gr. 1: 2 Decorated Bell Beakers, 2 small jugs, decorated bowl, amber pendant.
8. Lysolaje III Gr. 1: 2 Decorated handled Bell Beakers, 2 copper ear-rings, jug, small jug, 'Topf', copper awl.

Table 4.I (b) (continued)

Decorated Bell Beakers with continuous zones

Bohemia

No Begleitkeramik	Begleitkeramik
	9. Kolín VI Gr. 12: Decorated Bell Beaker, 2 small jugs, flint axe.
	10. Tišice I Gr. 2: 3 Decorated Bell Beakers, bowl.
	11. Praha Krč II Gr. 1: Decorated Bell Beaker, handled 'Topf'.
	12. Lysolaje III Gr. 1: Decorated handled Bell Beaker, small jug, jug, bowl, 2 copper ear-rings.

Table 4.I (b) Associations of decorated Bell Beakers with continuous (i.e. non-metopic) zones. Bohemia.

Name	Type of site	Decorated Bell Beaker sherds	Others
Bedřichovice	Pit(s)	2	over 30
Brno-Bosonohy	Pit	2	26
Brno-Medlanky	Pit	+	+
Brno-Obřany	Pit	1	c.500-600
Čechůvky	'Culture layer'	8	3
Dolní Sukolom	Pit 1	9	48
	Pit 2	7	29
Klobouky 1	Pit	2	5
		(only these survive)	
Klobouky 2	Pit 1	-	+
	Pit 2	-	+
	Pit 3	14	over 18
Mostkovice	Pit 1	+	+
	Pit 2	-	+
Rajhrad	Pit	-	47
Střelice 'Klobouček'	Pits	+	+
	surviving in museum	5	16
Šlapanice	Pit	+	+
Lazce	Pit	+	+
Těšetice	Pit	8	22
Určice 1	Pit	+	+
Určice 2	Pit	-	4
Vanovice	Pit	+	+
Vrahovice	Pit	+	+
	surviving in museum	4	8
Želechovice	Pit	+	+
Želešice	Pit	8	over 10

Table 4.II Summary description of adequately reported Bell Beaker culture settlements from Moravia. The numbers refer to the number of sherds present; the + sign simply indicates the presence of the type.

Cluster 1		Cluster 1	
Site	Grave	Site	Grave
Letonice 1	3	Brankovice 1	2
Marefy 1	1	Šlapanice 7	41
Marefy 1	5	Holešov 1	5
Němčice 2	4	Holešov 1	6
Němčice 2	4	Holešov 1	7
Hrubčice 2	2	Těšetice 1	1
Kobylnice 1	13	Těšetice 1	1

Others		Others	
Site	Grave	Site	Grave
Slavkov 4	5	Postoupky 1	1
Němčice 2	1	Postoupky 1	1
Němčice 2	1	Chrlice 1	2
Kobylnice 1	5	Chrlice 1	2
Kobylnice 1	20	Chrlice 1	2
Kobylnice 1	23	Chrlice 1	3
Šlapanice 7	5	Chrlice 1	3
Šlapanice 7	2	Senice 1	
Šlapanice 7	35	Senice 1	
Brno-Julianov 3	1	Senice 1	
Holešov 1	8	Senice 1	
Příkasy 1	1	Senice 1	

Table 4.III Provenances of the 38 Moravian jugs for which drawings were available.

RANK	FIRST GROUP VALUES	SECOND GROUP VALUES	FIRST GROUP ITEM NO.	SECOND GROUP ITEM NO.
1	-0.17332		6	
2		-0.18052		9
3	-0.18230		9	
4	-0.18896		3	
5		-0.19101		20
6	-0.20472		1	
7	-0.21117		11	
8	-0.21395		7	
9		-0.21740		6
10	-0.22196		13	
11	-0.22400		8	
12	-0.22922		2	
13	-0.23224		4	
14	-0.23455		10	
15		-0.23866		8
16		-0.24056		13
17		-0.25384		11
18	-0.25914		5	
19		-0.26445		19
20		-0.26784		5
21		-0.27423		23
22		-0.27465		22
23		-0.28269		2
24		-0.28379		12
25	-0.28541		14	
26		-0.28561		14
27		-0.28754		16
28		-0.28792		15
29		-0.28842		18
30		-0.28990		7
31	-0.29510		12	
32		-0.29811		1
33		-0.29929		4
34		-0.30143		3
35		-0.30394		21
36		-0.30512		10
37		-0.30632		24
38		-0.33449		17

Table 4.IV Moravian jugs ranked on the discriminant function. The left hand group is those jugs associated with 'Cluster 1' goods, the right hand group is the remainder.

GROUP	NUMBER OF CASES CLASSIFIED INTO GROUP - A	X	Y
A	11	1	2
X	1	8	3
Y	3	3	6

Table 4.V Classification matrix produced by discriminant analysis for the three groups of Moravian jugs.

'Cluster 1' jugs

Group	Site	Number of vessels
A	Šlapanice	1
B	Kobylnice	1
C	Němčice	2
D	Holešov	3
E	Těšetice	2
F	Marefy	2
G	Others	3

Other jugs

Group	Site	Number of vessels
S	Chrlice	5
T	Senice	5
U	Šlapanice	3
V	Kobylnice	3
W	Němčice	2
X	Holešov	1
Y	Postoupky	2
Z	Others	3

Table 4.VI Moravian jugs divided by site and association for canonical analysis.

EIGENVALUES

8.23	0.84	0.63	0.18	0.06	0.03	0.02	0.01	0.00	0.00

PERCENTAGE VARIANCE

82.34	8.40	6.30	1.84	0.57	0.27	0.19	0.07	0.05	0.03

CUMULATIVE VARIANCE

82.34	90.73	97.02	98.85	99.42	99.68	99.86	99.93	99.98	100.00

EIGENVECTORS - BY ROWS

VECTOR 1	0.286	0.311	0.331	0.336	0.328	0.332	0.333	0.330	0.319	0.246
VECTOR 2	-0.601	-0.484	-0.306	-0.004	0.258	0.261	0.245	0.253	0.212	0.087
VECTOR 3	0.025	-0.045	-0.065	-0.191	-0.213	-0.174	-0.155	-0.111	0.301	0.868
VECTOR 4	0.190	0.060	-0.152	-0.331	-0.345	-0.192	0.148	0.429	0.557	-0.335
VECTOR 5	-0.365	0.029	0.285	0.479	-0.050	-0.236	-0.412	-0.136	0.521	-0.193
VECTOR 6	-0.476	0.155	0.604	-0.246	-0.428	0.117	0.310	0.030	-0.164	0.047
VECTOR 7	0.077	-0.256	-0.054	0.545	-0.392	-0.342	0.141	0.472	-0.315	0.130
VECTOR 8	-0.216	0.510	-0.180	-0.058	0.377	-0.617	0.245	0.080	-0.102	0.067
VECTOR 9	0.078	-0.019	-0.224	0.287	-0.241	-0.031	0.628	-0.610	0.207	-0.064
VECTOR 10	0.221	-0.559	0.489	-0.191	0.349	-0.431	0.204	-0.102	0.054	-0.037

Table 4.VII Results of the principal components analysis carried out on the Moravian jugs.

	NUMBER OF CASES CLASSIFIED INTO GROUP -			
GROUP	A	X	Y	Z
A	30	11	7	9
X	13	10	18	4
Y	9	8	19	9
Z	15	7	11	13

Table 4.VIII Classification matrix produced by discriminant analysis for four groups of Moravian jugs. (3 ratio data).

Site	Number of graves	Number with decorated Beakers	Number with other goods of the Beaker cluster
Bílina 6	5	0	1
Brandýsek 1	22	2	3
Bylany 1	6	3	2
Ďáblice 1	over 14	0	0
Dolní Chabry 1	6	2	0
Chrást 2	5	0	2
Jenčice 1	8	0	0
Kněževes 1	13	0	0
Kolín 6	13	6	2
Libochovice 2	7	0	1
Lochenice 1	6	1	3
Lovosice 1	10	3	1
Lovosice 4	11	3	0
Lysolaje 3	25	7	6
Most 5	7	1	0
Neratovice 1	24	6	4
Ohrada 1	7	0	0
Postoloprty 3	5	0	1
Praha 6-Dejvice	5	0	0
Praha 8-Kobylisy	6	0	0
Praha 8-Libeň	6	0	0
Praha 10-Vršovice	6	0	2
Řež 1	9	1	1
Svobodné Dvory 1	9	1	5
Tišice 1	11	3	0

Table 4.IX
continued

Site	Number of graves	Number with decorated Beakers	Number with other goods of the Beaker cluster
Tlustovousy 1	9	0	0
Třebusice 1	6	0	0
Všetaty 1	10	2	0

Table 4.IX Bohemian sites with five or more graves.

			Base point		
			Bell Beaker	No Bell Beaker	
			A	B	
Nearest Neighbour	Bell Beaker	A	4	9	13
	No Bell Beaker	B	9	5	14
			13	14	27

Table 4.X Bohemian Bell Beaker cemeteries divided into those containing decorated Bell Beakers and those without. Contingency table shows for every site whether its nearest neighbour contained a decorated Bell Beaker or not.

Name	Type of site	Total sherds	Decorated Bell Beaker sherds	Others
Bžany	Pit			+
Chudonice	Pit	475	+	+
Jenštejn	Pit		1	+
Kolín	12 Pits		+ (in 3 of pits)	+
Kozly	Pits and post-holes	164	11	153
Lovosice	Pit 1		+	+
	Pit 2			+
	Pit 3			+
Lysolaje	Pit 1		+	+
Nebovidy	Pit		1	+
Popovice	?		2	+
Poříčany	Pit		+	+
Praha 8-Kobylisy	Pit			+
Praha 10-Hoštivar	Pit		+	+
Semice	Pit		+	+
Vranany	Pit		+	+

Table 4.XI Summary description of adequately reported Bell Beaker culture settlements from Bohemia. The numbers refer to the number of sherds present; the + sign simply indicates the presence of the type.

Table 4.XII Provenances of the 65 Bohemian jugs for which drawings were available

Cluster 1

Site	Grave
Rožďalovice 1	1
Rožďalovice 1	1
Řež 1	3
Řež 1	3
Řež 1	3
Lysolaje 3	6
Lysolaje 3	6
Bylany 1	2

Cluster 1

Site	Grave
Bylany 1	5
Rosnice 1	1
Rosnice 1	2
Brandýsek 1	19
Brandýsek 1	22
Brandýsek 1	71
Brandýsek 1	71
Třebovle 1	1

Others

Site	Grave
Řež 1	4
Řež 1	5
Řež 1	5
Řež 1	7
Neratovice 1	9
Neratovice 1	9
Neratovice 1	3
Neratovice 1	13
Neratovice 1	12
Neratovice 1	12
Neratovice 1	11
Brandýsek 1	18
Brandýsek 1	20
Brandýsek 1	25
Brandýsek 1	67
Tlustovousy 1	6
Tlustovousy 1	8
Kolín-Zálabi 1	1
Kolín-Zálabi 1	2
Kolín-Zálabi 1	3
Libochovice 1	7
Bílina 8	1
Losanky 1	1
Poboří 1	1
Třebovle 1	1

Others

Site	Grave
Kněževes 1	12
Kněževes 1	4
Kněževes 1	8
Kněževes 1	11
Kněževes 1	11
Kněževes 1	5
Kněževes 1	6
Kněževes 1	11
Ďáblice 1	5
Ďáblice 1	5
Ďáblice 1	5
Ďáblice 1	5
Ďáblice 1	6
Ďáblice 1	2
Ďáblice 1	4
Ďáblice 1	14
Ďáblice 1	11
Ďáblice 1	12
Kolín 6	1
Lysolaje 3	2
Praha-Motol 1	1
Polepy 1	1
Most 5	6
Ohrada 1	2
Třebešice 1	1

GROUP	NUMBER OF CASES CLASSIFIED INTO GROUP - A	X	Y	Z
A	9	4	2	1
X	3	5	5	3
Y	2	2	10	2
Z	3	5	1	8

Table 4.XIII Classification matrix produced by discriminant analysis on four groups of Bohemian jugs. (12 ratio data).

'Cluster 1' jugs

Group	Site	Number of vessels
A	Řež	3
B	Rožďalovice	2
C	Lysolaje	2
D	Bylany	2
E	Brandýsek	4
F	Rosnice	2
G	Others	1

Other jugs

Group	Site	Number of vessels
R	Řež	4
S	Kněževes	8
T	Lysolaje	1
U	Neratovice	7
V	Ďáblice	10
W	Brandýsek	4
X	Tlustovousy	2
Y	Kolín-Zálabi	3
Z	Others	10

Table 4.XIV Bohemian jugs divided by site and association for canonical analysis.

Table 5.I Results of tests on the significance of the difference between the mean number of types/goods in a) those graves with 'cluster 1' goods and those without and b) those graves with decorated Bell Beakers and those without.

5.I ai. Mean number of types.

N_1 Number of graves with 'cluster 1' goods = 90

N_2 Number of graves without 'cluster 1' goods = 110

$\bar{X}_1 = 4.03 \pm 4.19$

$\bar{X}_2 = 2.31 \pm 2.51$

t = 3.41 w. 198 df

Significant at the 0.0005 level for a 1 tailed test.

5.Ia ii Mean number of goods

N_1 Number of graves with 'cluster 1' goods = 90

N_2 Number of graves without 'cluster 1' goods = 110

$\bar{X}_1 = 6.40 \pm 8.08$

$\bar{X}_2 = 3.26 \pm 3.67$

t = 3.46 w. 198 df

Significant at the 0.0005 level for a 1 tailed test.

5.Ib i Mean number of types

N_1 = Number of graves with decorated Bell Beakers = 71

N_2 = Number of graves without decorated Bell Beakers = 129

$\bar{X}_1 = 4.12 \pm 4.48$

$\bar{X}_2 = 2.51 \pm 2.81$

t = 2.74 w. 112 df

Significant at the 0.005 level for a 1 tailed test.

Table 5.I continued

5.Ib ii Mean number of goods

N_1 = Number of graves with decorated Bell Beakers = 71

N_2 = Number of graves without decorated Bell Beakers = 129

$\bar{X}_1 = 6.32 \pm 8.19$

$\bar{X}_2 = 3.58 \pm 4.44$

t = 2.56 w. 94 df

Significant at the 0.01 level for a 1 tailed test.

Table 5.II Results of tests on the significance of the difference between the mean number of types/goods in a) those graves with Bohemian 'cluster 1' goods and those without and b) those graves with decorated Bell Beakers and those without. Bohemia.

5.II a i. Mean number of types.

N_1 Number of graves with 'cluster 1' goods = 58
N_2 Number of graves without 'cluster 1' goods = 141

$\bar{X}_1 = 3.55 \pm 3.96$
$\bar{X}_2 = 2.33 \pm 2.57$

t = 2.15 w. 76 df
Significant at the 0.025 level for a 1 tailed test.

5.II a ii. Mean number of goods.

N_1 Number of graves with 'cluster 1' goods = 58
N_2 Number of graves without 'cluster 1' goods = 141

$\bar{X}_1 = 4.69 \pm 5.62$
$\bar{X}_2 = 2.91 \pm 3.54$

t = 2.22 w. 74 df
Significant at the 0.025 level for a 1 tailed test.

5.II b i. Mean number of types.

N_1 = Number of graves with decorated Bell Beakers = 104
N_2 = Number of graves without decorated Bell Beakers = 476

$\bar{X}_1 = 2.51 \pm 2.96$
$\bar{X}_2 = 1.86 \pm 2.16$

t = 2.11 w. 132 df
Significant at the 0.025 level for a 1 tailed test.

Table 5.II continued

5.II b ii. Mean number of goods

N_1 = Number of graves with decorated Bell Beakers = 104
N_2 = Number of graves without decorated Bell Beakers = 476

$\bar{X}_1 = 3.16 \pm 4.08$
$\bar{X}_2 = 2.31 \pm 2.89$

t = 2.0 w. 129 df
Significant at the 0.025 level for a 1 tailed test.

NB. In table 5.IIb the total sample of graves has been increased since with only 200 graves the number of occurrences of decorated Bell Beakers was too small for the test to be carried out.

Table 5.III Distribution of objects between adults and children.

a) Jugs

	Adults	Children
Bohemia	17	9
Moravia	14	13

b) 'Cluster 1' goods

	Adults	Children
Bohemia	5	1
Moravia	7	4

c) Decorated Bell Beakers

	Adults	Children
Bohemia	4	1
Moravia	8	3
Bohemia and Moravia combined	12	4

d) All non-ceramic goods combined

	Adults	Children
Bohemia	9	0
Moravia	9	1

e) More than 3 goods types

	Adults	Children
Bohemia	6	0
Moravia	9	2

Table 5.IV The side on which individuals were lying in the grave tabulated against their sex, where known.

a) Moravia

	Male	Female	
RHS	4	4	8
LHS	3	0	3
	7	4	11

b) Bohemia

	Male	Female	
RHS	1	2	3
LHS	12	1	13
	13	3	16

Table 5.V The side on which the skeleton was lying tabulated against the presence of certain objects.

a) Moravia

i) Decorated Bell Beakers

	Present	Absent	
LHS	22	52	74
RHS	17	55	72
	39	107	146

ii) Cluster 1

	Present	Absent	
LHS	38	38	76
RHS	23	53	76
	61	91	152

iii) V-perforated buttons

	Present	Absent	
LHS	3	73	76
RHS	16	57	73
	19	130	149

Table 5.V continued

iv) 'Topf'

	Present	Absent	
LHS	10	56	66
RHS	30	42	72
	40	98	138

b) Bohemia

i) Decorated Bell Beaker

	Present	Absent	
LHS	18	80	98
RHS	8	42	50
	26	122	148

ii) Bohemian Cluster 1

	Present	Absent	
LHS	25	76	101
RHS	11	39	50
	36	115	151

Table 5.V continued

iii) V-perforated buttons

	Present	Absent	
LHS	1	100	101
RHS	4	45	49
	5	145	150

iv) 'Topf

	Present	Absent	
LHS	7	87	94
RHS	8	40	48
	15	127	142

Table 6.I a Association of 'early', 'middle' and 'late' decorated Bell Beakers with other objects.

Object associated	Decorated Bell Beaker type		
	Early	Middle	Late
No association (decorated Bell Beaker alone)		2	6
Jug	1		2
Arrowhead		1	1
Pot			2
Undecorated Handled Bell Beaker			1
Wrist-guard		1	
Blade			1
Flake			2
Boars tusk			1
Tanged dagger		1	
Sherds	1		2
Stone axe	1		
Shell			1
Amber V-perforated button			1
Belt-hook		1	
Total number of decorated Bell Beakers	3	3	10

Table 6.Ib Association of 'early', 'middle' and 'late' decorated Bell Beakers with the side on which the skeleton was lying in grave.

	Decorated Bell Beaker type		
Side lying	Early	Middle	Late
LHS	1	2	3
RHS	0	0	5

Table 6.II Association between certain grave attributes, including common grave good types, and the sex of the individual buried.

i) Side-lying

		Sex		
		M	F	
Side lying	LHS	18	5	23
	RHS	4	12	16
		22	17	39

ii) Presence of stone cist/wood construction

		Sex		
		M	F	
Graye type	Simple earth pit	28	25	53
	Stone/cist wood construction	13	7	20
		41	32	73

iii) Occurrence of decorated or undecorated Bell Beaker (these are mutually exclusive).

	Sex		
	M	F	
Decorated Bell Beaker	17	4	21
Undecorated Bell Beaker	14	20	34
	31	24	55

Table 6.II (continued)

iv) Other objects

	Sex		
	M	F	
Animal bones	10	1	11
Wrist-guards	6	0	6
Chipped stone	13	1	14
Polypod bowl	2	2	4
Bowl	1	3	4
Undecorated Handled Bell Beaker	1	3	4

Table 6.III List of values attached to grave goods for points system.

Copper tanged dagger	15
Wrist-guard	12
Amber	12
Decorated Bell Beaker	10
Decorated Handled Bell Beaker	10
Polypod bowl	10
Bone pendant	9
Stone axe	8
Stone chisel	8
Polishing stone	8
Boars tusk	8
Undecorated Bell Beaker	7
Undecorated handled Bell Beaker	7
Animal bones	7
Bowl	7
Jug	7
Bone point	5
Bone pin	5
Antler object	5
Pot	4
Handled 'Topf'	4
Coarse basin	4
Arrowhead	4
Shell	4
Scraper	3
Blade	2
Sherds	1
Flake	1
Burnt clay	1

Table 6.IV The graves are divided into those with more than 20 points and those with more than 20 points. The contingency table shows whether or not each site's nearest neighbour has a grave scoring more than 20 points.

		nearest neighbour		
		20 points	20 points	
Base point	20 points	9	10	19
	20 points	9	32	41
		18	42	60

Table 6.V Distribution of male ages at death.

Age category	Number of individuals
Juvenilis	3
Adultus	10
Maturus	27
Senilis	2

Table 7.I Bell Beaker Culture Pottery in Bohemia (excluding settlements)

Decorated Bell Beakers (including those with handles)	11%
Undecorated jugs	42%
Undecorated bowls	23%
Others	24%
Total number of vessels	1647

Table 7.II Bell Beaker Culture Pottery in Moravia (graves only)

Decorated Bell Beakers (including those with handles)	17%
Undecorated jugs	41%
Undecorated bowls	21%
Others	21%
Total number of vessels	2132

Table 9.I Domestic animals documented for late Neolithic groups in Central Germany. (Information from Behrens 1973).

+ denotes presence.

Culture	Cattle	Sheep	Goat	Pig	Horse	Dog
Baalberg	+	+	+	+		+
Salzmunde	+	+	+	+		+
Walternienburg	+	+	+			+
Bernburg	+	+	+	+		+
Globular Amphora	+	+		+		+
Corded Ware	+	+	+	+	+	+
Bell Beaker				+		

Table 9.II Domestic animals documented for Eneolithic groups in Bohemia and Moravia. (Information from a variety of sources.)

+ denotes presence.

Culture	Cattle	Sheep	Goat	Pig	Horse	Dog
Earlier TRB/Jevišovice C2	+	+	+	+		+
Salzmunde TRB/Jevišovice C1	+	+	+	+		+
Řivnáč/Jevišovice B	+	+	+	+	+	+
Corded Ware	+	+	+	+		+
Bell Beaker	+	+	+	+	+	+

Table 9.III Plant crops documented for the late Neolithic in Central Germany.

+ denotes presence.

Culture	Barley	Emmer	Einkorn	Other	Total impressions
Corded Ware	23	17	7	29	76
Schönfeld	+	+	+		
Single Grave	+	+	+	Spelt	
Bell Beaker	+	+		+	

Table 10.I Sex of the individual buried tabulated against the side on which they were lying. Vikletice cemetery.

		Sex		
		M	F	
Side lying	RHS	6	-	6
	LHS	6	7	13
		12	7	19

Table 10.II Sex of the individual buried tabulated against the side on which they were lying. Bohemian Corded Ware graves excluding Vikletice cemetery.

		Sex		
		M	F	
Side lying	RHS	6	-	6
	LHS	2	3	5
		8	3	11

Table 10.III Presence of particular grave goods tabulated against the side on which the associated skeleton was lying. Figures refer to numbers of graves in which the objects occur.

	Side lying		
Object type	RHS	LHS	Total
Decorated beaker	17	8	25
Decorated lugged beaker	6	1	7
Flat axe	32	2	34
Hammer axe	12	1	13
Mace	5	0	5
Coarse jar	0	4	4
Cylindrical vessel	3	9	12
'Topf'	4	21	25
Small handled 'Topf'	0	7	7
Perforated teeth	0	10	10
Perforated shell	1	11	12

Table 10.IV Contents of the graves at each end of the axes produced by principal coordinates analysis on the graves from Vikletice.

i) Axis 1

Loading on axis	Side lying of skeleton (if known)	Grave contents
-0.94	-	No goods
-0.94	RHS	"
-0.94	-	"
-0.94	-	"
-0.94	-	"
-0.94	-	"
-0.94	LHS	"
0.23	RHS	Beaker, undecorated amphora.
0.24	RHS	Beaker, undecorated amphora, blade, bowl, grindstone.
0.24	LHS	Beaker, undecorated amphora, Topf.
0.26	RHS	Beaker, undecorated amphora blade, flat axe, grindstone.
0.26	RHS	Beaker, undecorated amphora, blade, flat axe, hammer axe.
0.27	-	Beaker, undecorated amphora, blade, mace.
0.31	RHS	Beaker, undecorated amphora, blade, flat axe.
0.31	RHS	Beaker, undecorated amphora, blade, flat axe.
0.32	-	Beaker, undecorated amphora, blade.

Table 10.IV (continued)

ii) Axis 2

Loading on axis	Side lying of skeleton (if known)	Grave contents
-0.54	-	Undecorated amphora, Topf, lugged beaker.
-0.54	LHS	Undecorated amphora, Topf, lugged beaker.
-0.52	LHS	2 Töpfe, 2 undecorated amphorae, small Topf.
-0.46	LHS	Undecorated amphora, undecorated jug, Topf.
-0.41	-	Undecorated amphora, lugged beaker, Topf, cylindrical vessel.
-0.38	LHS	Undecorated amphora, decorated amphora, Topf, jug/Topf.
-0.36	-	Undecorated amphora, Topf, lugged beaker, lugged Topf, flint point.
-0.35	?LHS	Undecorated amphora, Topf, basin, cylindrical vessel, polypod bowl.
-0.30	-	Undecorated amphora.
-0.30	LHS	Undecorated jug, jug/Topf, Topf.
0.30	-	Beaker, decorated amphora, blade.
0.30	RHS	Decorated amphora, blade, bone awl.
0.32	-	Decorated jug, Beaker, flat axe, hammer-axe, grindstone.
0.32	RHS	Cordoned amphora, decorated jug, flat axe, blade.
0.33	-	Beaker, Blade, mace, flat axe, sherd.
0.34	RHS	Flat axe, blade, flake, sherds.
0.40	RHS	Undecorated amphora, Beaker, flat axe, blade, grindstone.
0.40	RHS	Undecorated amphora, Beaker, hammer axe, flat axe, blade.
0.43	RHS	Undecorated amphora, Beaker, flat axe, blade.
0.43	RHS	Undecorated amphora, Beaker, flat axe, blade.

Table 10.IV (continued)

ii) Axis 2 (continued)

Loading on axis	Side lying of skeleton (if known)	Grave contents
0.51	-	Beaker, blade, hammer-axe, mace, flat axe.
0.51	-	Decorated amphora, beaker, blade.
0.51	-	Decorated amphora, beaker, blade.

Table 10.IV (continued)

iii) Axis 3

Loading on axis	Side lying of skeleton (if known)	Grave contents
-0.40	-	Decorated amphora, decorated jug, Topf.
-0.39	LHS	Decorated amphora, Topf, cylindrical vessel.
-0.38	-	Cordoned amphora, decorated jug, Topf, jug/Topf, cylindrical vessel, blade, copper.
-0.38	-	Decorated amphora.
-0.38	-	Decorated amphora.
-0.35	LHS	Cordoned amphora, Topf, blade.
-0.35	-	Cordoned amphora, undecorated lugged beaker, jug/Topf.
-0.34	LHS	Cordoned amphora, Topf, basin, small Topf, blade.
-0.33	?LHS	Decorated amphora, decorated lugged beaker.
-0.31	RHS	Decorated amphora, blade, awl.
-0.30	Double grave	Decorated amphora, undecorated lugged beaker, blade.
-0.29	LHS	Cordoned amphora, amphora/Topf, decorated jug, Topf, amphora, flake, point.
-0.29	LHS	Topf, undecorated jug, jug/Topf.
0.30	-	Undecorated amphora, beaker, bowl.
0.32	-	Undecorated amphora, beaker, blade, mace.
0.33	RHS	Undecorated amphora, beaker, flat axe, blade, grindstone.
0.33	RHS	Undecorated amphora, beaker, hammer axe, flat axe, blade.
0.38	-	Undecorated amphora.
0.39	-	Undecorated amphora, beaker, blade.
0.40	RHS	Undecorated amphora, beaker, flat axe, blade.
0.40	RHS	Undecorated amphora, beaker, flat axe, blade.
0.42	-	Undecorated amphora, bowl.

Table 10.IV (continued)

iii) Axis 3 (continued)

Loading on axis	Side lying of skeleton (if known)	Grave contents
0.42	LHS	Undecorated amphora, bowl.
0.46	RHS	Undecorated amphora, bowl, beaker, flat axe.
0.48	?RHS	Undecorated amphora, beaker.

Table 10.IV (continued)

iv) Axis 4

Loading on axis	Side lying of skeleton (if known)	Grave contents
-0.64	-	Decorated amphora.
-0.64	-	Decorated amphora.
-0.56	?LHS	Decorated amphora, lugged beaker.
-0.55	-	Undecorated amphora, decorated amphora.
-0.31	-	Undecorated amphora, bowl.
-0.31	LHS	Decorated amphora, cylindrical vessel, decorated lugged beaker, bowl, blade.
-0.31	LHS	Undecorated amphora, bowl.
-0.28	?LHS	Decorated amphora, cordoned amphora, beaker, undecorated jug, decorated lugged beaker.
-0.27	-	Decorated amphora, beaker, blade.
-0.27	RHS	Decorated amphora, beaker, blade.
-0.26	-	Undecorated amphora, beaker, bowl.
0.25	-	Decorated amphora, beaker,
0.27	-	Cordoned amphora, decorated jug, Topf, jug/Topf, cylindrical vessel, blade, copper.
0.27	RHS	Cordoned amphora, decorated jug, flat axe, blade.
0.27	LHS	Topf, small handled Topf, undecorated amphora, blade.
0.28	LHS	Undecorated amphora, Topf, small handled Topf, blade, flake.
0.29	Double grave	Undecorated amphora, cordoned amphora, Topf, beaker, undecorated lugged beaker, flat axe, hammer axe, blade

Table 10.IV (continued)

iv) Axis 4 (continued)

Loading on axis	Side lying of skeleton (if known)	Grave contents
0.31	LHS	Cordoned amphora, Topf, basin, small handled Topf, blade.
0.35	LHS	Cordoned amphora, Topf, blade, stone disc.
0.36	-	Cordoned amphora, undecorated lugged beaker, Topf, jug/Topf, blade.

Table 10.IV (continued)

v) Axis 5

Loading on axis	Side lying of skeleton (if known)	Grave contents
-0.39	-	Decorated lugged beaker, flat axe, flake.
-0.39	-	Decorated lugged beaker, flat axe, mace, blade, sherd.
-0.39	-	Decorated lugged beaker, undecorated amphora, Topf, cylindrical vessel.
-0.32	LHS	Cordoned amphora, point, dog teeth, bone bead, sherds.
-0.32	RHS	Flat axe, blade, sherds, flake.
-0.27	LHS	Sherds.
-0.27	RHS	Undecorated amphora, decorated lugged beaker, hammer axe.
-0.27	LHS	Cordoned amphora, undecorated lugged beaker, bowl.
-0.26	-	Decorated lugged beaker, undecorated jug.
-0.26	-	Undecorated amphora, bowl.
-0.26	LHS	Undecorated amphora, bowl.
-0.25	RHS	Cordoned amphora, decorated jug, flat axe, blade.
-0.25	LHS	Cordoned amphora, decorated shell.
-0.25	RHS	Undecorated amphora, lugged beaker, blade.
0.25	-	Beaker.
0.26	LHS	Amphora, bone.
0.27	LHS	Decorated amphora, basin, Topf.
0.27	Double grave	Decorated amphora, beaker, cordoned amphora, Topf, hammer axe.
0.31	LHS	Undecorated amphora, decorated amphora, Topf, jug/Topf.
0.36	RHS	Decorated amphora, beaker, blade.
0.36	-	Cordoned amphora, beaker, blade.
0.38	LHS	Undecorated amphora, beaker, Topf.

Table 10.V List of graves and their contents in the clusters produced by monothetic subdivisive cluster analysis: Cluster numbering corresponds to that in the dendrogram (fig. 10.3), reading from left to right.

Cluster 1

Grave No.	Contents
21	Undecorated amphora, undecorated jug, decorated lugged beaker, mace head, flat axe, blade.
48	Undecorated amphora, undecorated jug, decorated lugged beaker, flat axe, blade, spindle whorl.
104	Undecorated amphora, jug, undecorated lugged beaker, flat axe, blade.

Cluster 9

Grave No.	Contents
47	Undecorated amphora, decorated jug, decorated lugged beaker, flat axe, blade.
75	Undecorated amphora, undecorated lugged beaker, hammer axe, blade.
76	Undecorated amphora, beaker, flat axe, blade.
88	Undecorated amphora, decorated jug, decorated lugged beaker, hammer axe, flat axe, blade.

Cluster 5

Grave No.	Contents
10	Decorated jug, decorated lugged beaker, cylindrical vessel, 2 flat axes, blade.
83	Amphora, decorated jug, sherd, flat axe, blade.

Cluster 13

Grave No.	Contents
7	4 flat axes, bone disc, blade.
8	Flat axe, blade.
23	Cordoned amphora, 2 flat axes, blade.
45	Amphora sherds, beaker, undecorated lugged beaker, flat axe, blade.
78	Lugged beaker, flat axe, blade.
103	Cordoned amphora, beaker, mace head, flat axe, blade.

Table 10.V (continued)

Cluster 3

Grave No.	Contents
43	Cordoned amphora, beaker, hammer axe, flat axe.
66	Cordoned amphora, beaker, undecorated lugged beaker, hammer axe, flat axe, grindstone.
92	Cordoned amphora, beaker, flat axe.

Cluster 11

Grave No.	Contents
11	Beaker sherds, hammer axe, flat axe.
28	Amphora sherds, beaker, 2 ribbed jugs, hammer axe, flat axe.

Cluster 7

Grave No.	Contents
13	Sherds, hammer axe, flat axe.
86	Amphora sherds, cylindrical vessel, sherds, flat axe.

Cluster 15

Grave No.	Contents
6	2 flat axes, bone chisel.
24	Undecorated jug, 2 flat axes.
29	Cordoned amphora, undecorated jug, hammer axe, flat axe.

Cluster 2

Grave No.	Contents
99	2 undecorated jugs, Topf, decorated shell, copper, blade.
105	Cordoned amphora, 2 small lugged amphorae, undecorated amphora decorated jug, 2 undecorated jugs, 2 Töpfe, cylindrical vessel, small Topf, decorated shell, copper, blade.

Cluster 10

Grave No.	Contents
35	Undecorated amphora, decorated amphora, undecorated jug, Topf, blade.
39	Cordoned amphora, undecorated jug, Topf, undecorated handled beaker, small handled Topf, clay disc, blade.

Table 10.V (continued)

Cluster 10 (continued)

Grave No.	Contents
40	Undecorated amphora, Topf, small handled Topf, grindstone, blade.
44	Incised amphora, Topf, cylindrical vessel, blade.
46	Undecorated amphora, Topf, lugged beaker sherd, sherd, blade.
70	Undecorated amphora, 2 undecorated jugs, Topf, blade.
84	Undecorated amphora, Topf, sherd, blade.

Cluster 6

Grave No.	Contents
17	Sherds, blade.
36	Sherds, blade, animal bones.
56	Sherds, blade, mace head.
59	Sherd, blade.
77	Cordoned amphora, sherd, blade.
98	Cordoned amphora, beaker sherds, sherd, hammer axe, blade.
102	Undecorated jug, small Topf, sherd, blade.

Cluster 14

Grave No.	Contents
1	Undecorated amphora, blade.
3	Decorated jug, lugged bowl, 2 basins, grindstone, bone point, blade.
9	Jug, hammer axe, blade.
19	Undecorated amphora, undecorated jug, perforated tooth, copper, blade.
25	Beaker sherd, perforated shell disc, perforated tooth, blade.
27	Undecorated amphora, 2 undecorated jugs, cylindrical vessel, blade, animal bones.
38	Perforated shell disc, perforated tooth, blade.
49	Bone pin, blade.

Table 10.V (continued)

Cluster 14 (continued)

Grave No.	Contents
50	Perforated tooth, blade.
55	Undecorated jug, hammer axe, blade, animal bones.
57	Decorated amphora, beaker, mortar, decorated shell, blade.
63	Cylindrical vessel, perforated shell, perforated tooth, blade.
67	Incised amphora, undecorated amphora, amphora, 3 jugs, perforated shell, perforated tooth, copper, blade.
68	2 cordoned amphorae, 2 beakers, hammer axe, blade.
80	Amphora, undecorated handled beaker, blade.
89	Amphora sherds, beaker sherds, decorated shell, perforated shell, blade.
90	Amphora sherds, beaker, copper, blade.
94	2 cordoned amphorae, decorated jug, blade.
95	Cordoned amphora, undecorated amphora, ribbed jug, blade.
96	Hammer axe, blade.
108	Blade.

Cluster 4

Grave No.	Contents
15	Cordoned amphora, beaker, hammer axe.
16	Cordoned amphora, beaker sherds, decorated jug.
79	Cordoned amphora, amphora, beaker, Topf, sherd.
97	Cordoned amphora, beaker sherds, Topf, copper.

Cluster 12

Grave No.	Contents
106	Beaker sherds, decorated shell.
2	Beaker, decorated jug.
4	Incised amphora, beaker.
12	Beaker sherds, ribbed jug, sherds, mace head.

Table 10.V (continued)

Cluster 12 (continued)

Grave No.	Contents
14	Beaker.
52	Undecorated amphora, beaker, hammer axe, mace head.
54	Incised amphora, beaker sherd, ribbed jug.
61	Beaker, lugged beaker, lugged bowl.
81	Beaker.
85	Beaker, jug.

Cluster 8

Grave No.	Contents
18	Cordoned amphora, undecorated amphora, topf, decorated lugged beaker, sherd.
20	Topf.
22	Undecorated amphora, undecorated jug, Topf, small lugged Topf, copper.
69	Undecorated amphora, decorated jug, Topf, animal bones.
73	Cordoned amphora, Topf, undecorated lugged beaker, decorated shell, perforated shell, perforated tooth.
74	Cordoned amphora, Topf, undecorated handled beaker, cylindrical vessel, 2 decorated shells.
101	Cordoned amphora, undecorated jug, Topf, cylindrical vessel, small lugged Topf, copper.

Cluster 16

Grave No.	Contents
5	Incosed amphora, decorated lugged beaker.
26	Undecorated amphora.
30	Small lugged Topf.
31	Undecorated amphora.
32	Decorated lugged beaker.
33	Hammer axe.
34	Undecorated amphora, decorated lugged beaker.

Table 10.V (continued)

Cluster 16 (continued)

Grave No.	Contents
37	Incised amphora.
41	Undecorated amphora, cylindrical vessel.
42	Small lugged amphora, cylindrical vessel, polypod bowl.
51	Cordoned amphora, undecorated amphora, decorated lugged beaker.
53	Cylindrical vessel.
58	Undecorated jug, animal bones.
60	Undecorated amphora, perforated shell, perforated tooth.
62	Undecorated amphora.
64	Undecorated amphora, jug sherd, undecorated lugged beaker.
65	Cordoned amphora, undecorated lugged beaker, hammer axe.
71	Decorated jug, undecorated jug, sherds, mace head.
72	Cordoned amphora, decorated jug.
82	Lugged beaker, sherds.
87	Amphora sherds, cylindrical vessel, sherds, perforated shell, perforated tooth.
91	Amphora sherds.
93	Undecorated amphora.
100	Undecorated amphora.
107	Amphora sherds, perforated shell.

Table 10.VI List of goods values for Bohemian Corded Ware graves.

Object	Points
Undecorated amphora	7
Cordoned amphora	8
Incised amphora	8
Amphora	7
Beaker	8
Undecorated beaker	7
Decorated jug	8
Jug	7
Lugged bowl	7
Polypod bowl	8
Basin	6
Decorated lugged beaker	8
Undecorated lugged beaker	7
Cylindrical vessel	7
Topf	7
Sherds	2
Small lugged Topf	7
Undecorated handled beaker	7
Small handled Topf	7
Small lugged amphora	7
Blade	2
Grindstone	6
Bone point	4
Flat axe	8
Bone chisel	6
Bone disc	3
Hammer axe	10
Mace head	10
Perforated tooth	5
Copper	9
Perforated shell disc	7
Animal bones	7
Clay disc	3
Copper arm-ring	15
Arrowhead	4

Table 10.VI (continued)

Object	Points
Flake	2
Bone bead	2
Flint point	2
No goods	0
Bohrkern	5
Decorated shell	7
Bone pin	3
Spindle whorl	3
Shell necklace	9
Clay ball	4
Worked bone	2
Antler frags	4
Pot	6
Stone disc	7
Flint scraper	2

a) Moravia

Graves		Settlements	
Decorated Bell Beakers	17%	Decorated Bell Beakers	8%
Undecorated bowls	21%	Others	92%
Undecorated jugs	41%	Total number of sherds	c.870
Others	21%		
Total number of vessels	2132		

b) Bohemia

Graves		Settlements (Kozly only)	
Decorated Bell Beakers	11%	Decorated Bell Beakers	7%
Undecorated jugs	42%	Others	93%
Undecorated bowls	23%	Total number of sherds	164
Others	24%		
Total number of vessels	1647		

Table 11.I Table showing decorated Bell Beakers as a proportion of the total number of vessels/sherds in grave and settlement contexts, a) Moravia b) Bohemia. Information from Tables 4.II and 4.XI.

FIGURES

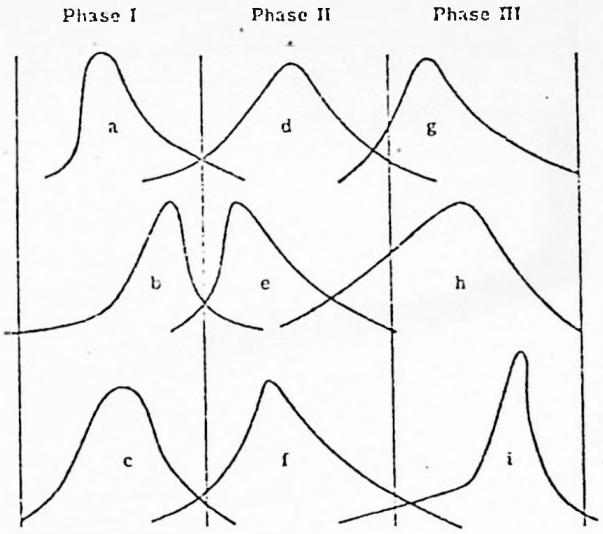
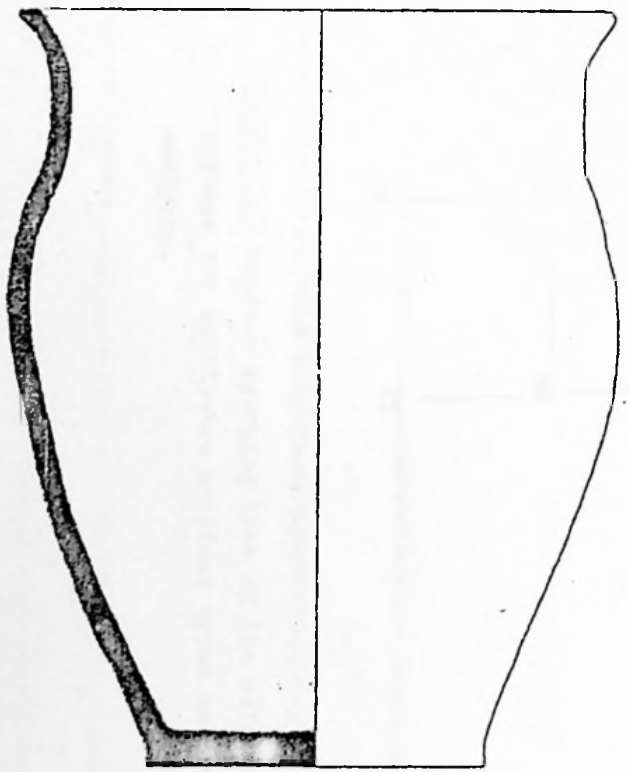
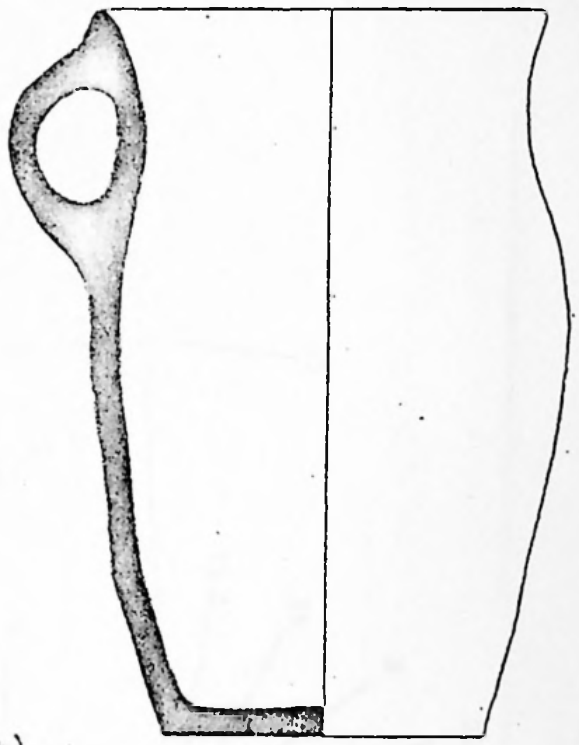


Figure 2.1 Phase definitions based on the relative abundance of artifacts. (From Plog 1974:45).



a)



b)

Figure 3.1 a) 'Topf', Všetaty, Bohemia; National Museum, Prague, Inv. No. 51437
b) Handled 'Topf', Jenštejn, Bohemia; National Museum, Prague, Inv. No. 49703.

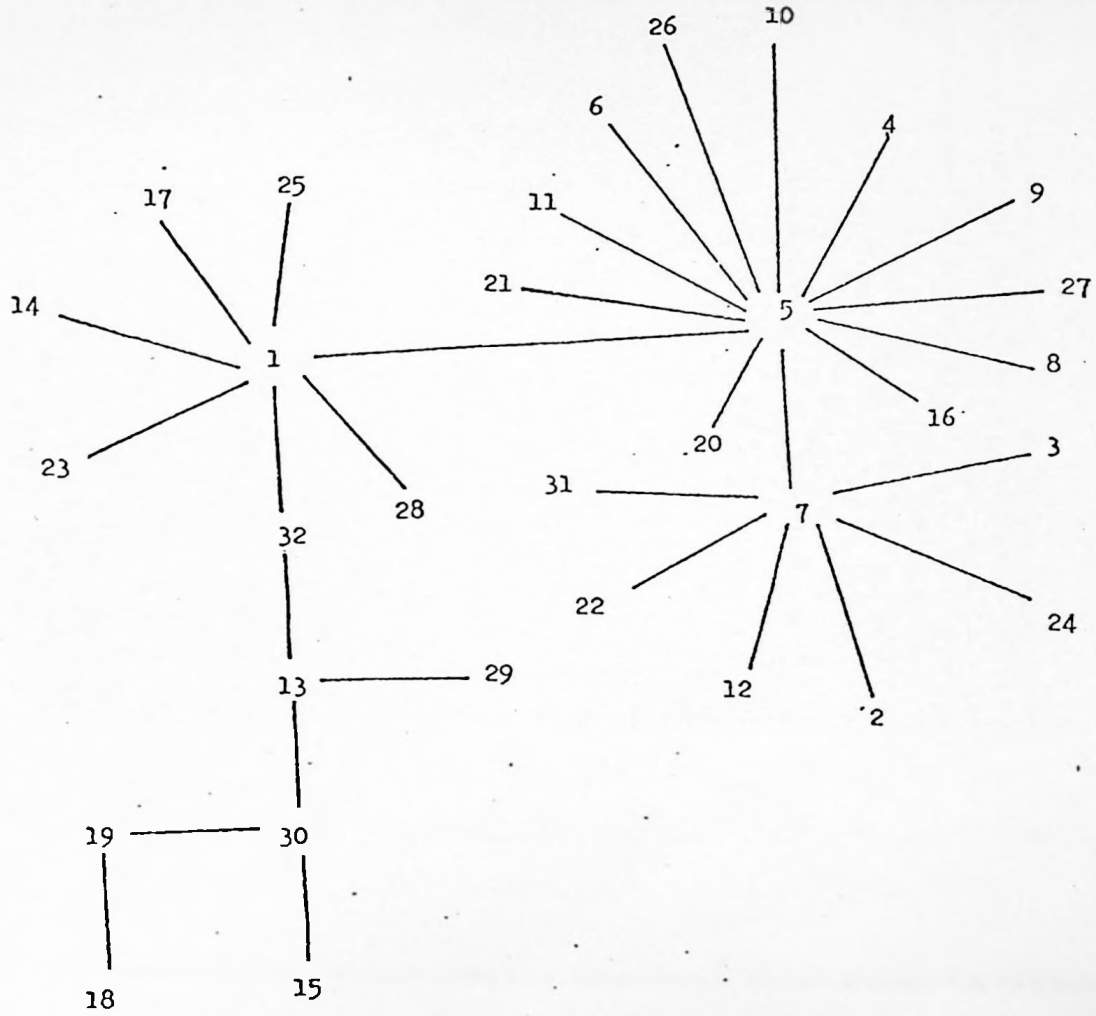


Figure 3.2 Minimum spanning tree of the relationships between the thirty-two artifact types used in the analysis.

Type

1. Decorated Bell Beaker
2. Decorated Handled Bell Beaker
3. Undecorated Bell Beaker
4. Undecorated Handled Bell Beaker
5. Undecorated Jug
6. Decorated Jug
7. Undecorated Bowl
8. Decorated Bowl
9. Polypod Bowl
10. 'Topf'
11. Handled 'Topf'
12. Other Vessel (not belonging to any of the defined types)
13. Arrowhead
14. Stone Axe
15. Flint Flake
16. Bone Pendant
17. Copper Awl
18. Copper Dagger
19. Wrist-guard
20. V-perforated Button
21. Bone Awl
22. Animal Bones
23. Ear-rings
24. Copper Sheet
25. Amber Button
26. Amphora
27. Flint Blade
28. Sherds
29. Flint Scraper
30. Boar's Tusk
31. Urn
32. Whetstone

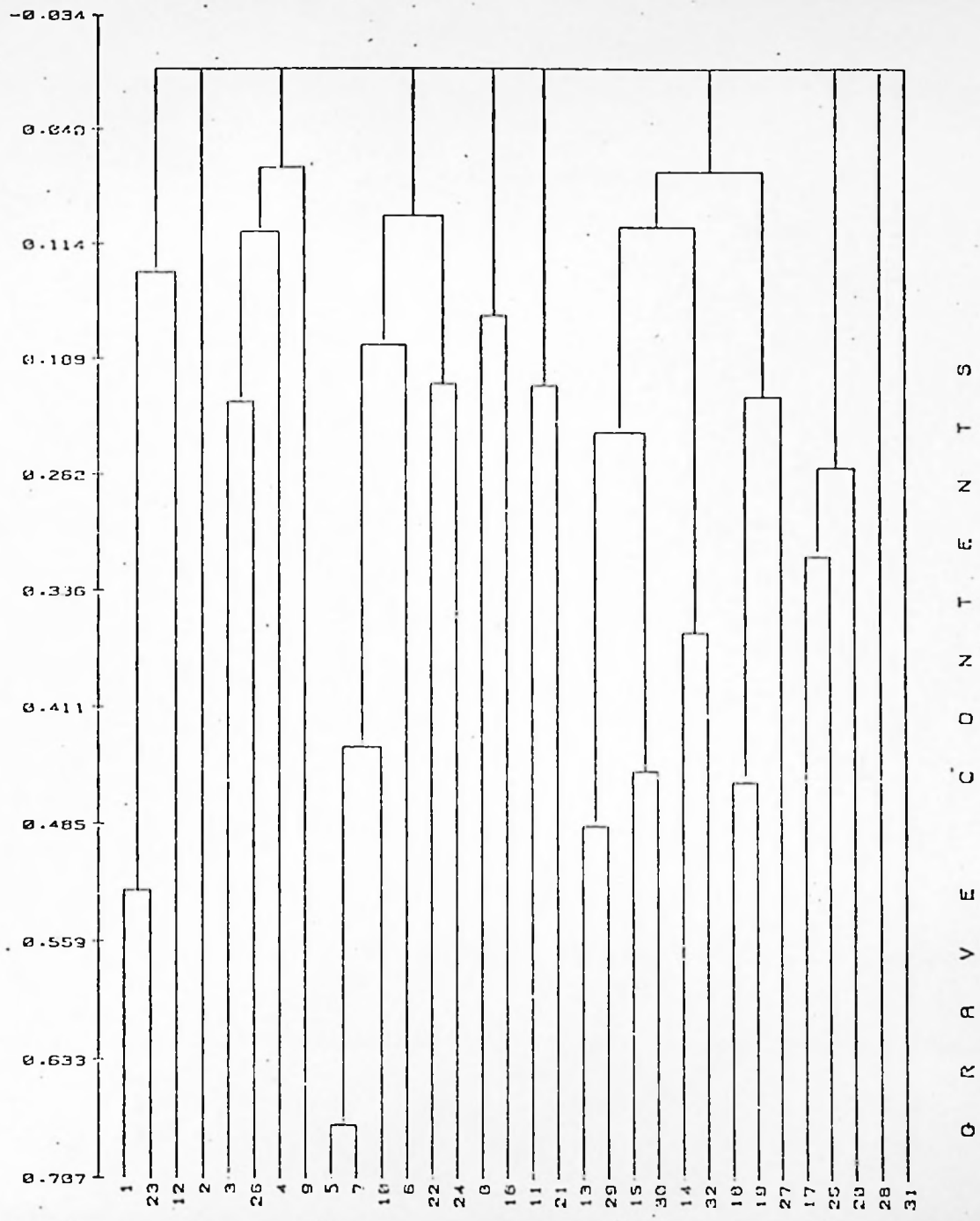


Figure 3.3 Double-link dendrogram of the relationships between objects in all the graves used in the analysis.

Type

1. Decorated Bell Beaker
2. Decorated Handled Bell Beaker
3. Undecorated Bell Beaker
4. Undecorated Handled Bell Beaker
5. Undecorated Jug
6. Decorated Jug
7. Undecorated Bowl
8. Decorated Bowl
9. Polypod Bowl
10. 'Topf'
11. Handled 'Topf'
12. Other Vessel (not belonging to any of the defined types)
13. Arrowhead
14. Stone Axe
15. Flint Flake
16. Bone Pendant
17. Copper Awl
18. Copper Dagger
19. Wrist-guard
20. V-perforated Button
21. Bone Awl
22. Animal Bones
23. Bar-rings
24. Copper Sheet
25. Amber Button
26. Amphora
27. Flint Blade
28. Sherds
29. Flint Scraper
30. Boar's Tusk
31. Urn
32. Whetstone

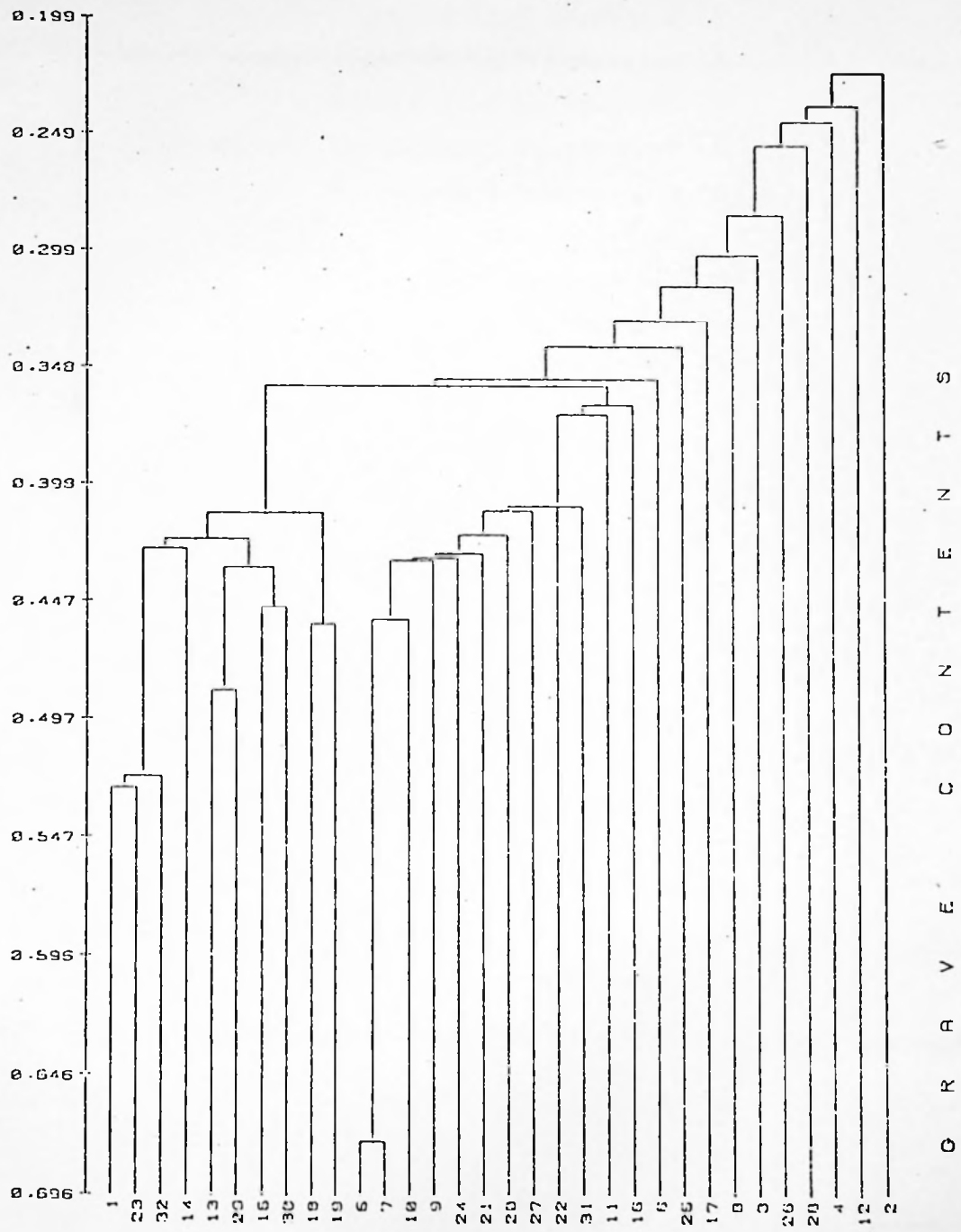


Figure 3.4 Single-link dendrogram of the relationships between objects in all the graves used in the analysis.

Type

1. Decorated Bell Beaker
2. Decorated Handled Bell Beaker
3. Undecorated Bell Beaker
4. Undecorated Handled Bell Beaker
5. Undecorated Jug
6. Decorated Jug
7. Undecorated Bowl
8. Decorated Bowl
9. Polypod Bowl
10. 'Topf'
11. Handled 'Topf'
12. Other Vessel (not belonging to any of the defined types)
13. Arrowhead
14. Stone Axe
15. Flint Flake
16. Bone Pendant
17. Copper Awl
18. Copper Dagger
19. Wrist-guard
20. V-perforated Button
21. Bone Awl
22. Animal Bones
23. Ear-rings
24. Copper Sheet
25. Amber Button
26. Amphora
27. Flint Blade
28. Sherds
29. Flint Scraper
30. Boar's Tusk
31. Urn
32. Whetstone

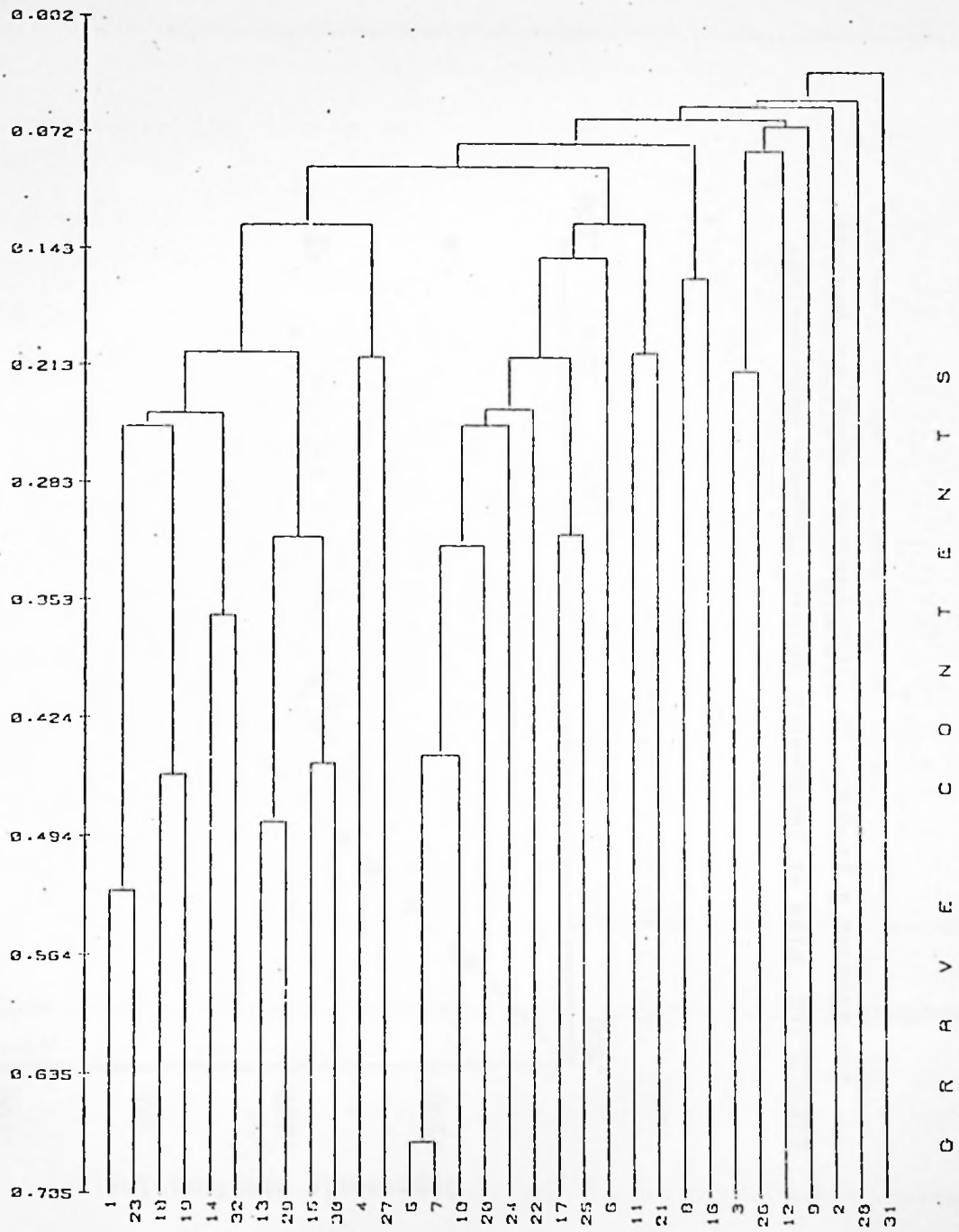


Figure 3.5 Average-link dendrogram of the relationships between objects in all the graves used in the analysis.

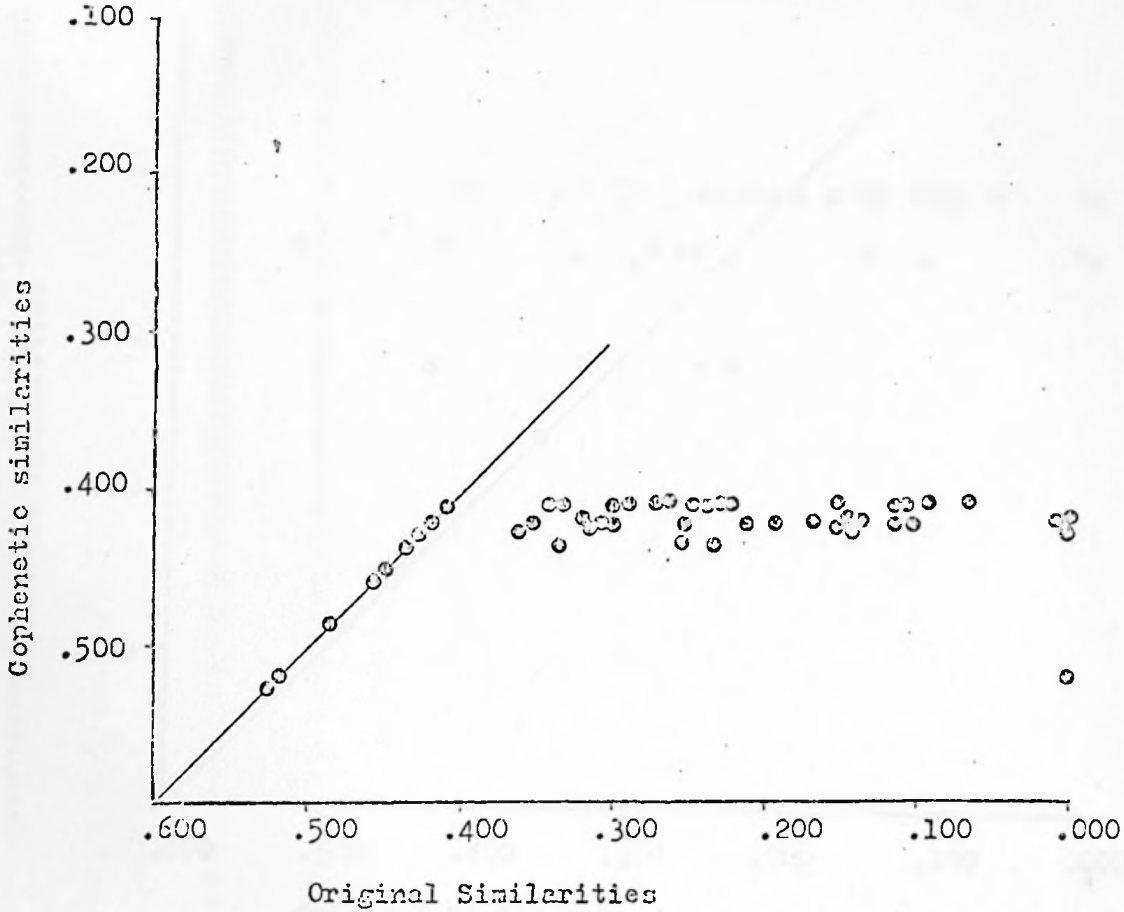


Figure 3.6 Plot of cophenetic against original similarities for Cluster 1 produced by Single-linkage using all graves.

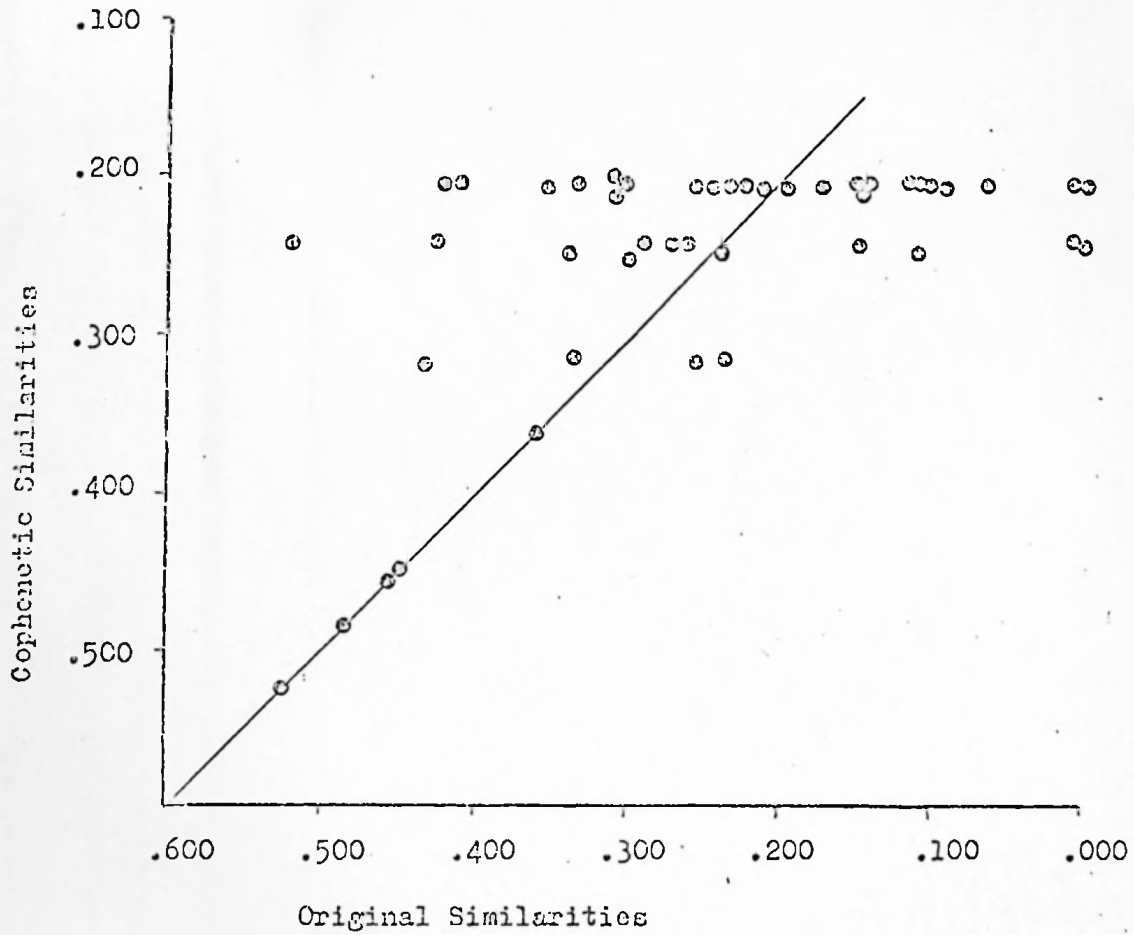


Figure 3.7 Plot of cophenetic against original similarities for Cluster 1 produced by Average-linkage using all graves.

Type

1. Decorated Bell Beaker
2. Decorated Handled Bell Beaker
3. Undecorated Bell Beaker
4. Undecorated Handled Bell Beaker
5. Undecorated Jug
6. Decorated Jug
7. Undecorated Bowl
8. Decorated Bowl
9. Polypod Bowl
10. 'Topf'
11. Handled 'Topf'
12. Other Vessel (not belonging to any of the defined types)
13. Arrowhead
14. Stone Axe
15. Flint Flake
16. Bone Pendant
17. Copper Awl
18. Copper Dagger
19. Wrist-guard
20. V-perforated Button
21. Bone Awl
22. Animal Bones
23. Ear-rings
24. Copper Sheet
25. Amber Button
26. Amphora
27. Flint Blade
28. Sherds
29. Flint Scraper
30. Boar's Tusk
31. Urn
32. Whetstone

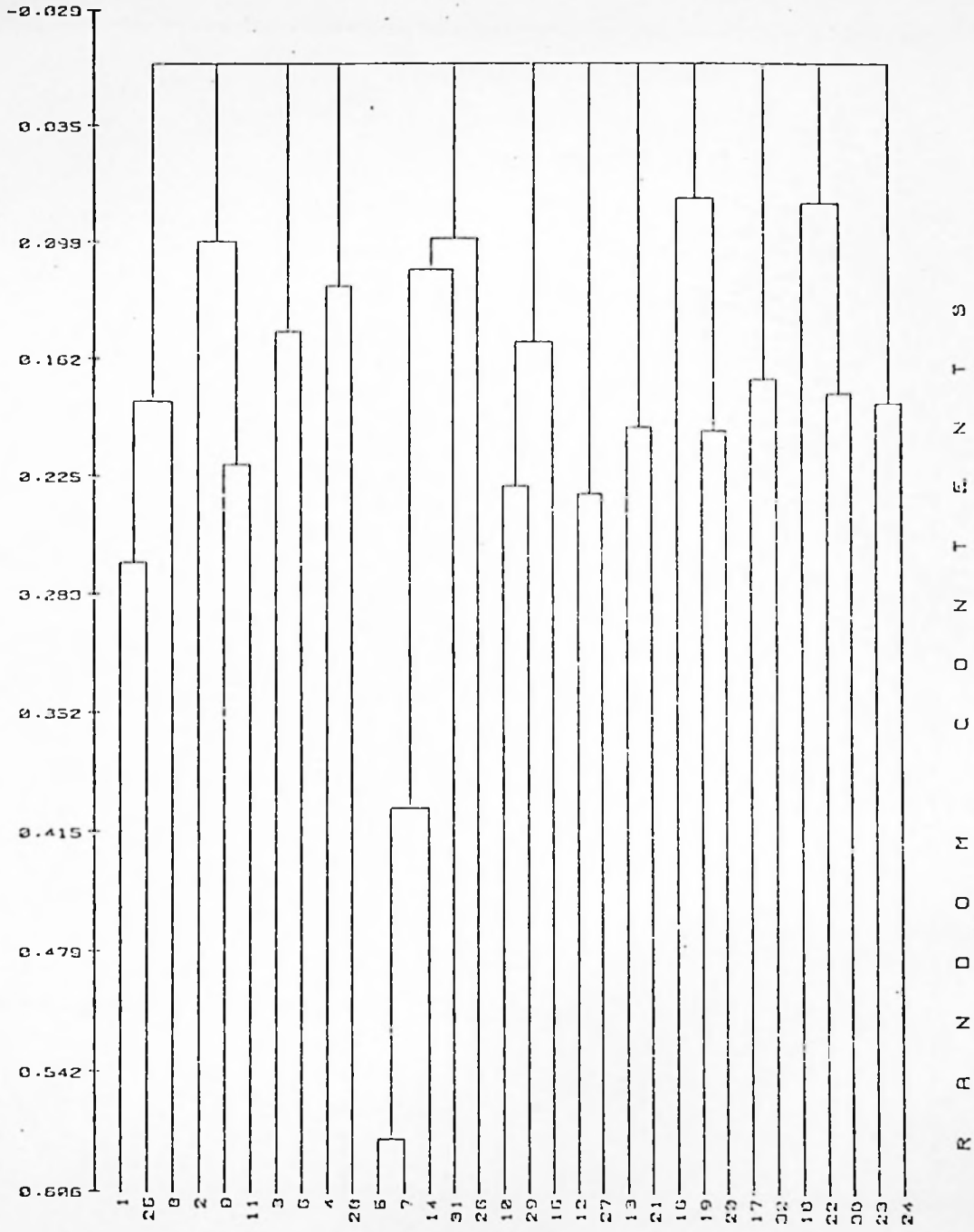


Figure 3.8 Double-link dendrogram of the relationships between objects in randomly generated data.

Type

1. Decorated Bell Beaker
2. Decorated Handled Bell Beaker
3. Undecorated Bell Beaker
4. Undecorated Handled Bell Beaker
5. Undecorated Jug
6. Decorated Jug
7. Undecorated Bowl
8. Decorated Bowl
9. Polypod Bowl
10. 'Topf'
11. Handled 'Topf'
12. Other Vessel (not belonging to any of the defined types)
13. Arrowhead
14. Stone Axe
15. Flint Flake
16. Bone Pendant
17. Copper Awl
18. Copper Dagger
19. Wrist-guard
20. V-perforated Button
21. Bone Awl
22. Animal Bones
23. Ear-rings
24. Copper Sheet
25. Amber Button
26. Amphora
27. Flint Blade
28. Sherds
29. Flint Scraper
30. Boar's Tusk
31. Urn
32. Whetstone

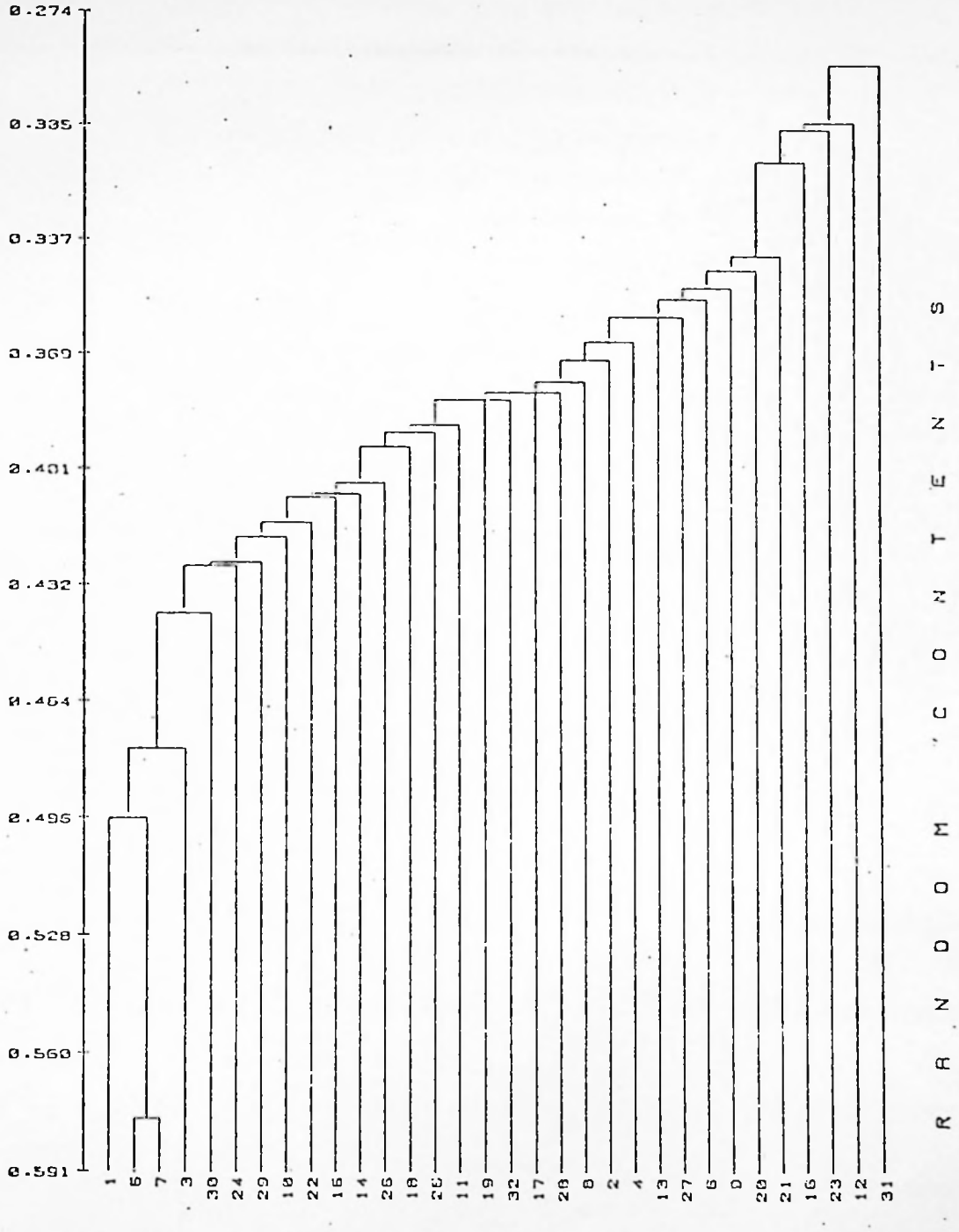


Figure 3.9 Single-link dendrogram of the relationships between objects in randomly generated data.

Type

1. Decorated Bell Beaker
2. Decorated Handled Bell Beaker
3. Undecorated Bell Beaker
4. Undecorated Handled Bell Beaker
5. Undecorated Jug
6. Decorated Jug
7. Undecorated Bowl
8. Decorated Bowl
9. Polypod Bowl
10. 'Topf'
11. Handled 'Topf'
12. Other Vessel (not belonging to any of the defined types)
13. Arrowhead
14. Stone Axe
15. Flint Flake
16. Bone Pendant
17. Copper Awl
18. Copper Dagger
19. Wrist-guard
20. V-perforated Button
21. Bone Awl
22. Animal Bones
23. Ear-rings
24. Copper Sheet
25. Amber Button
26. Amphora
27. Flint Blade
28. Sherds
29. Flint Scraper
30. Boar's Tusk
31. Urn
32. Whetstone

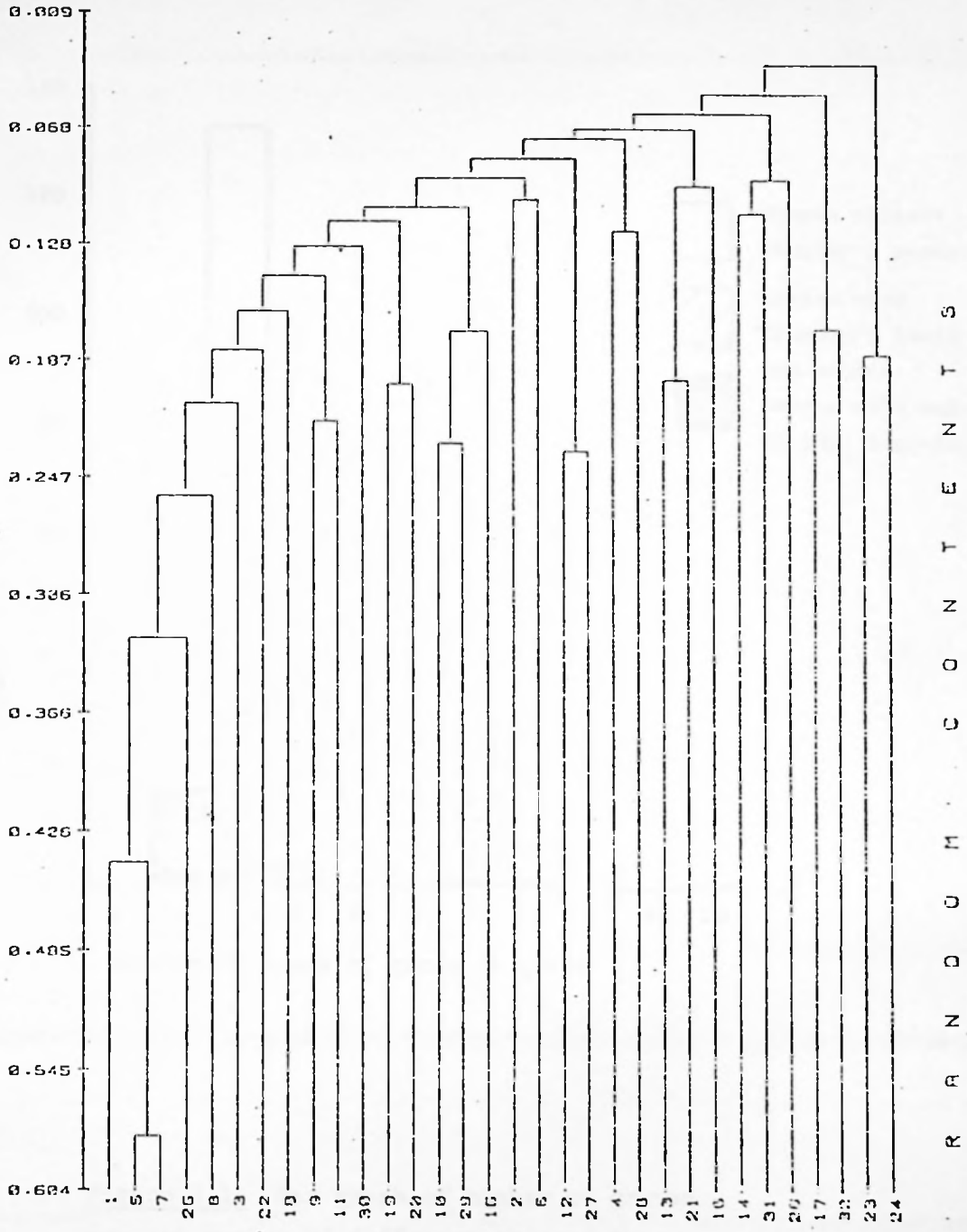


Figure 3.10 Average-link dendrogram of the relationships between objects in randomly generated data.

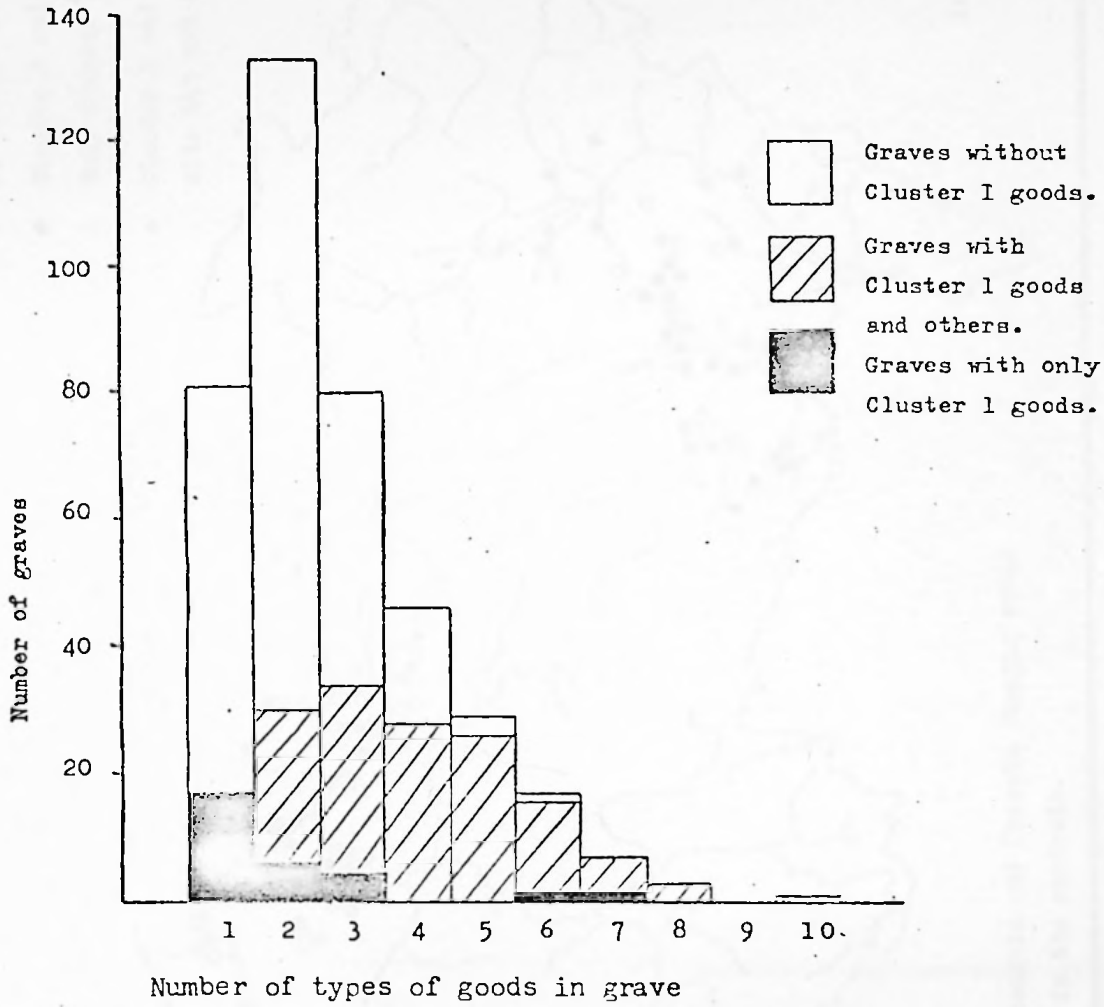


Figure 3.11 Bar graph of number of graves against number of different objects types in the grave. Graves with 'cluster 1' goods differentiated from the others (see key).

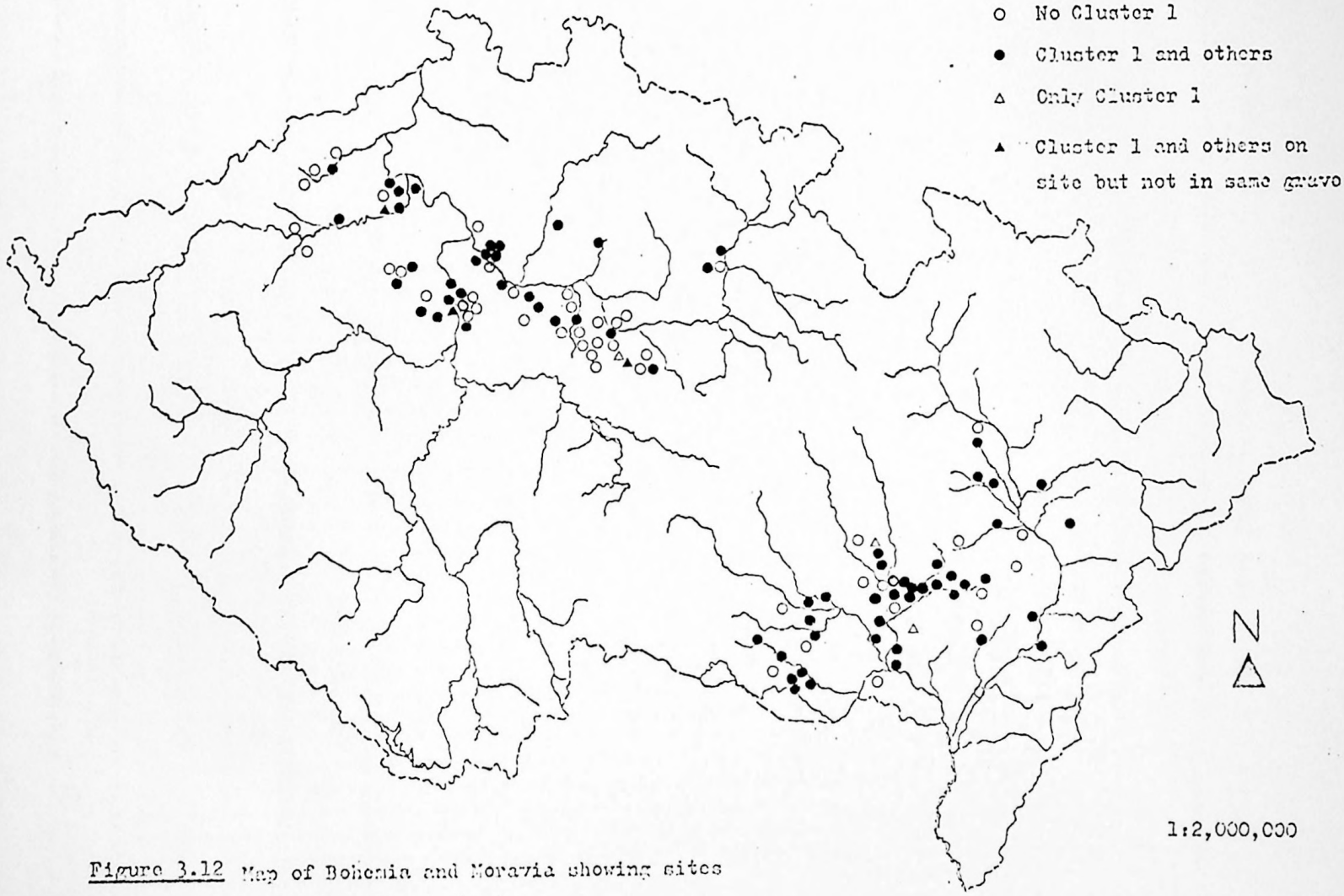


Figure 3.12 Map of Bohemia and Moravia showing sites with graves used in the analysis.

Type

1. Decorated Bell Beaker
2. Decorated Handled Bell Beaker
3. Undecorated Bell Beaker
4. Undecorated Handled Bell Beaker
5. Undecorated Jug
6. Decorated Jug
7. Undecorated Bowl
8. Decorated Bowl
9. Polypod Bowl
10. 'Topf'
11. Handled 'Topf'
12. Other Vessel (not belonging to any of the defined types)
13. Arrowhead
14. Stone Axe
15. Flint Flake
16. Bone Pendant
17. Copper Awl
18. Copper Dagger
19. Wrist-guard
20. V-perforated Button
21. Bone Awl
22. Animal Bones
23. Ear-rings
24. Copper Sheet
25. Amber Button
26. Amphora
27. Flint Blade
28. Sherds
29. Flint Scraper
30. Boar's Tusk
31. Urn
32. Whetstone

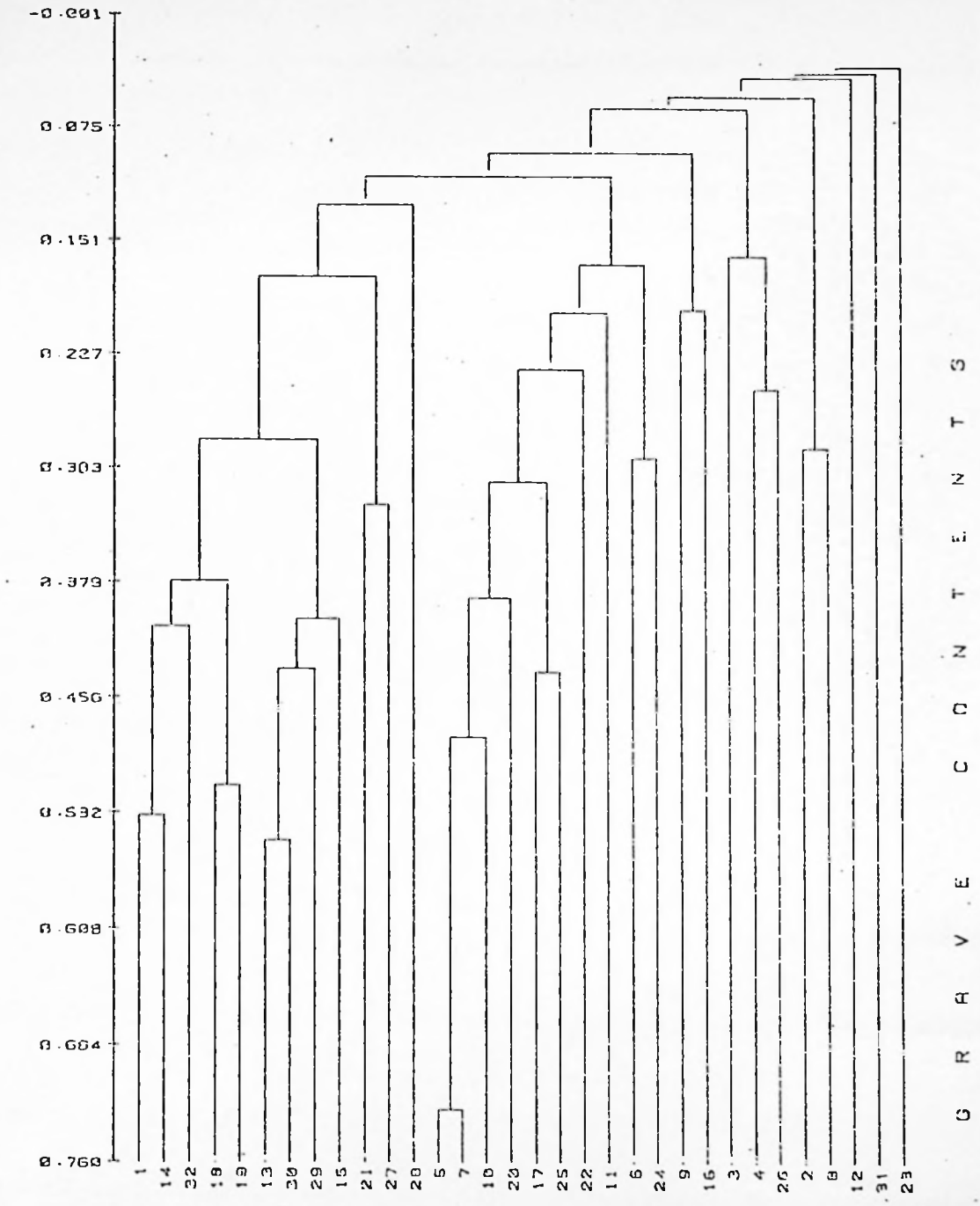


Figure 3.13 Average-link dendrogram of the relationships between objects, Moravian graves only.

Type

1. Decorated Bell Beaker
2. Decorated Handled Bell Beaker
3. Undecorated Bell Beaker
4. Undecorated Handled Bell Beaker
5. Undecorated Jug
6. Decorated Jug
7. Undecorated Bowl
8. Decorated Bowl
9. Polypod Bowl
10. 'Topf'
11. Handled 'Topf'
12. Other vessel (not belonging to any of the defined types)
13. Arrowhead
14. Stone Axe
15. Flint Flake
16. Bone Pendant
17. Copper Awl
18. Copper Dagger
19. Wrist-guard
20. V-perforated Button
21. Bone Awl
22. Animal Bones
23. Ear-rings
24. Copper Sheet
25. Amber Button
26. Amphora
27. Flint Blade
28. Sherds
29. Flint Scraper
30. Boar's Tusk
31. Whetstone

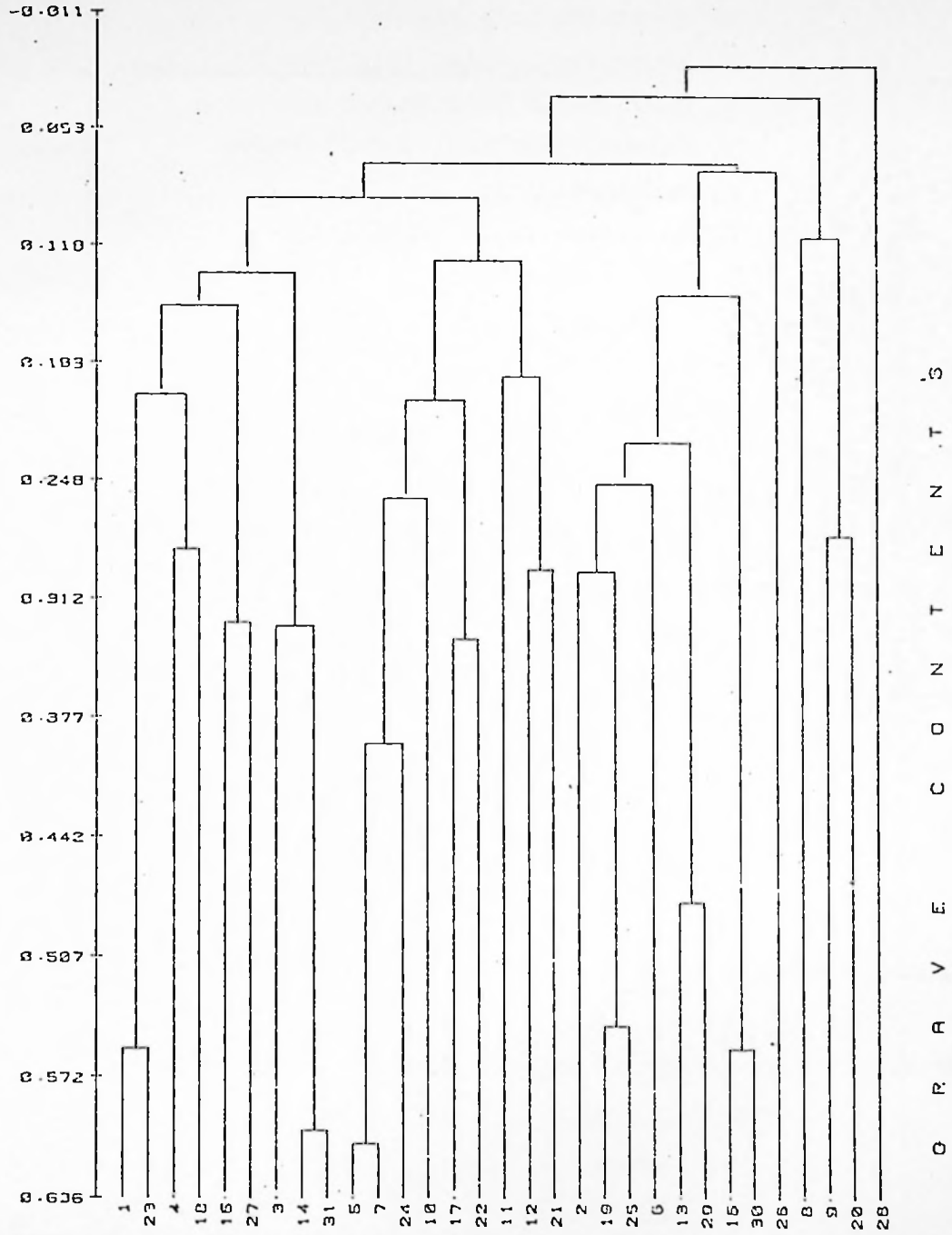


Figure 3.14 Average-link dendrogram of the relationships between objects, Bohemian graves only.

Type

1. Decorated Bell Beaker
2. Decorated Handled Bell Beaker
3. Undecorated Bell Beaker
4. Undecorated Handled Bell Beaker
5. Undecorated Jug
6. Decorated Jug
7. Undecorated Bowl
8. Decorated Bowl
9. Polypod Bowl
10. 'Topf'
11. Handled 'Topf'
12. Other Vessel (not belonging to any of the defined types)
13. Arrowhead
14. Stone Axe
15. Flint Flake
16. Bone Pendant
17. Copper Awl
18. Copper Dagger
19. Wrist-guard
20. V-perforated Button
21. Bone Awl
22. Animal Bones
23. Ear-rings
24. Copper Sheet
25. Amber Button
26. Amphora
27. Flint Blade
28. Sherds
29. Flint Scraper
30. Boar's Tusk
31. Urn
32. Whetstone

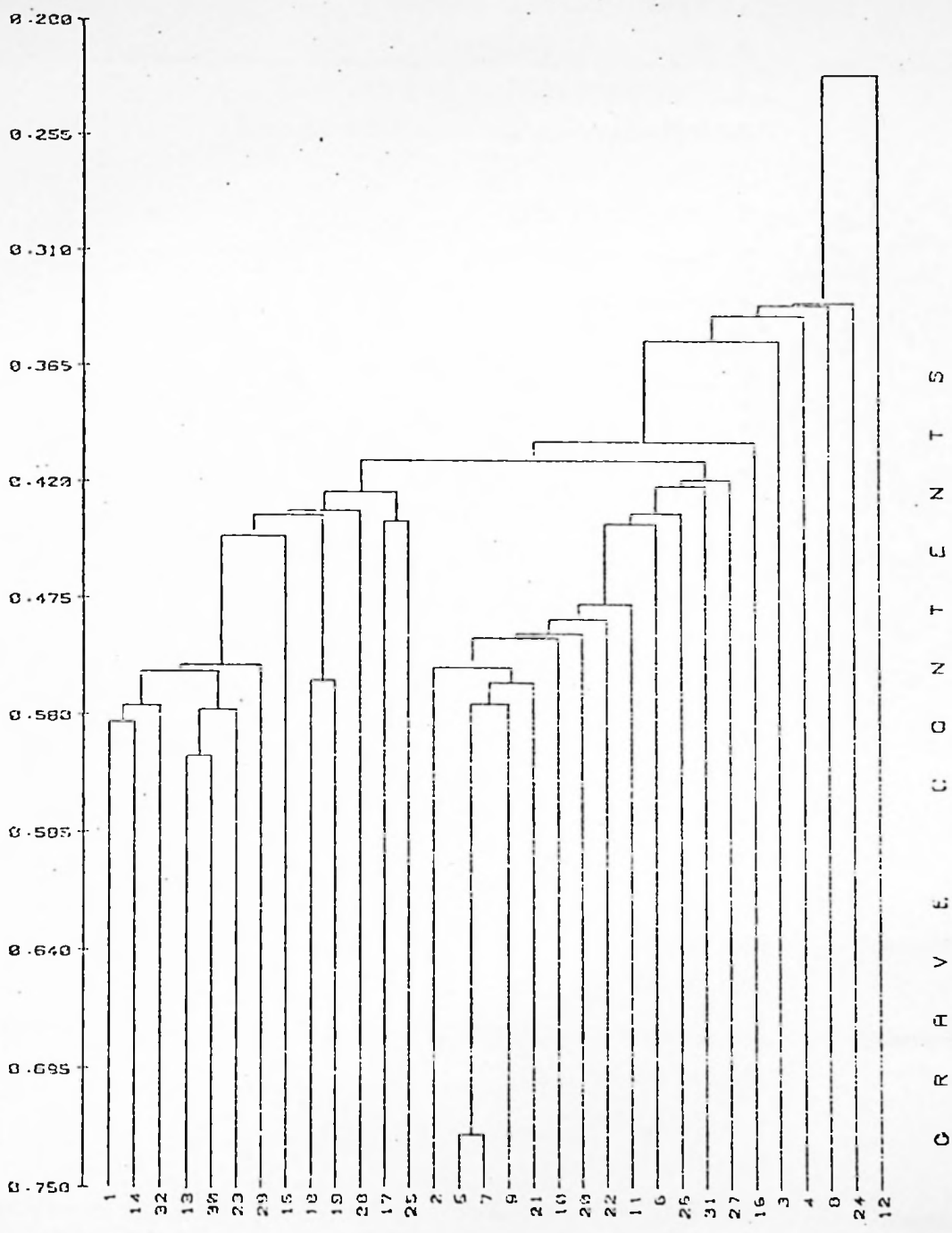


Figure 3.15 Single-link dendrogram of the relationships between objects, Moravian graves only.

Type

1. Decorated Bell Beaker
2. Decorated Handled Bell Beaker
3. Undecorated Bell Beaker
4. Undecorated Handled Bell Beaker
5. Undecorated Jug
6. Decorated Jug
7. Undecorated Bowl
8. Decorated Bowl
9. Polyped Bowl
10. 'Topf'
11. Handled 'Topf'
12. Other vessel (not belonging to any of the defined types)
13. Arrowhead
14. Stone Axe
15. Flint Flake
16. Bone Pendant
17. Copper Awl
18. Copper Dagger
19. Wrist-guard
20. V-perforated Button
21. Bone Awl
22. Animal Bones
23. Ear-rings
24. Copper Sheet
25. Amber Button
26. Amphora
27. Flint Blade
28. Sherds
29. Flint Scraper
30. Boar's Tusk
31. Whetstone

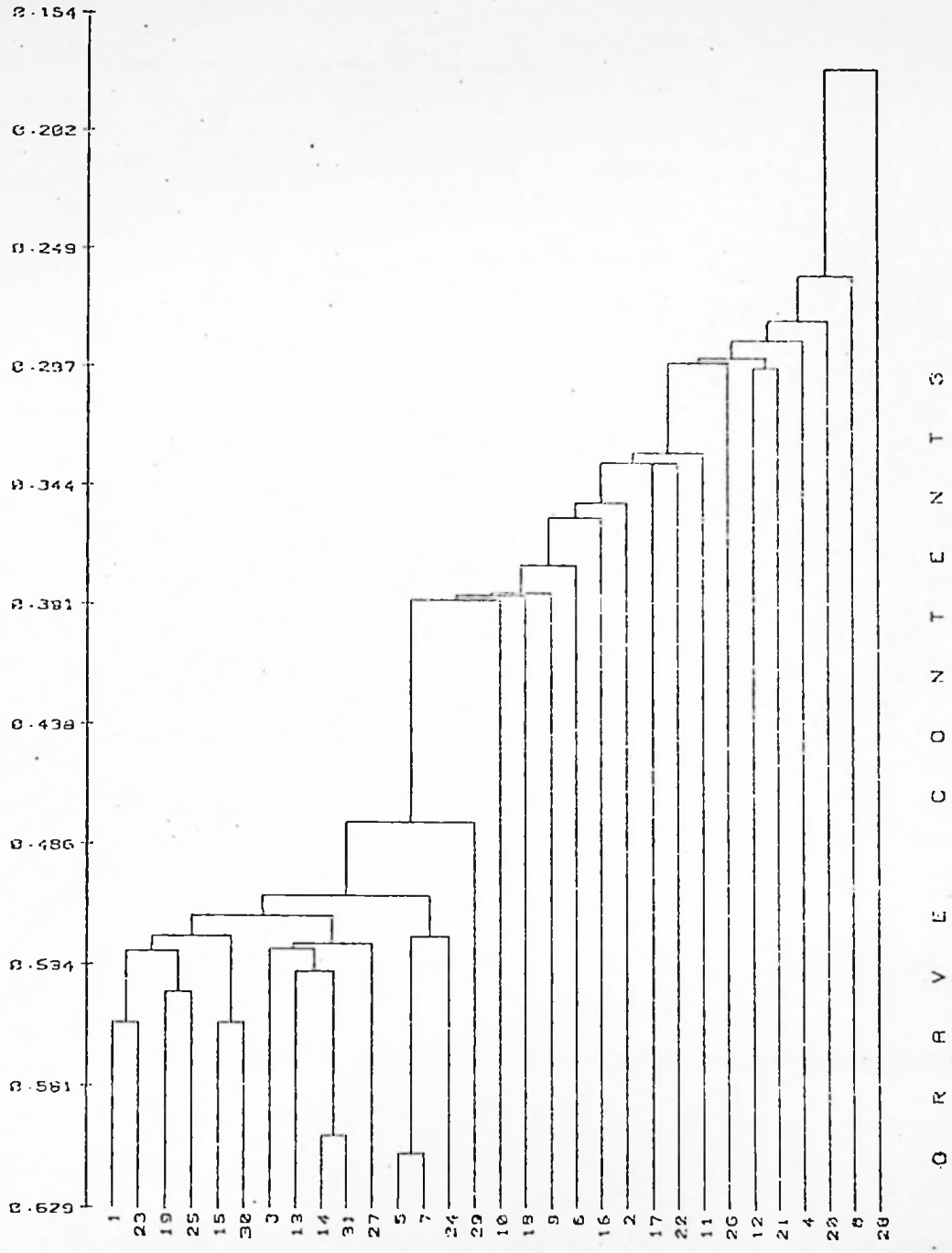


Figure 3.16 Single-link dendrogram of the relationships between objects, Bohemian graves only.

Type

1. Decorated Bell Beaker
2. Decorated Handled Bell Beaker
3. Undecorated Bell Beaker
4. Undecorated Handled Bell Beaker
5. Undecorated Jug
6. Decorated Jug
7. Undecorated Bowl
8. Decorated Bowl
9. Polypod Bowl
10. 'Topf'
11. Handled 'Topf'
12. Other Vessel (not belonging to any of the defined types)
13. Arrowhead
14. Stone Axe
15. Flint Flake
16. Bone Pendant
17. Copper Awl
18. Copper Dagger
19. Wrist-guard
20. V-perforated Button
21. Bone Awl
22. Animal Bones
23. Bar-rings
24. Copper Sheet
25. Amber Button
26. Amphora
27. Flint Blade
28. Sherds
29. Flint Scraper
30. Boar's Tusk
31. Urn
32. Whetstone

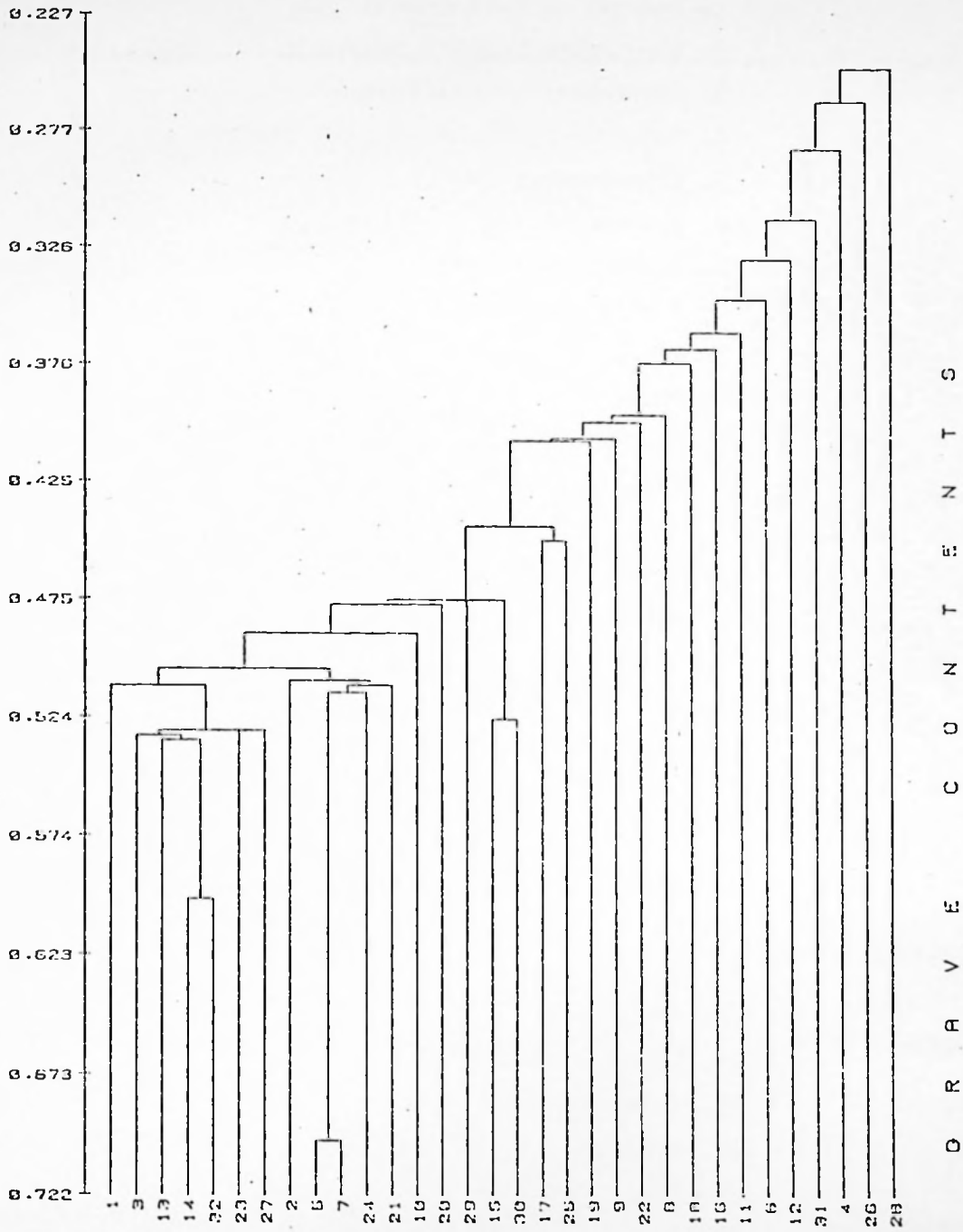


Figure 3.17 Single-link dendrogram of the relationships between objects with the graves randomly divided into two halves, Group 1.

Type

1. Decorated Bell Beaker
2. Decorated Handled Bell Beaker
3. Undecorated Bell Beaker
4. Undecorated Handled Bell Beaker
5. Undecorated Jug
6. Decorated Jug
7. Undecorated Bowl
8. Decorated Bowl
9. Polypod Bowl
10. 'Topf'
11. Handled 'Topf'
12. Other Vessel (not belonging to any of the defined types)
13. Arrowhead
14. Stone Axe
15. Flint Flake
16. Bone Pendant
17. Copper Awl
18. Copper Dagger
19. Wrist-guard
20. V-perforated Button
21. Bone Awl
22. Animal Bones
23. Ear-rings
24. Copper Sheet
25. Amber Button
26. Amphora
27. Flint Blade
28. Sherds
29. Flint Scraper
30. Boar's Tusk
31. Urn
32. Whetstone

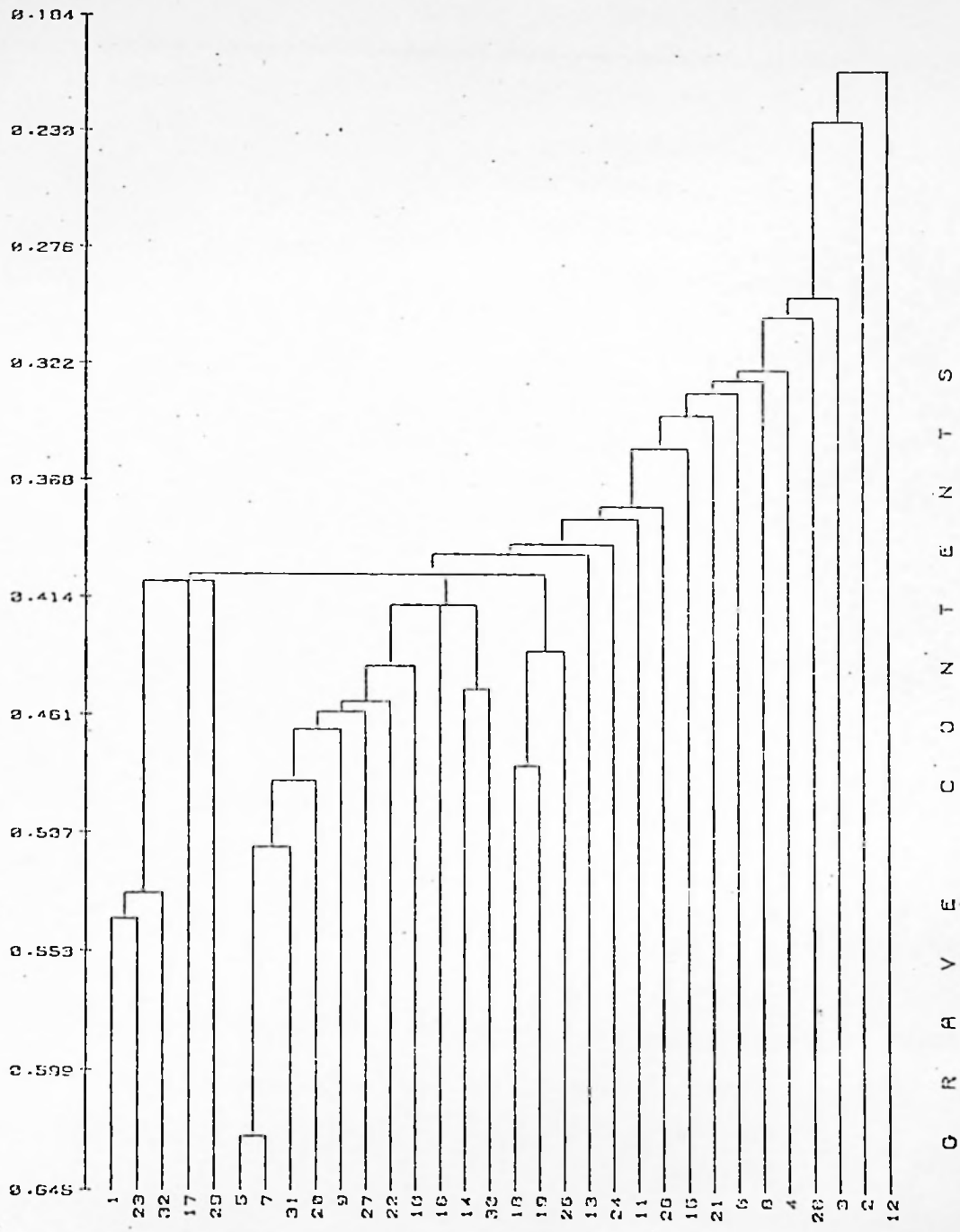


Figure 3.18 Single-link dendrogram of the relationships between objects with the graves randomly divided into two halves, Group 2.

Type

1. Decorated Bell Beaker
2. Undecorated Bell Beaker
3. Undecorated Jug
4. Decorated Jug
5. Undecorated Bowl
6. Decorated Bowl
7. Polypod Bowl
8. 'Topf'
9. Handled 'Topf'
10. Other vessel (not belonging to any one of the defined types)
11. Arrowhead
12. Stone Axe
13. Flint Flake
14. Bone Pendant
15. Copper Awl
16. Copper Dagger
17. Wrist-guard
18. V-perforated Button
19. Bone Awl
20. Animal Bones
21. Amber Button
22. Amphora
23. Flint Blade
24. Sherds
25. Flint Scraper
26. Boar's Tusk
27. Urn

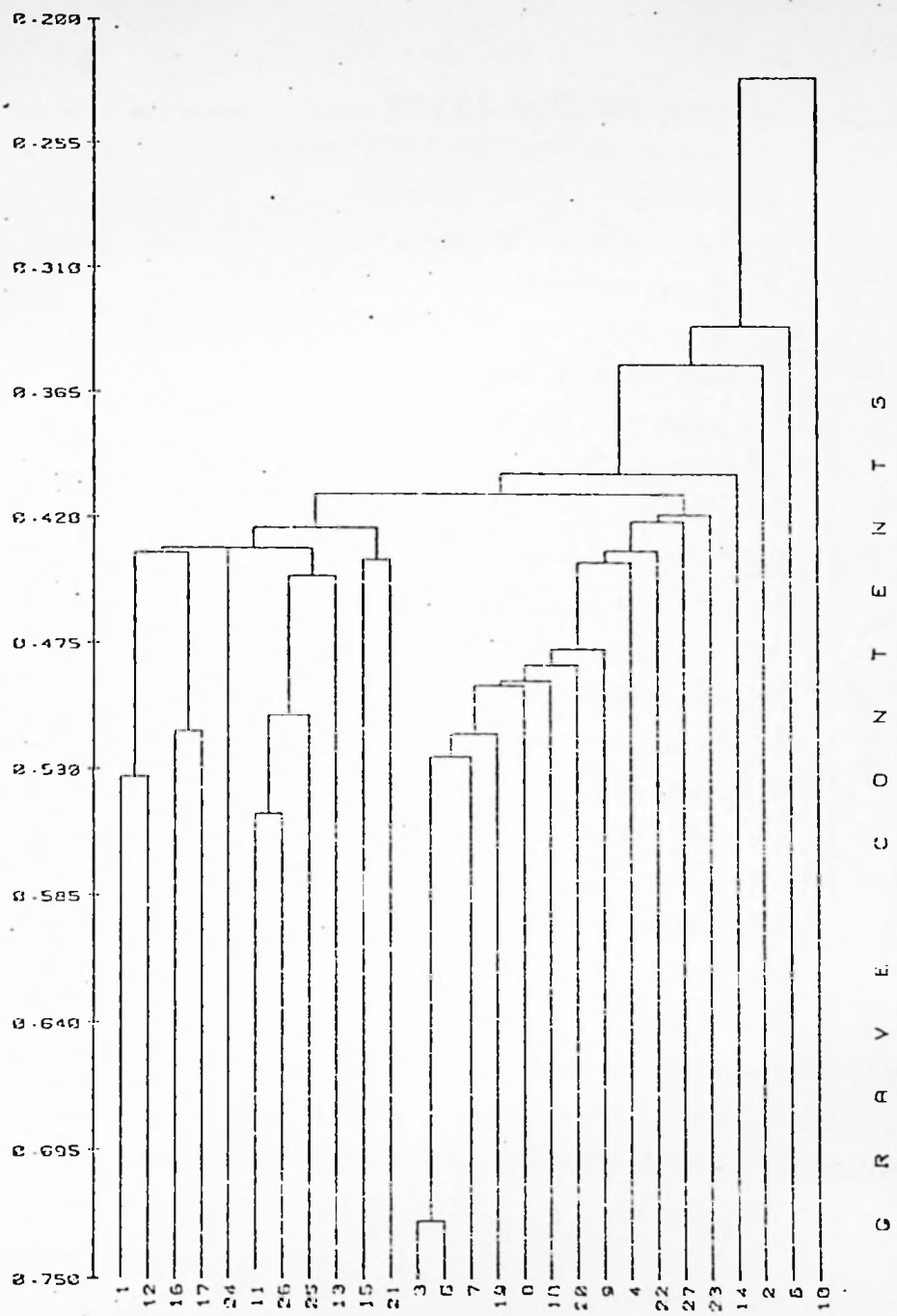


Figure 3.19 Single-link dendrogram of the relationships between objects, Moravian graves only, rare objects removed.

Type

1. Decorated Bell Beaker
2. Decorated Handled Bell Beaker
3. Undecorated Bell Beaker
4. Undecorated Handled Bell Beaker
5. Undecorated Jug
6. Decorated Jug
7. Undecorated Bowl
8. Decorated Bowl
9. Polypod Bowl
10. 'Topf'
11. Handled 'Topf'
12. Other vessel (not belonging to any of the defined types)
13. Arrowhead
14. Stone Axe
15. Flint Flake
16. Bone Pendant
17. Copper Awl
18. Copper Dagger
19. Wrist-guard
20. V-perforated Button
21. Animal Bones
22. Ear-rings
23. Copper Sheet
24. Amphora
25. Flint Blade
26. Sherds
27. Flint Scraper

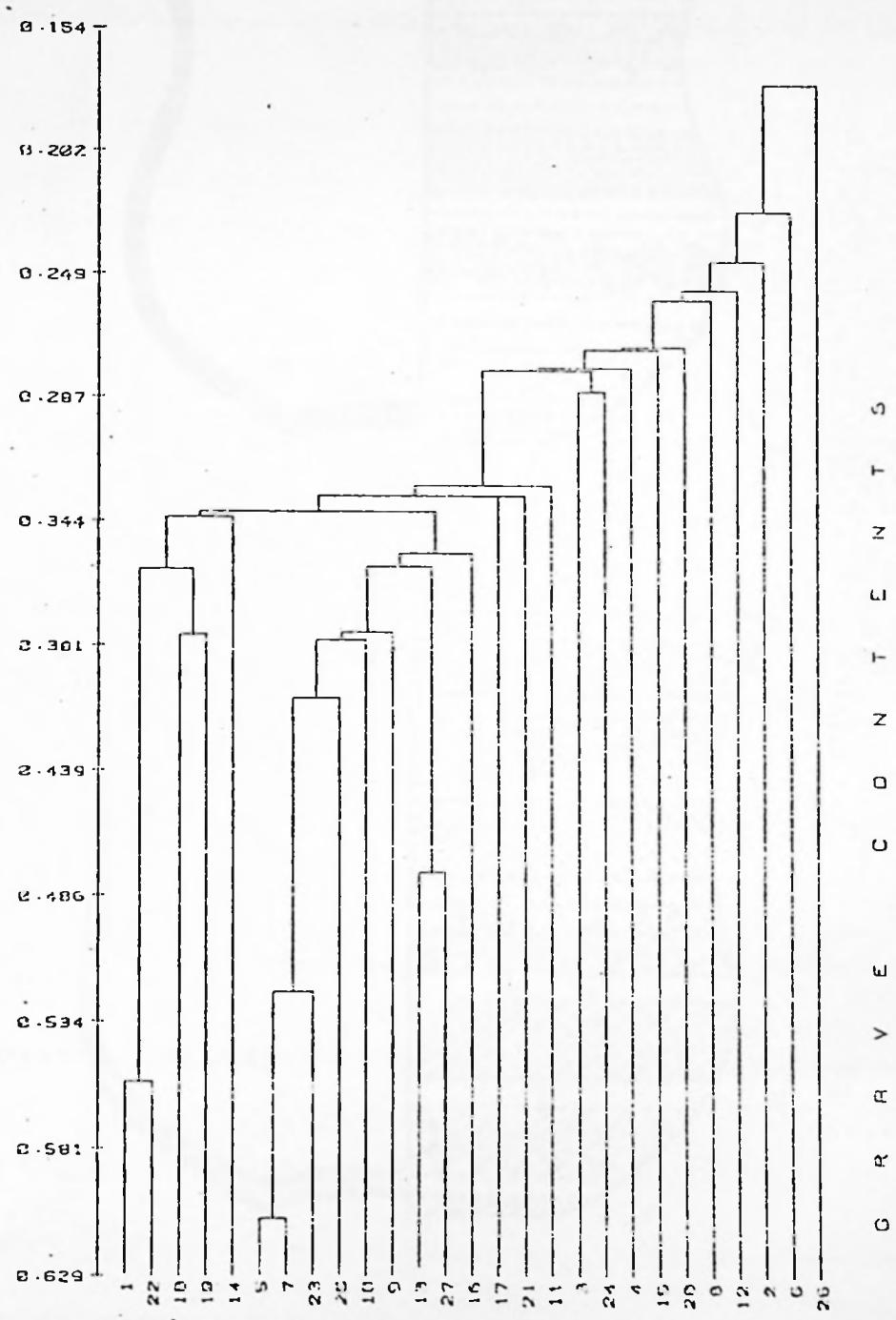


Figure 3.20 Single-link dendrogram of the relationships between objects, Bohemian graves only, rare objects removed.

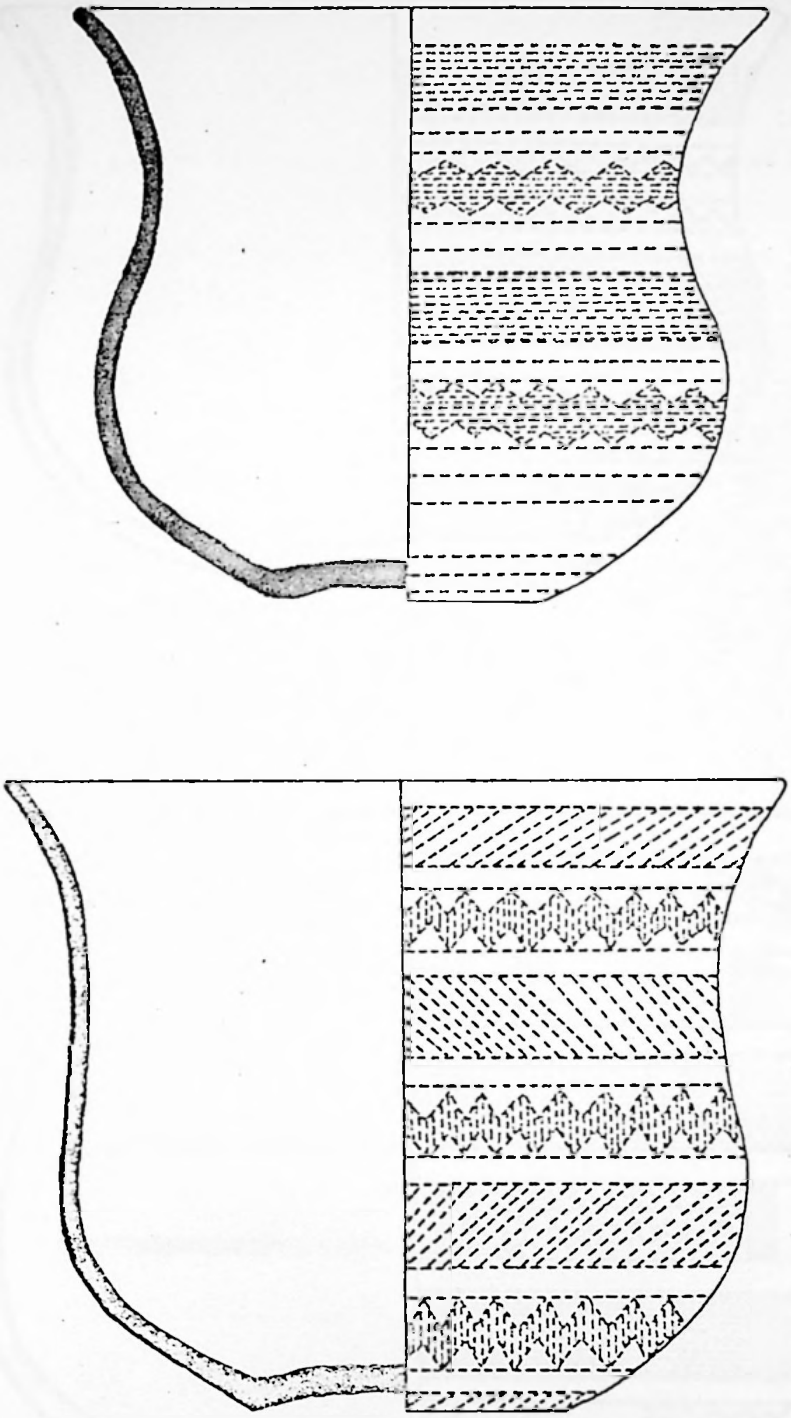
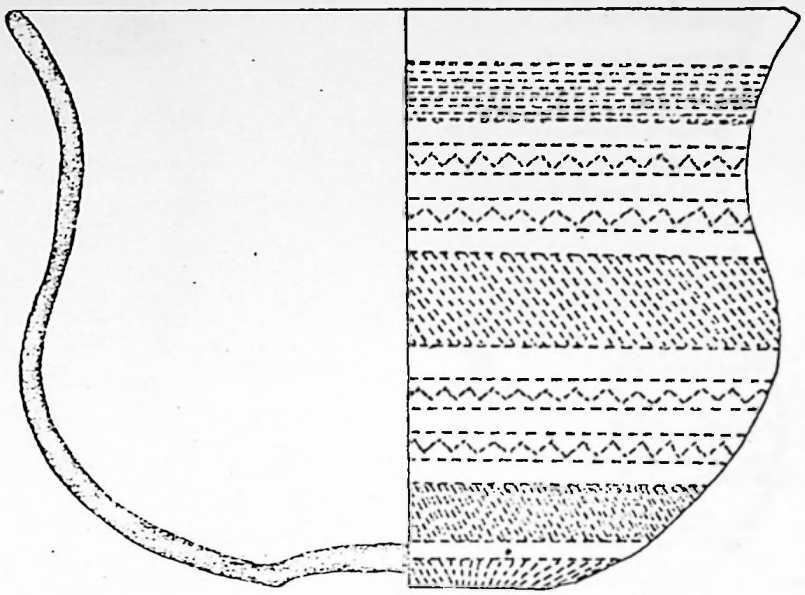


Figure 4.1 Bell Beakers from grave 2 at Bylany. Scale: both 3:4.



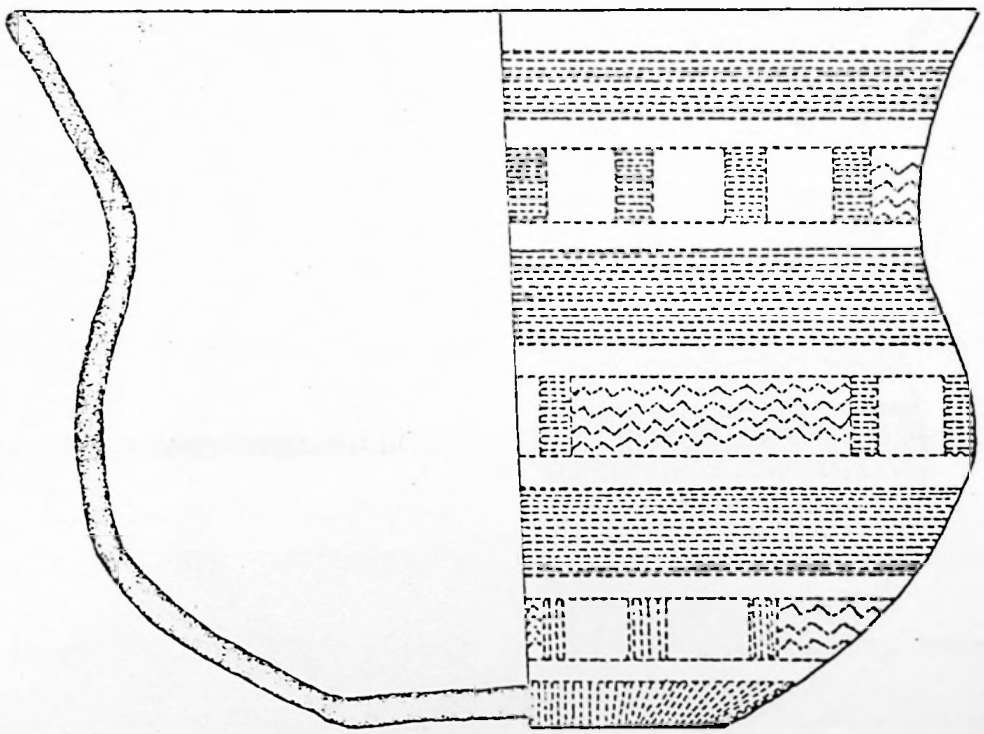


Figure 4.1 (continued) Bell Beakers from grave 2 at Bylany.
Scale: both 3:4.

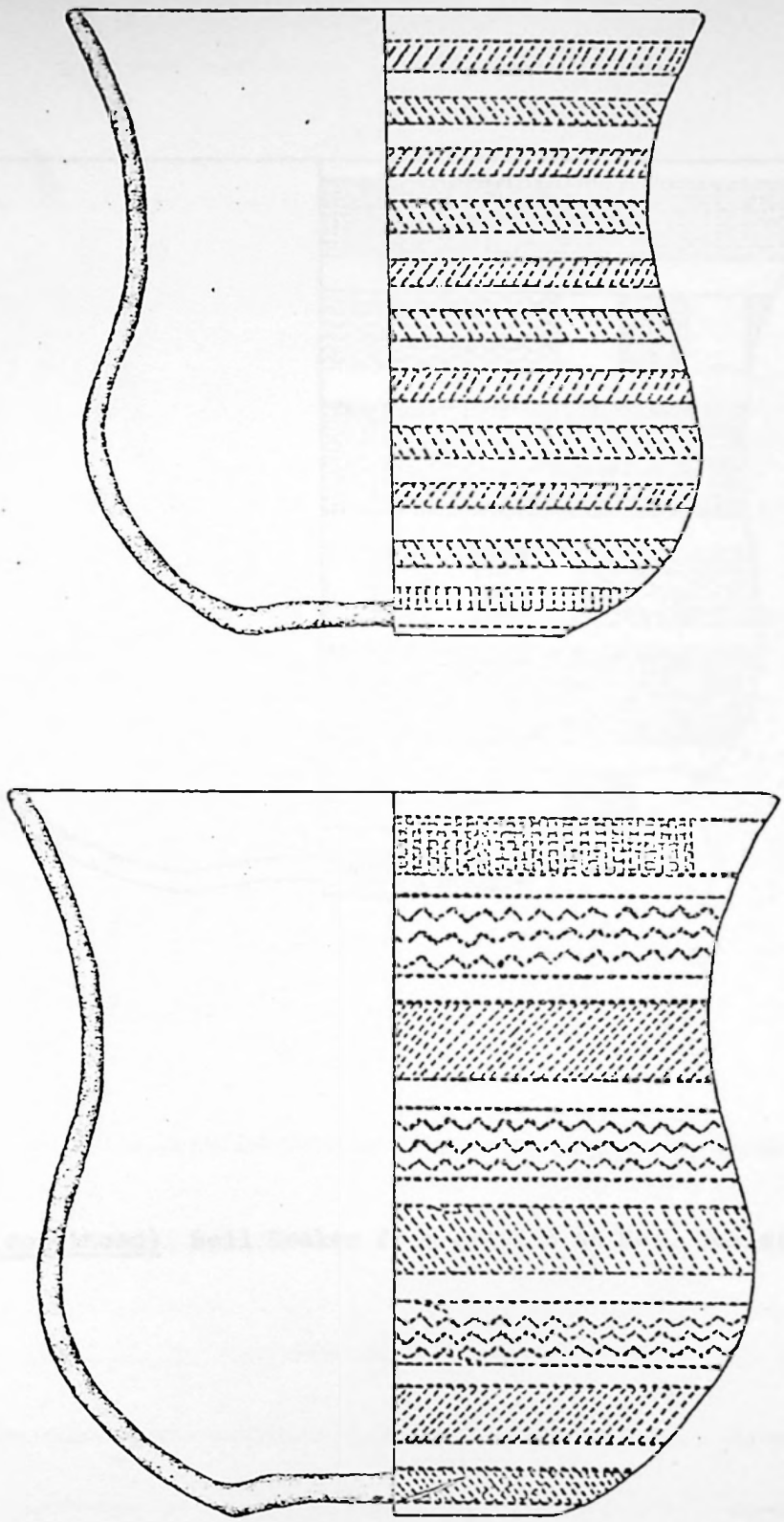


Figure 4.2 Bell Beakers from grave 3 at Řež. Scale: both 3:4. Note that the gap in the fill of the top zone of the lower vessel is genuine.

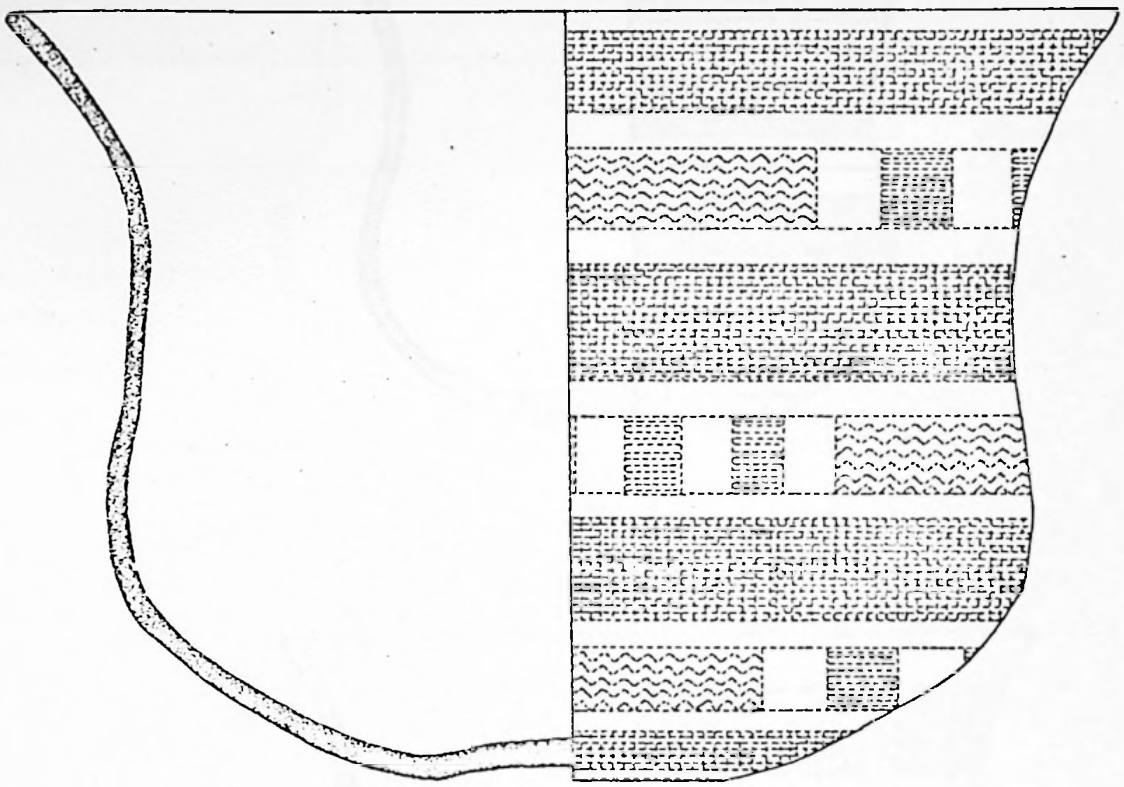


Figure 4.2 (continued) Bell Beaker from grave 3 at Rez. Scale: 3:5.

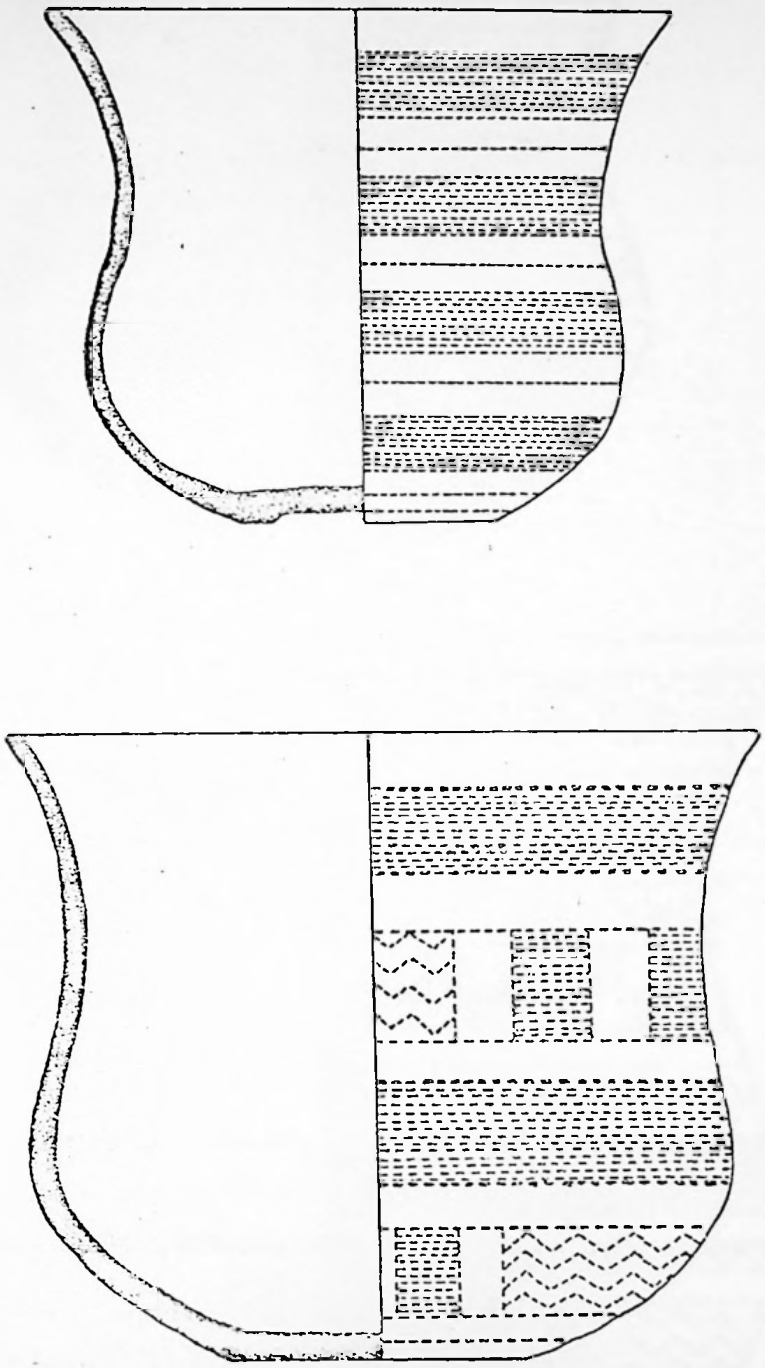


Figure 4.3 Bell Beakers from grave 4 at Neratovice. Scale: both 3:4.

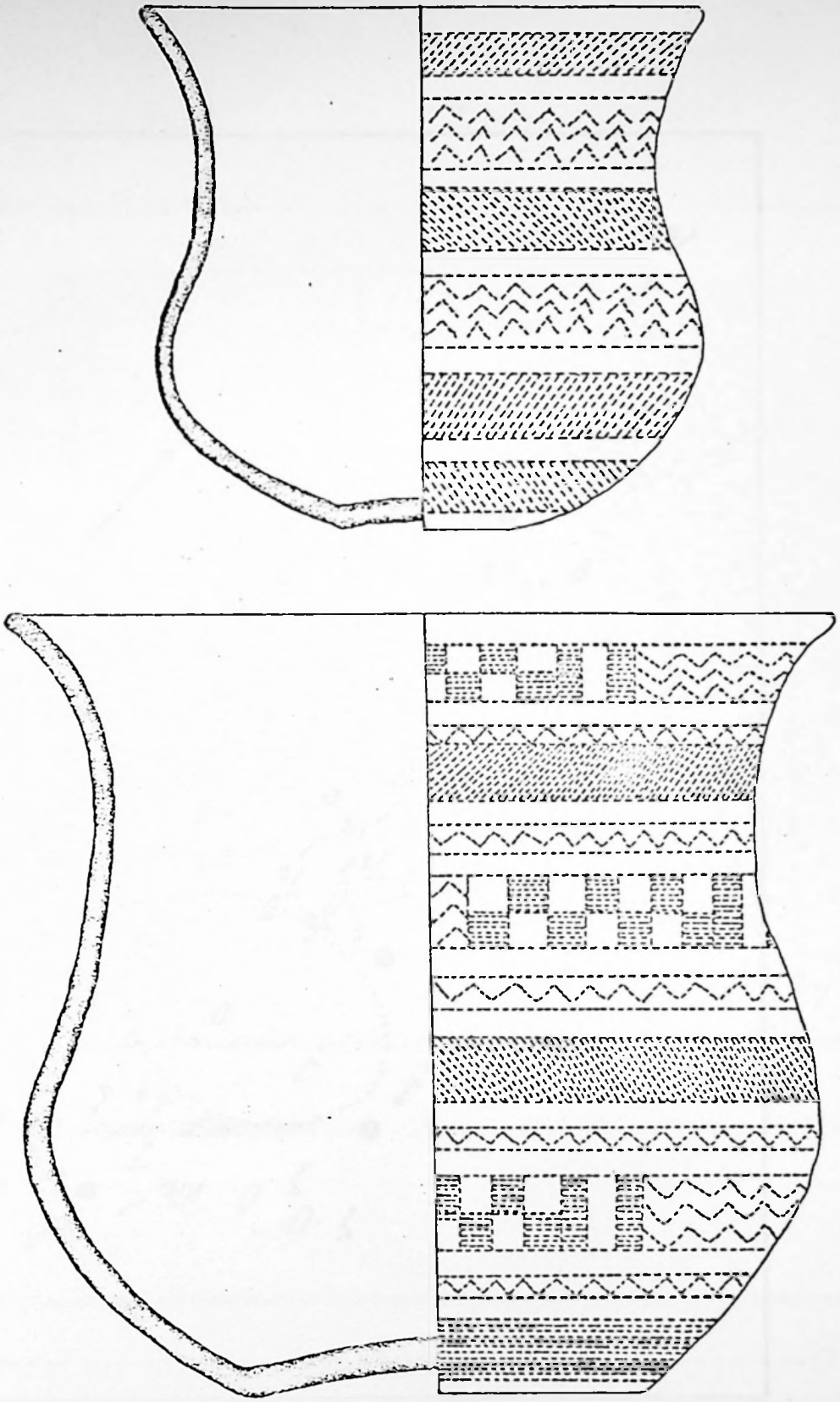


Figure 4.4 Bell Beakers from grave 5 at Bylany. Scale: both 3:4.

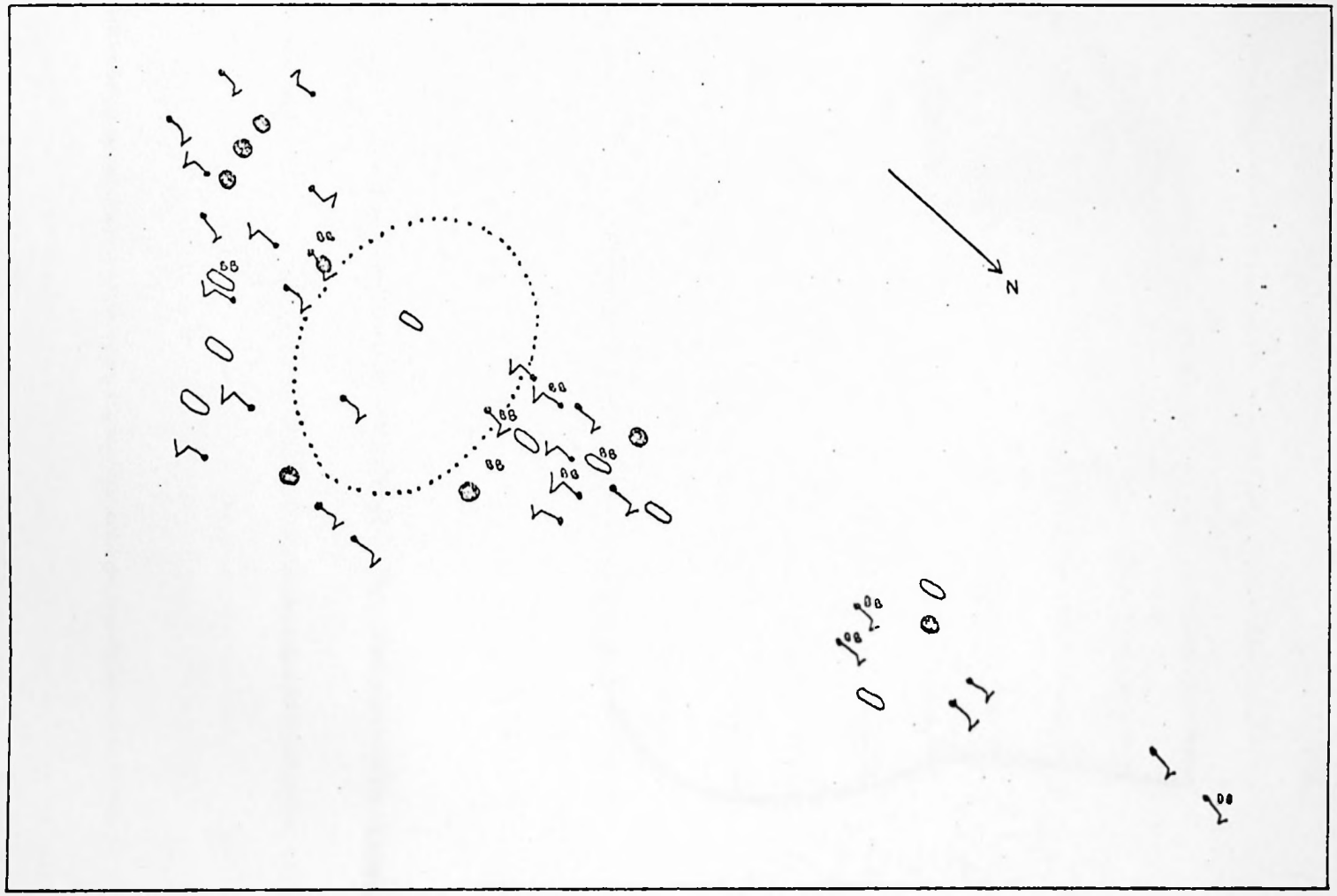


Figure 4.5 The Bell Beaker cemetery at Šlapanice site 7, Moravia.

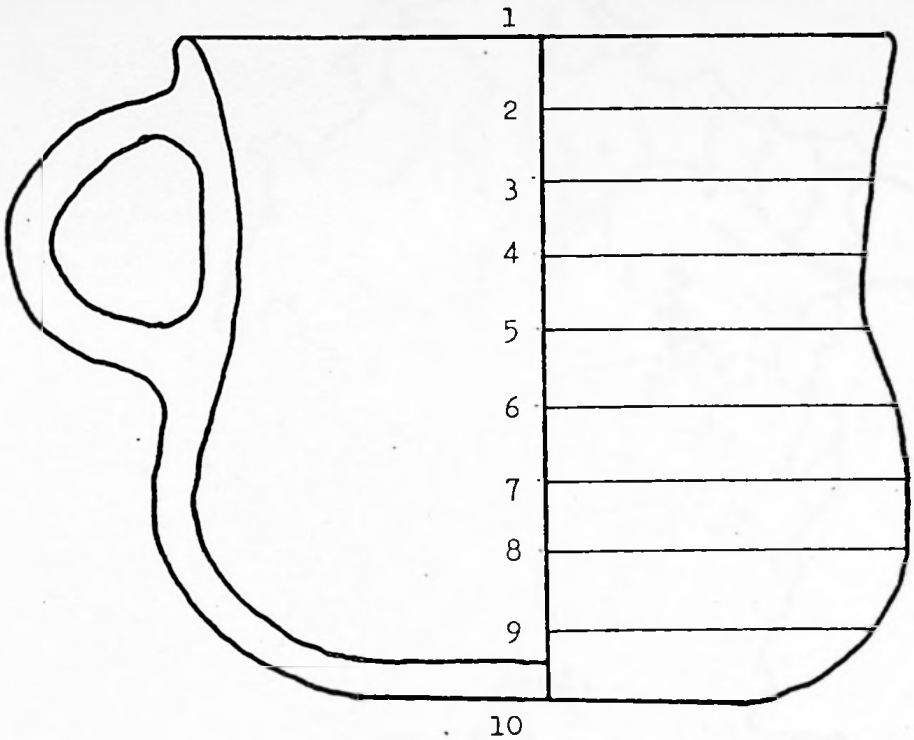


Figure 4.6 Drawing of jug to illustrate the measurements taken.

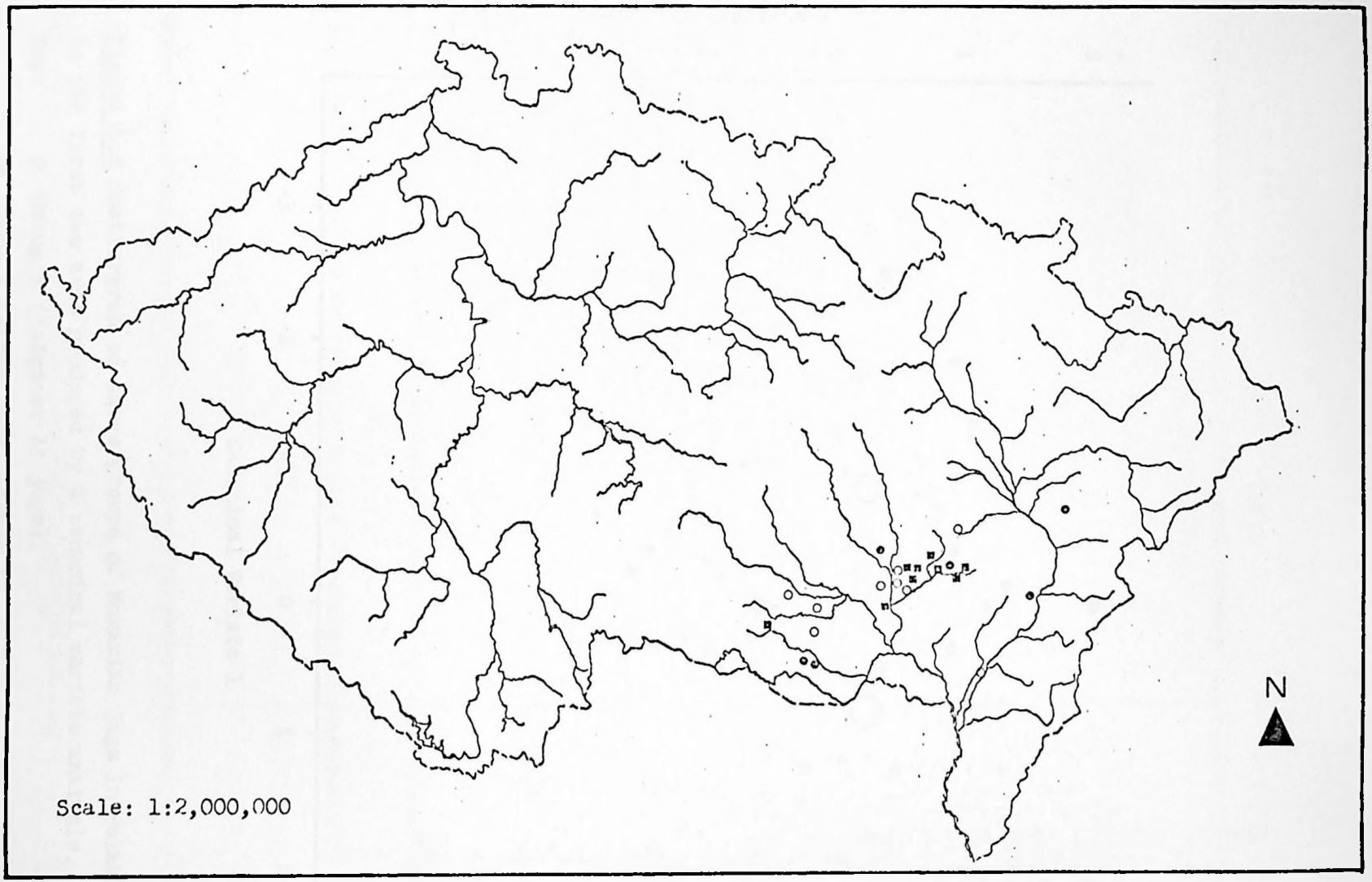


Figure 4.7 Distribution map of Moravian sites with jugs used in the statistical analyses.

- ● Sites with 'cluster 1' associated jugs
- ○ Sites without 'cluster 1' associated jugs
- ■ Sites with jugs of both groups

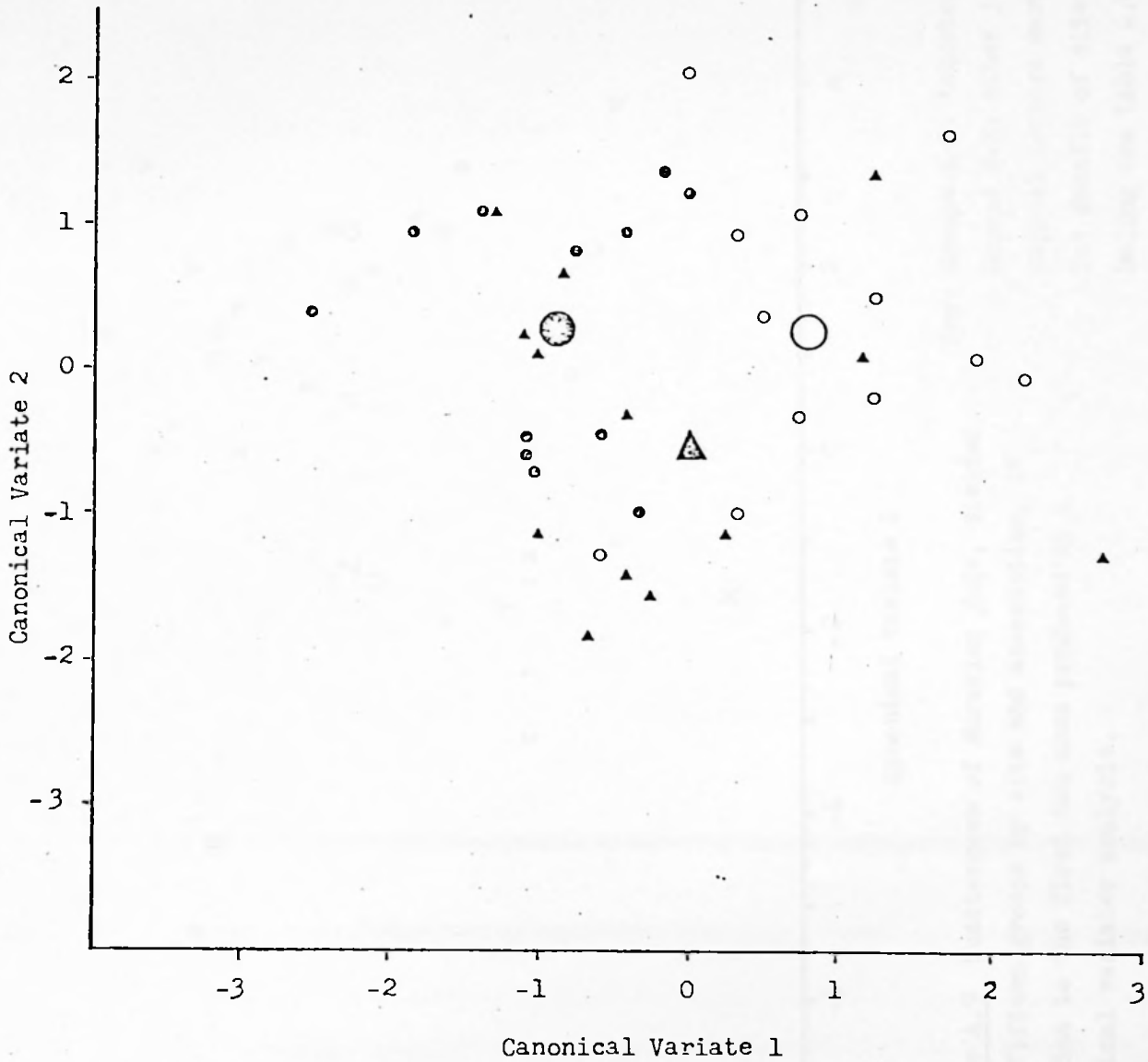


Figure 4.8 Scattergram of three groups of Moravian jugs in relation to the first two axes produced by a canonical variate analysis.

Key: ○ Group A ('cluster 1' jugs).

● Group X (other jugs, sample 1)

▲ Group Y (other jugs, sample 2)

Large symbols represent the mean of their respective groups.

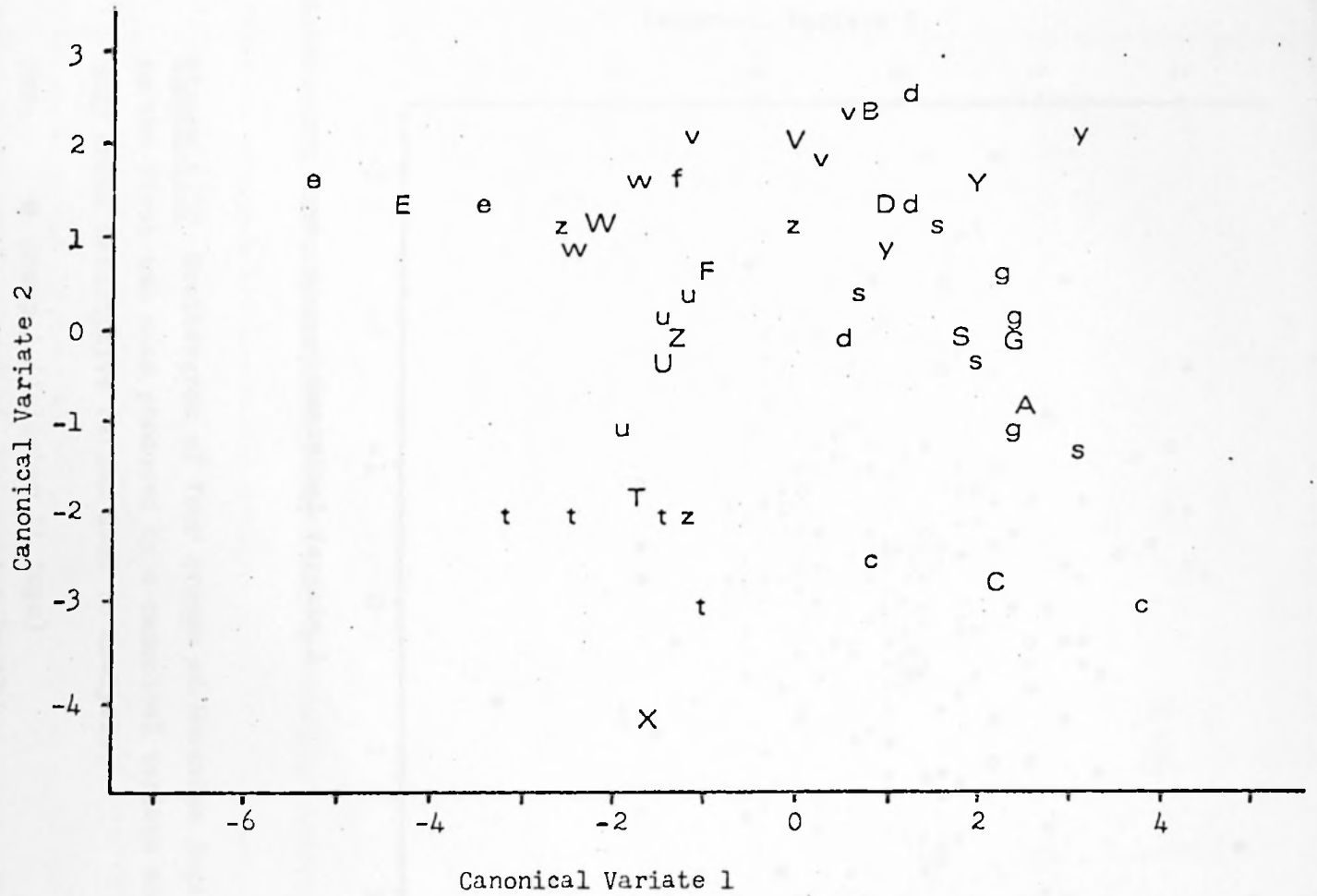


Figure 4.9 Scattergram of Moravian jugs, divided into fifteen groups by site and association, in relation to the first two axes produced by a canonical variates analysis.

Key: Groups A-G: 'cluster 1' jugs
Groups S-Z: other jugs
Capital letters mark group means
For details of sites to which groups belong see table 4.VI.

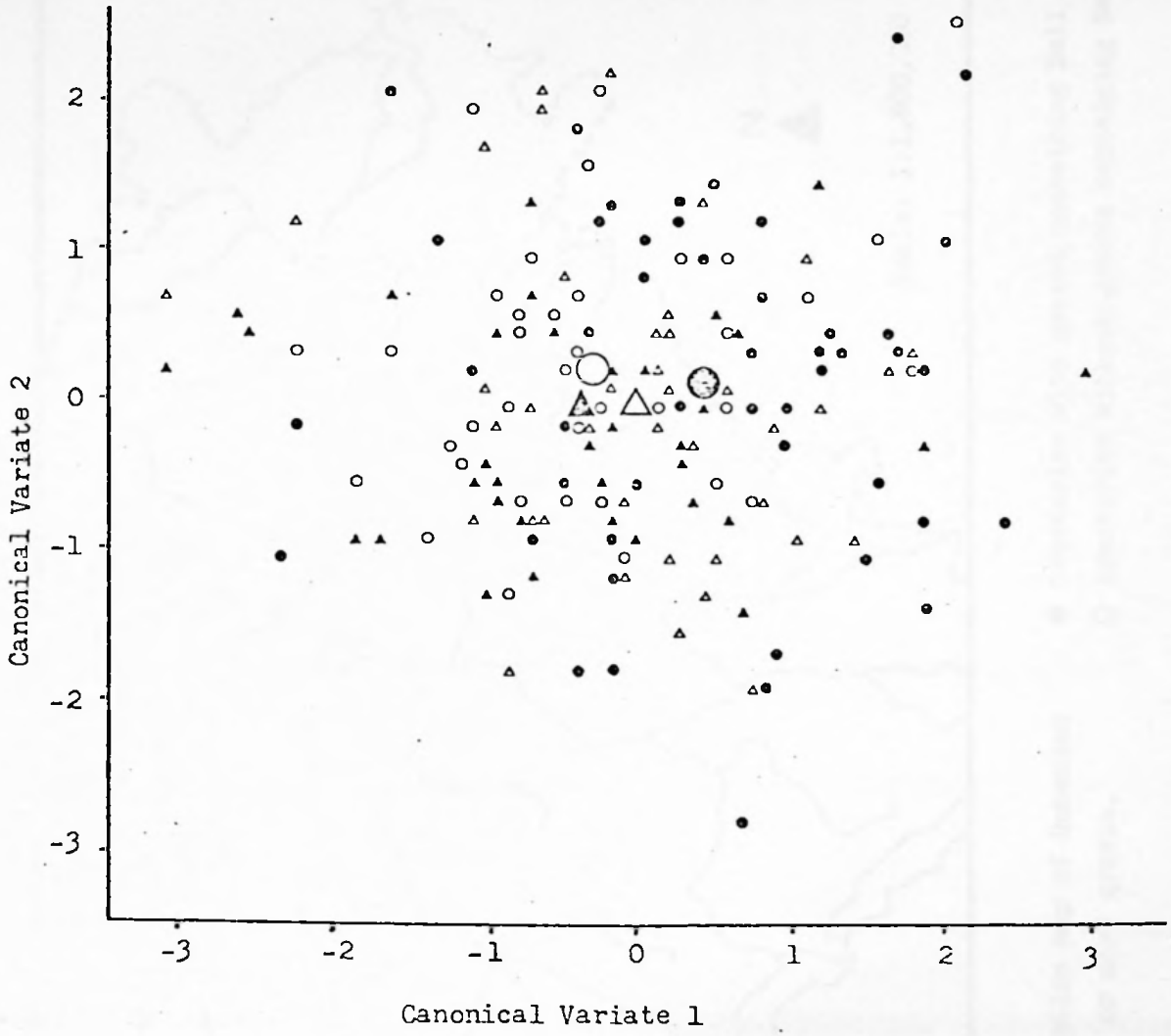


Figure 4.10 Scattergram of four groups of Moravian jugs in relation to the first two axes produced by a canonical variate analysis; only three descriptive ratios used in analysis.

Key:
- ● Group A ('cluster 1' jugs)
- ○ Group X (other jugs, sample 1)
- ▲ Group Y (other jugs, sample 2)
- △ Group Z (other jugs, sample 3)

Large symbols represent the mean of their respective groups.

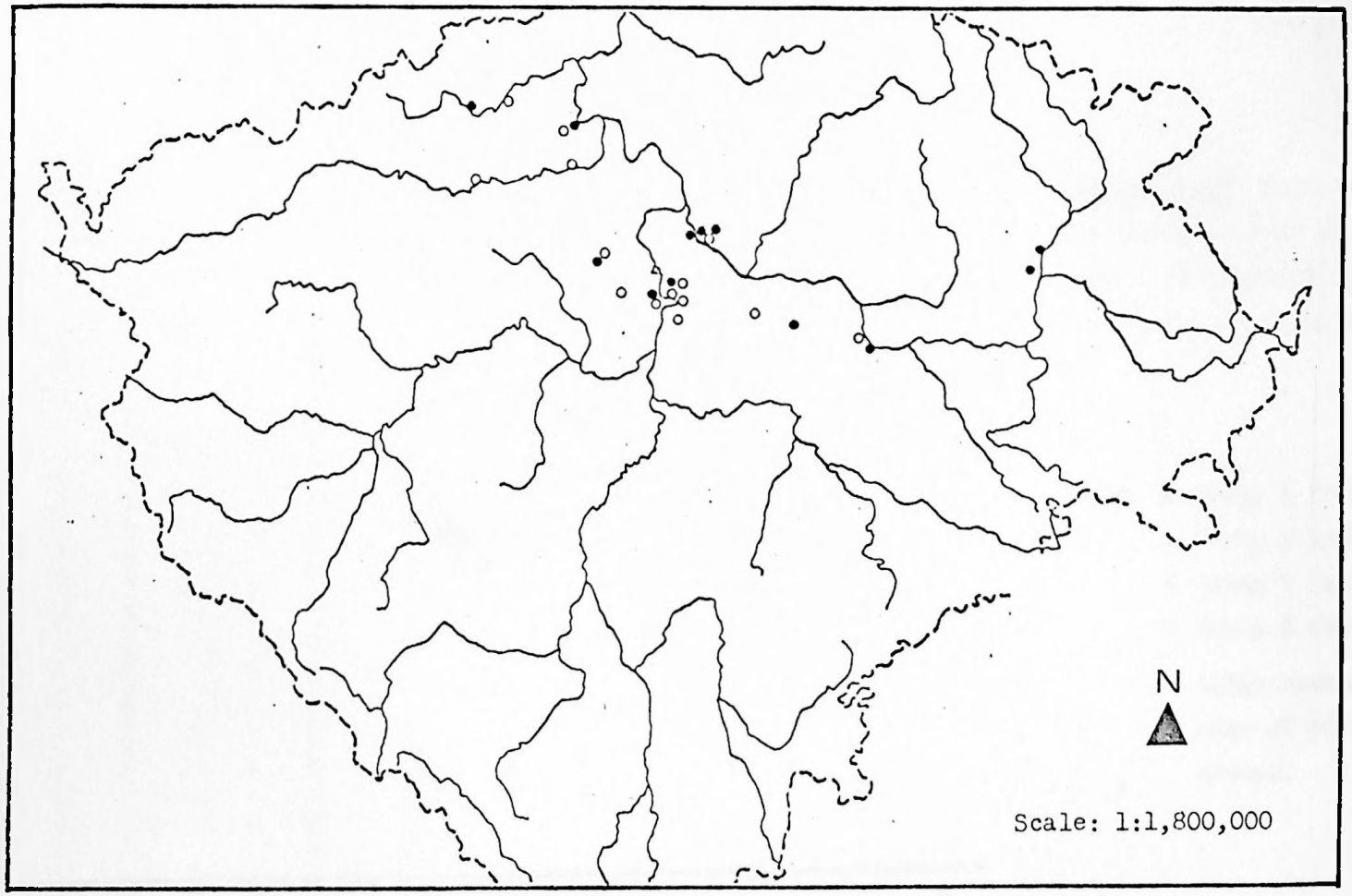


Figure 4.11 Distribution map of Bohemian cemeteries with five or more graves.

● Cemeteries with graves containing Bell Beakers.
O Cemeteries without graves containing Bell Beakers.

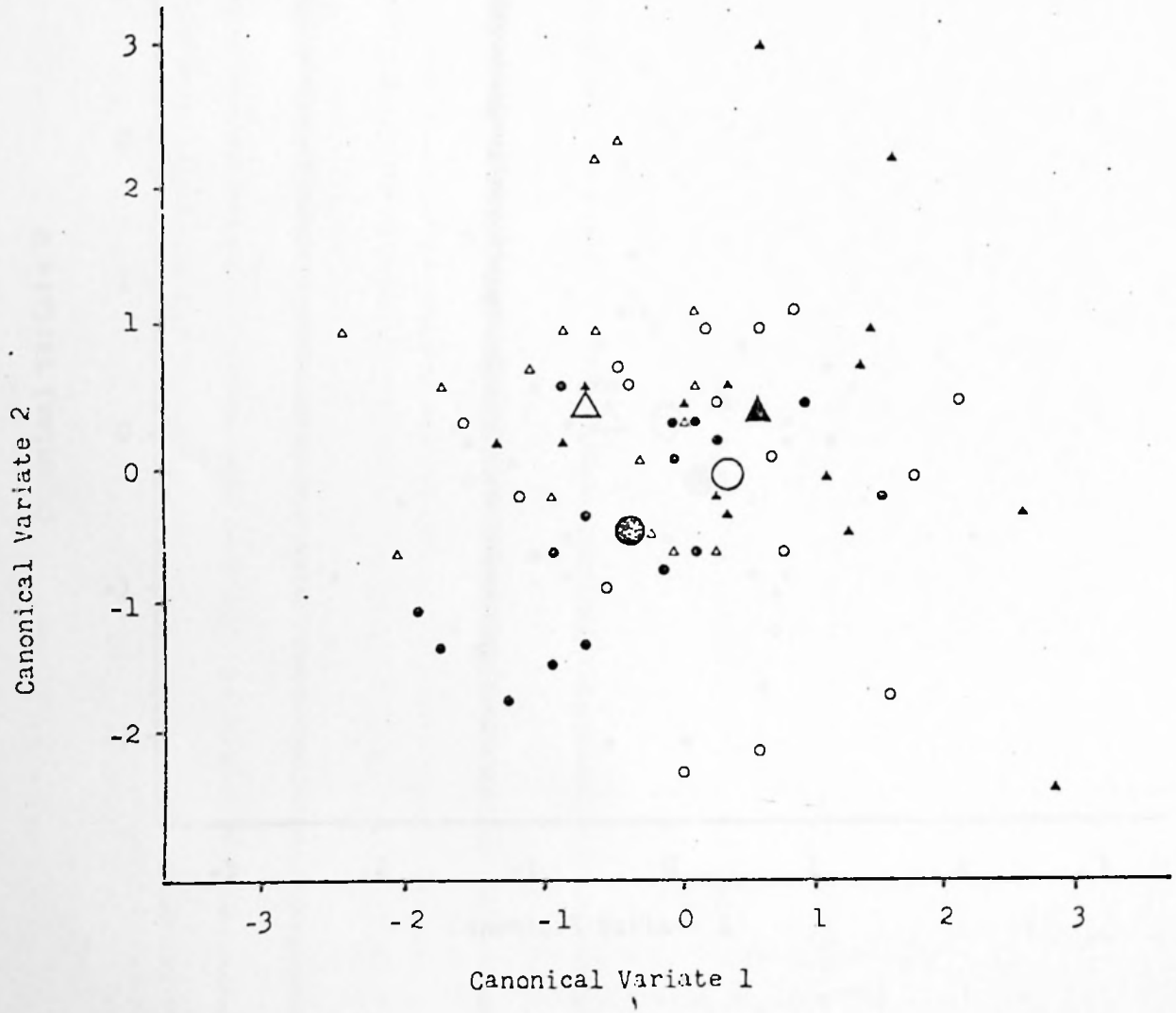


Figure 4.12 Scattergram of four groups of Bohemian jugs in relation to the first two axes produced by a canonical variate analysis. 12 ratio data.

Key: ● Group A ('cluster 1' jugs).
○ Group X (other jugs, Sample 1).
▲ Group Y (other jugs, Sample 2).
△ Group Z (other jugs, Sample 3).

Large symbols represent the mean of their respective groups.

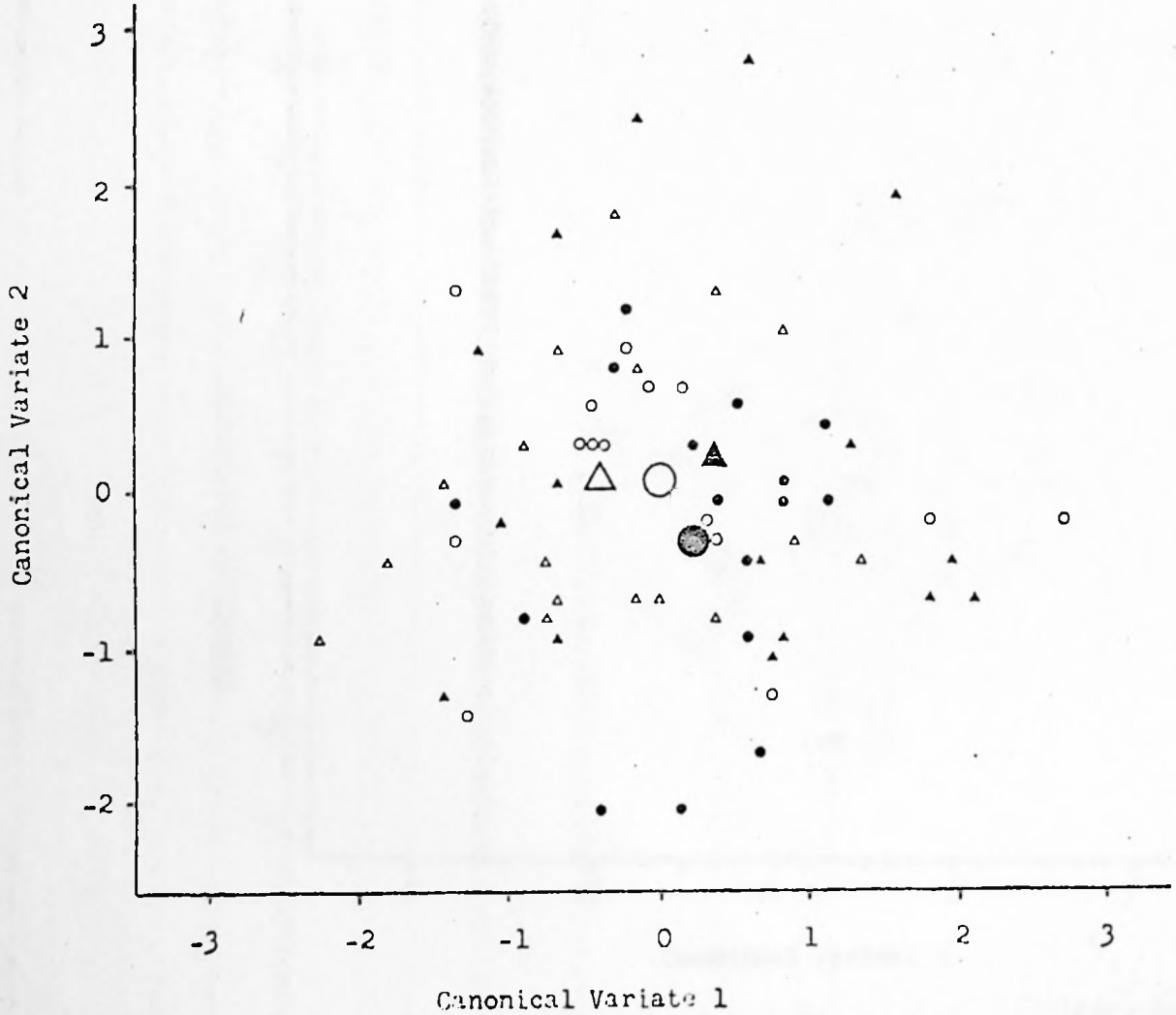


Figure 4.13 Scattergram of four groups of Bohemian jugs in relation to the first two axes produced by a canonical variate analysis. 3 ratio data.

Key: ● Group A ('cluster 1' jugs).
○ Group X (other jugs, sample 1).
▲ Group Y (other jugs, sample 2).
△ Group Z (other jugs, sample 3).
Large symbols represent the mean of their respective groups.

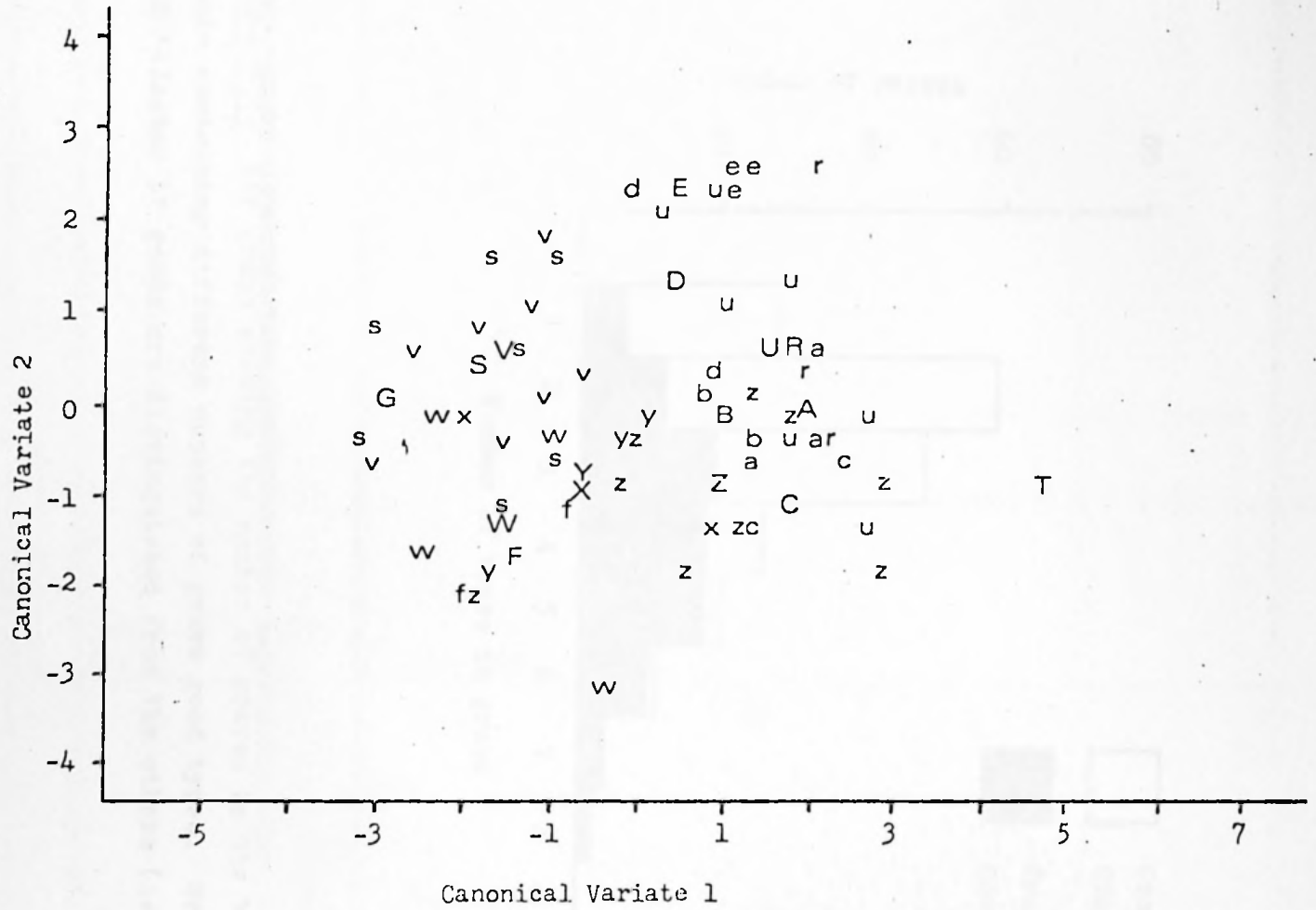


Figure 4.14 Scattergram of Bohemian jugs, divided into fifteen groups by site and association, in relation to the first two axes produced by a canonical variate analysis.

Key: Groups A-G: 'cluster 1' jugs
Groups S-Z: other jugs
Capital letters mark group means.
For details of sites to which groups belong see table 4.XIV.

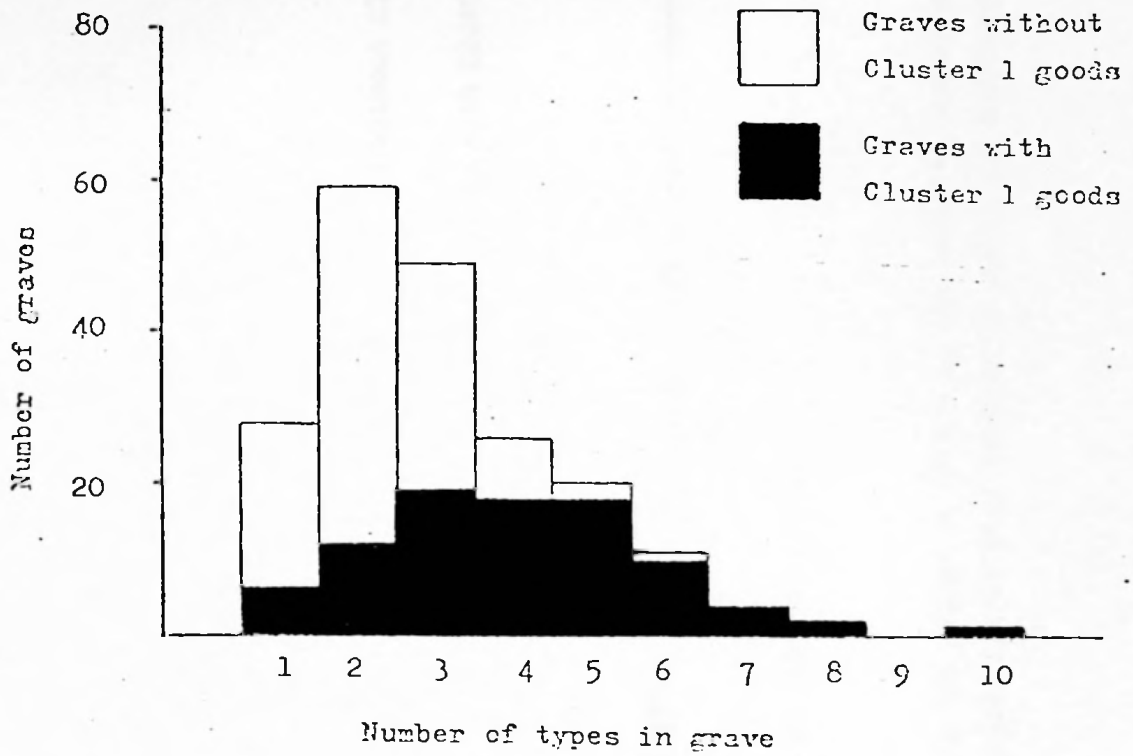


Figure 5.1a Bar graph showing the number of graves in the Moravian sample containing different numbers of grave good types. Graves with 'cluster 1' goods are distinguished from the others (see key).

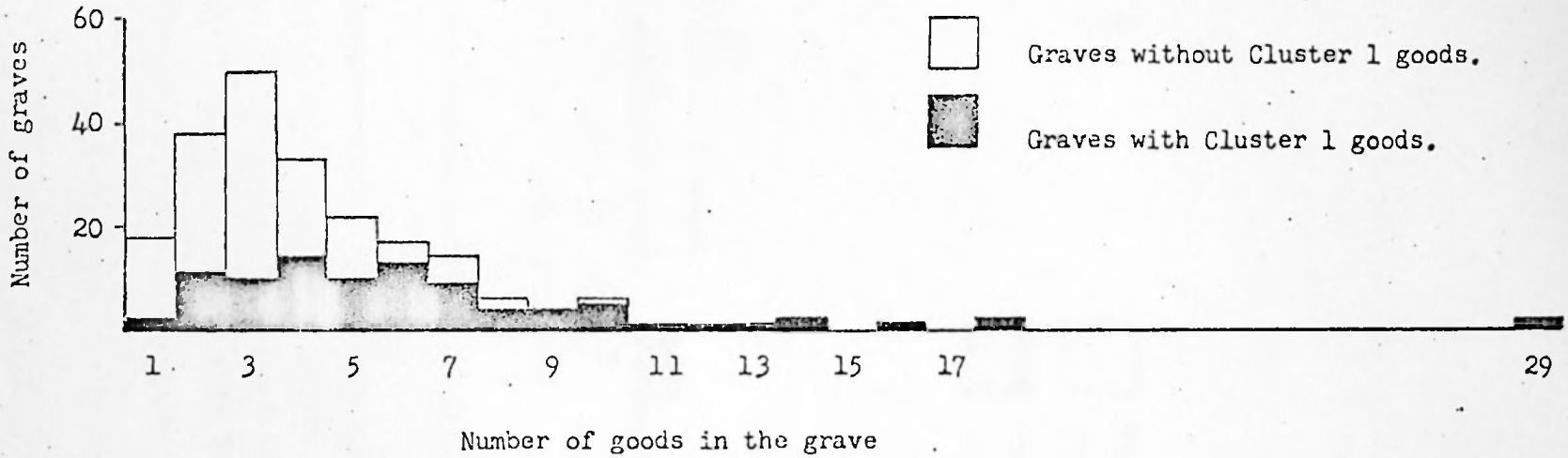


Figure 5.1b Bar graph showing the number of graves in the Moravian sample containing different numbers of grave goods. Graves with 'cluster 1' goods are distinguished from the others (see key).

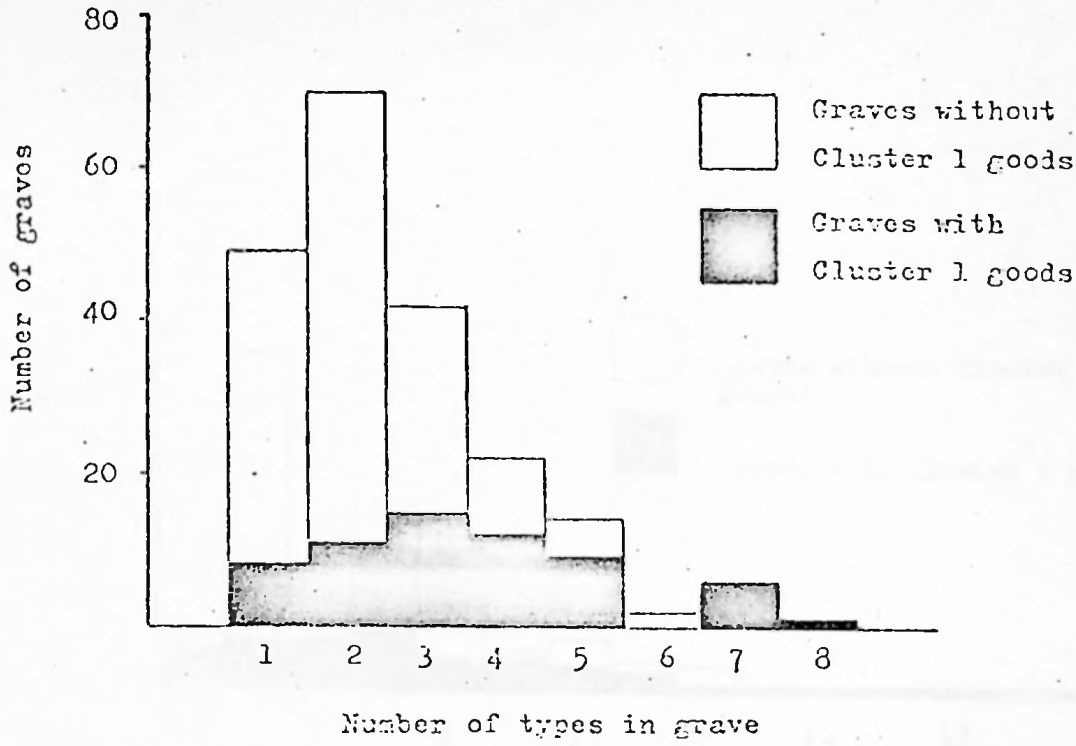


Figure 5.2a Bar graph showing the number of graves in the Bohemian sample containing different numbers of grave good types. Graves with Bohemian 'cluster 1' goods are distinguished from the others (see key).

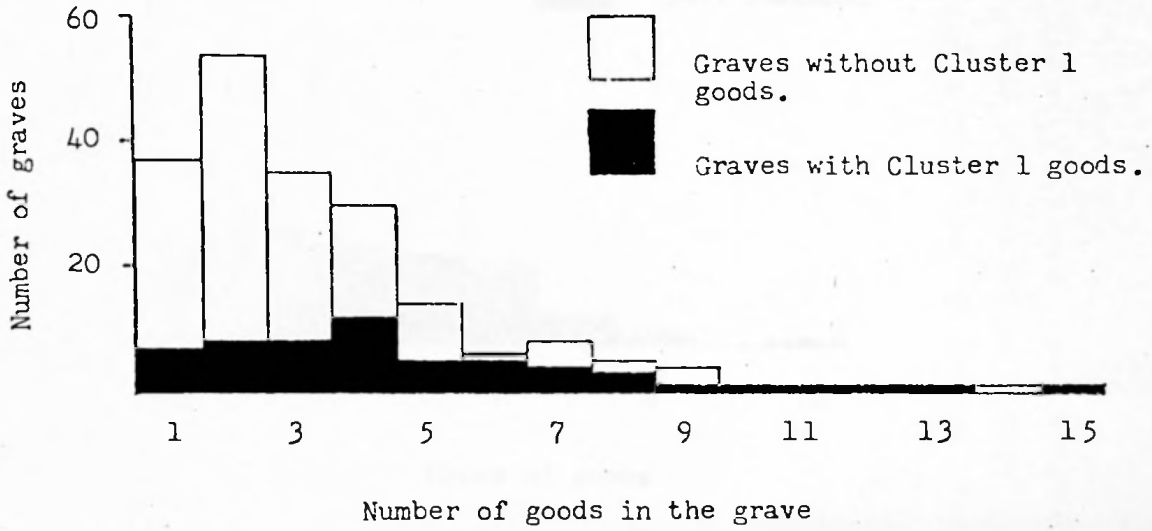


Figure 5.2b Bar graph showing the number of graves in the Bohemian sample containing different numbers of grave goods. Graves with Bohemian 'cluster 1' goods sre distinguished from the others (see key).

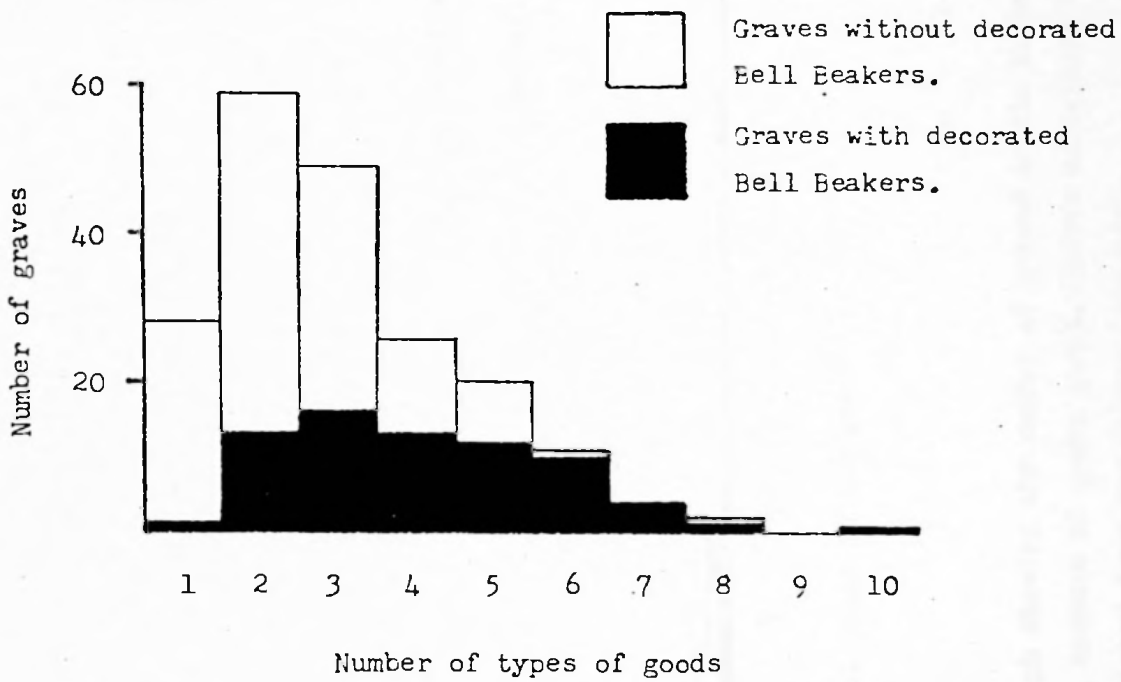


Figure 5.3a Bar graph showing the number of graves in the Moravian sample containing different numbers of grave good types. Graves containing decorated Bell Beakers are distinguished from the others (see key).

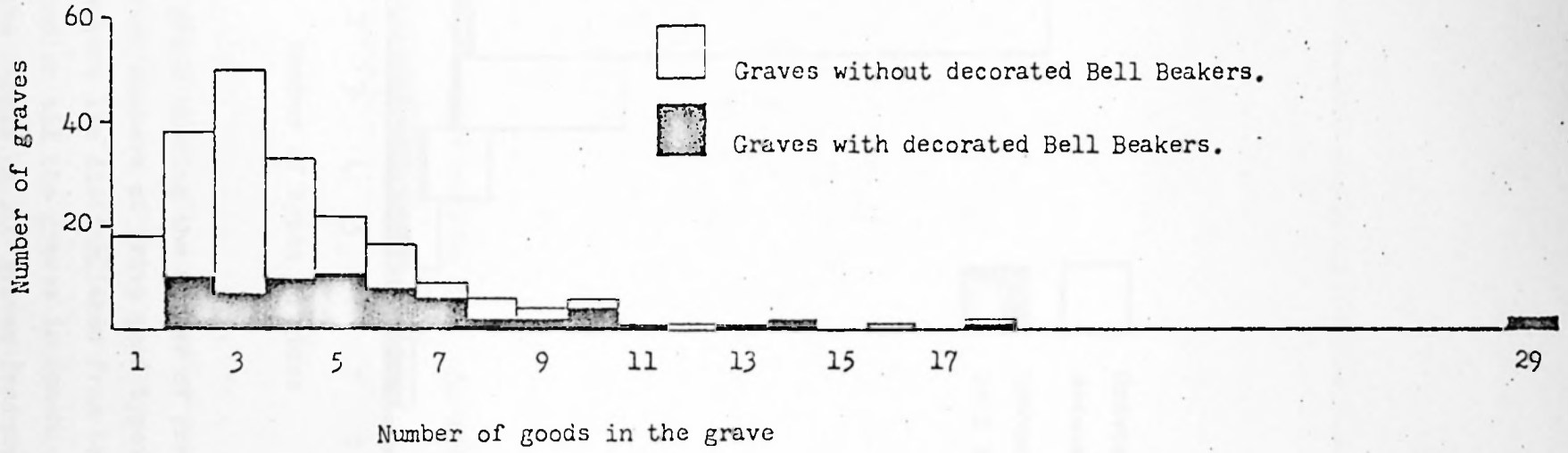


Figure 5.3b Bar graph showing the number of graves in the Moravian sample containing different numbers of grave goods. Graves containing decorated Bell Beakers are distinguished from the others (see key).

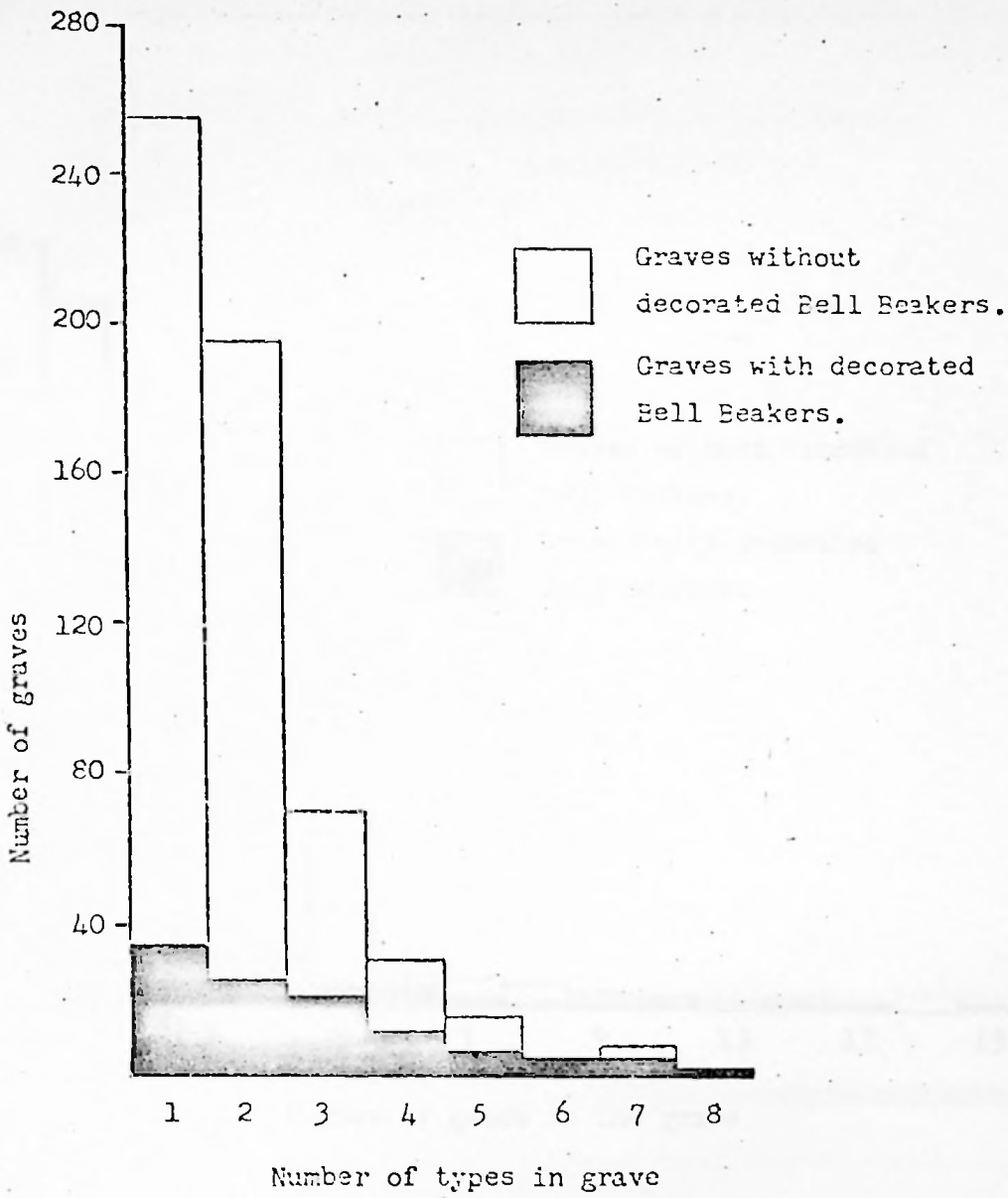


Figure 5.4a Bar graph showing the number of graves in Bohemia containing different numbers of grave good types. Graves containing decorated Bell Beakers are distinguished from the others (see key). This graph is based on all the graves in Bohemia catalogued by Hájek (1968), as the sample of 200 graves included too few with decorated Bell Beakers for a significance test to be carried out (see table 5.II).

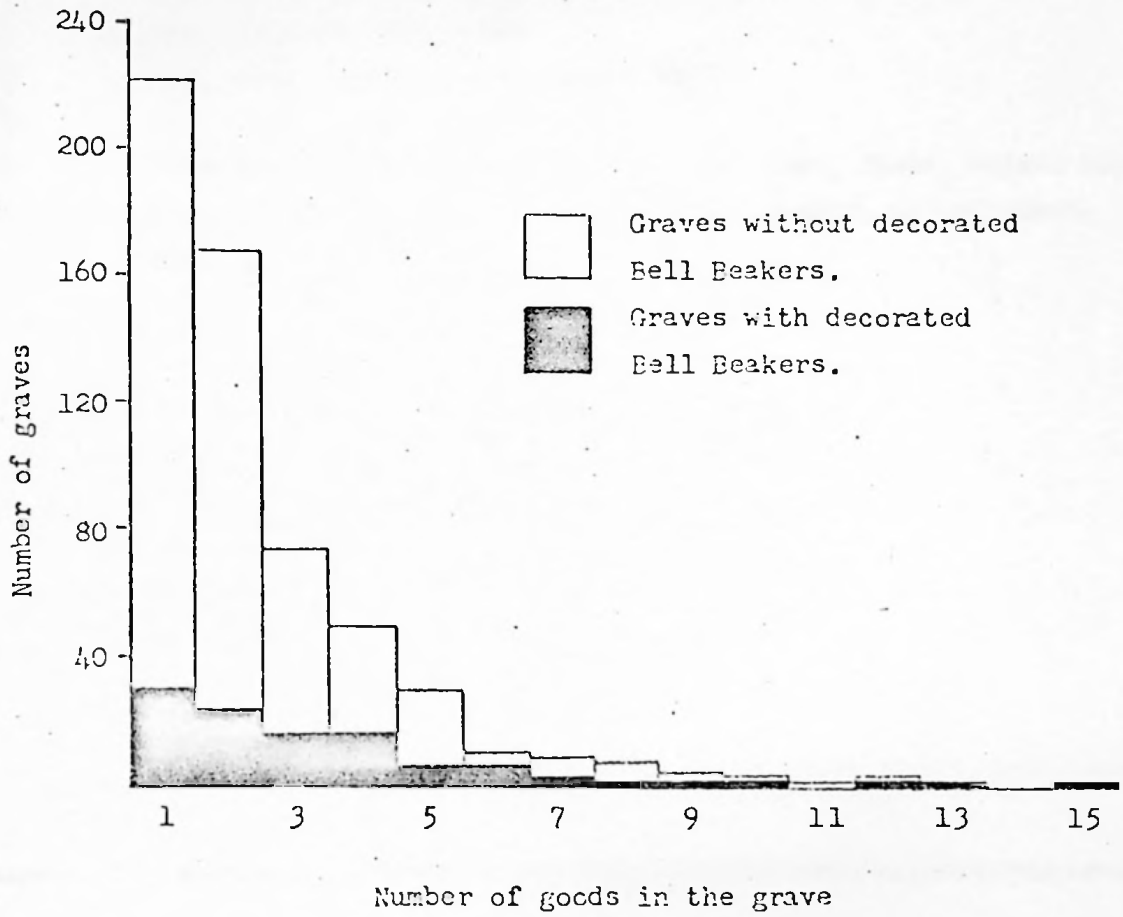


Figure 5.4b Bar graph showing the number of graves in Bohemia containing different numbers of grave goods. Graves with decorated Bell Beakers are distinguished from the others (see key). This graph is based on all the graves in Bohemia catalogued by Hájek (1968), as the sample of 200 graves included too few with decorated Bell Beakers for a significance test to be carried out (see table 5.II).

Figure 5.5 Dendrogram produced by average-link cluster analysis of the relations between Bell Beaker graves, together with a list of the contents of the graves in the clusters. Moravia.

Cluster 1

Grave No.	Contents
1	Decorated Bell Beaker, jug, bowl, Topf, animal bones.
46	Decorated Bell Beaker, jug, bowl, animal bones.
94	Jug, bowl, Topf, animal bones.
127	Jug, bowl, animal bones.
182	Jug, bowl, animal bones, amber beads.
187	Jug, bowl, animal bones, urn.
88	Undecorated handled Bell Beaker, jug, bowl, flake, animal bones.
190	Jug, bowl, Topf, handled Topf, copper dagger, animal bones, amber beads.

Cluster 2

Grave No.	Contents
13	Jug, bowl.
20	" "
29	" "
32	" "
57	" "
59	" "
61	" "
78	" "
84	" "
175	" "
180	" "
184	" "
87	" "
122	" "
126	" "
131	" "
135	" "
144	" "
145	" "
148	" "
150	" "

Fig. 5.5 (continued)

Cluster 2 (continued)

Grave No.	Contents
151	Jug, bowl.
153	" "
155	" "
157	" "
161	" "
168	" "
169	" "
170	" "
171	" "
31	Jug, bowl, amphora.
188	" " "
97	Decorated handled Bell Beaker, jug, bowl.
124	Jug, bowl, handled Topf.
133	" " " "
156	" " " "
164	" " " "
17	Jug, bowl, wrist-guard.
166	" " " "
167	Jug, bowl, wrist-guard, boar's tusk.
21	Undecorated Bell Beaker, jug, bowl.
75	" " " " "
89	Undecorated Bell Beaker, jug, bowl, flake.
23	Jug, bowl, Topf.
26	" " "
60	" " "
102	" " "
103	" " "
104	" " "
123	" " "
139	" " "
148	" " "
38	Jug, bowl, Topf, flake.
90	Undecorated Bell Beaker, jug, bowl, Topf.
27	Jug, bowl, Topf, V-perforated button.
165	" " " " "
194	Jug, Topf, V-perforated button.
58	Bowl, Topf.

Fig. 5.5 (continued)

Cluster 3

Grave No.	Contents
121	Jug, decorated jug.
141	" " "
128	Jug, decorated jug, bowl.
142	" " " "
149	Jug, decorated jug, bowl, Topf.
158	" " " " "

Cluster 4

Grave No.	Contents
3	Decorated Bell Beaker, jug.
39	" " " "
72	" " " "
113	" " " "
134	" " " "
11	Decorated Bell Beaker, jug, bowl.
49	" " " " "
55	" " " " "
152	" " " " "
74	" " " " "
98	" " " " "
140	" " " " "
48	Decorated Bell Beaker, jug, bowl, Topf.
112	" " " " " "
193	Decorated Bell Beaker, jug, bowl, urn.
111	Decorated Bell Beaker, undecorated Bell Beaker, jug, bowl.
159	Decorated Bell Beaker, undecorated Bell Beaker, jug, bowl, wrist-guard.
30	Decorated Bell Beaker, jug, V-perforated button.
64	Decorated Bell Beaker, jug, bowl, V-perforated button.
137	Decorated Bell Beaker, jug, Topf, V-perforated button.

Fig. 5.5 (continued)

Cluster 5

Grave No.	Contents
12	Jug
14	"
28	"
183	"
34	"
50	"
51	"
53	"
77	"
80	"
95	"
100	"
106	"
163	"
173	"
174	"
52	Jug, polypod bowl.
107	" " "
176	" " "
117	Jug, V-perforated button.
160	Jug, polypod bowl, V-perforated button.

Cluster 6

Grave No.	Contents
9	Jug, bowl, vessel.
177	Bowl, vessel.
185	Jug, vessel.

Cluster 7

Grave No.	Contents
36	Jug, arrowhead.
40	Jug, bowl, arrowhead.
76	Decorated Bell Beaker, jug, bowl, arrowhead, wrist-guard, blade.
130	Decorated Bell Beaker, jug, bowl, arrowhead, pendant.
73	Jug, bowl, arrowhead, flake, blade.

Fig. 5.5 (continued)

Cluster 7 (continued)

Grave No.	Contents
86	Jug, bowl, arrowhead, flake, wrist-guard, animal bones, blade, scraper.
105	Jug, bowl, arrowhead, copper dagger, wrist-guard, bone awl, animal bones blade.
118	Jug, arrowhead, copper dagger, wrist-guard, animal bones, blade.

Cluster 8

Grave No.	Contents
67	Jug, arrowhead, flake, awl, boar's tusk.
154	Jug, decorated jug, bowl, flake, pendant, copper dagger.
16	Decorated Bell Beaker, jug, flake, awl, blade.
79	Jug, blade.
125	Decorated Bell Beaker, jug, blade.
35	Jug, Topf, blade, sherds.

Cluster 9

Grave No.	Contents
66	Decorated Bell Beaker, jug, handled Topf, arrowhead, flake.
71	Decorated Bell Beaker, jug, handled Topf.
200	" " " " " "
132	Jug, handled Topf.
143	Jug, handled Topf, amphora.
116	Undecorated Bell Beaker, jug, handled Topf, copper awl, bone awl, V-perforated button.
120	Jug, decorated jug, Topf, handled Topf, V-perforated button.
192	Jug, handled Topf, V-perforated button.

Cluster 10

Grave No.	Contents
4	Jug, decorated bowl, animal bones.
63	Jug, decorated bowl.
99	" " "
129	Decorated handled Bell Beaker, jug, decorated bowl.
191	Undecorated Bell Beaker, jug, decorated bowl.
101	Decorated Bell Beaker, jug, decorated bowl, polypod bowl, pendant

Fig. 5.5 (continued)

Cluster 11

Grave No.	Contents
2	Decorated Bell Beaker, jug, bowl, Topf, copper awl, scraper, V-perforated button.
68	Decorated Bell Beaker, Topf, copper awl, copper dagger, V-perforated button, amber button.
136	Decorated Bell Beaker, jug, Topf, copper awl, wrist-guard, V-perforated button, amber button.
69	Jug, bowl, Topf, V-perforated button, amber button, copper sheet.
146	Jug, decorated jug, bowl, Topf, V-perforated button, animal bones.

Cluster 12

Grave No.	Contents
15	Decorated Bell Beaker, bowl, animal bones.
42	Decorated Bell Beaker, bowl.
108	" " " "
196	Decorated Bell Beaker, bowl, copper awl, amber beads.
18	Bowl.
96	"
22	Bowl, blade.
115	Undecorated Bell Beaker, bowl, animal bones.
195	Decorated Bell Beaker, undecorated Bell Beaker, bowl, copper dagger, blade.

Cluster 13

Grave No.	Contents
24	Bowl, urn.
47	" "
83	Bowl, urn, copper awl.
119	Bowl, decorated bowl, handled Topf, urn.
186	Urn.

Cluster 14

Grave No.	Contents
41	Bowl, Topf, handled Topf, flake.
91	Topf.
110	"

Fig. 5.5 (continued)

Cluster 15

Grave No.	Contents
5	Decorated Bell Beaker, arrowhead, ear-rings.
181	Arrowhead.
62	Decorated Bell Beaker, decorated bowl, arrowhead, copper dagger.

Cluster 16

Grave No.	Contents
6	Decorated Bell Beaker
7	" " "
178	" " "
10	Decorated Bell Beaker, stone axe.
19	Decorated Bell Beaker, flake.
179	Decorated Bell Beaker, undecorated Bell Beaker.
56	Decorated Bell Beaker, copper dagger, whetstone.
198	Decorated Bell Beaker, copper dagger.
54	Decorated Bell Beaker, decorated jug, decorated bowl.
162	Decorated Bell Beaker, undecorated handled Bell Beaker, decorated bowl.

Cluster 17

Grave No.	Contents
8	Decorated Bell Beaker, jug, flake, copper awl, wrist-guard, sherds.
37	Decorated Bell Beaker, bowl, flake, wrist-guard, sherds, V-perforated button.
45	Decorated Bell Beaker, decorated bowl, Topf, flake, wrist-guard.
44	Decorated Bell Beaker, jug, polypod bowl, arrowhead, stone axe, flake, wrist-guard, scraper, boar's tusk, whetstone.
92	Decorated Bell Beaker, arrowhead, stone axe, flake, copper dagger, wrist-guard, boar's tusk.
114	Decorated Bell Beaker, arrowhead, flake, blade,scraper, boar's tusk.
65	Decorated Bell Beaker, arrowhead, pendant, wrist-guard, boar's tusk.

Fig. 5.5 (continued)

Cluster 17 (continued)

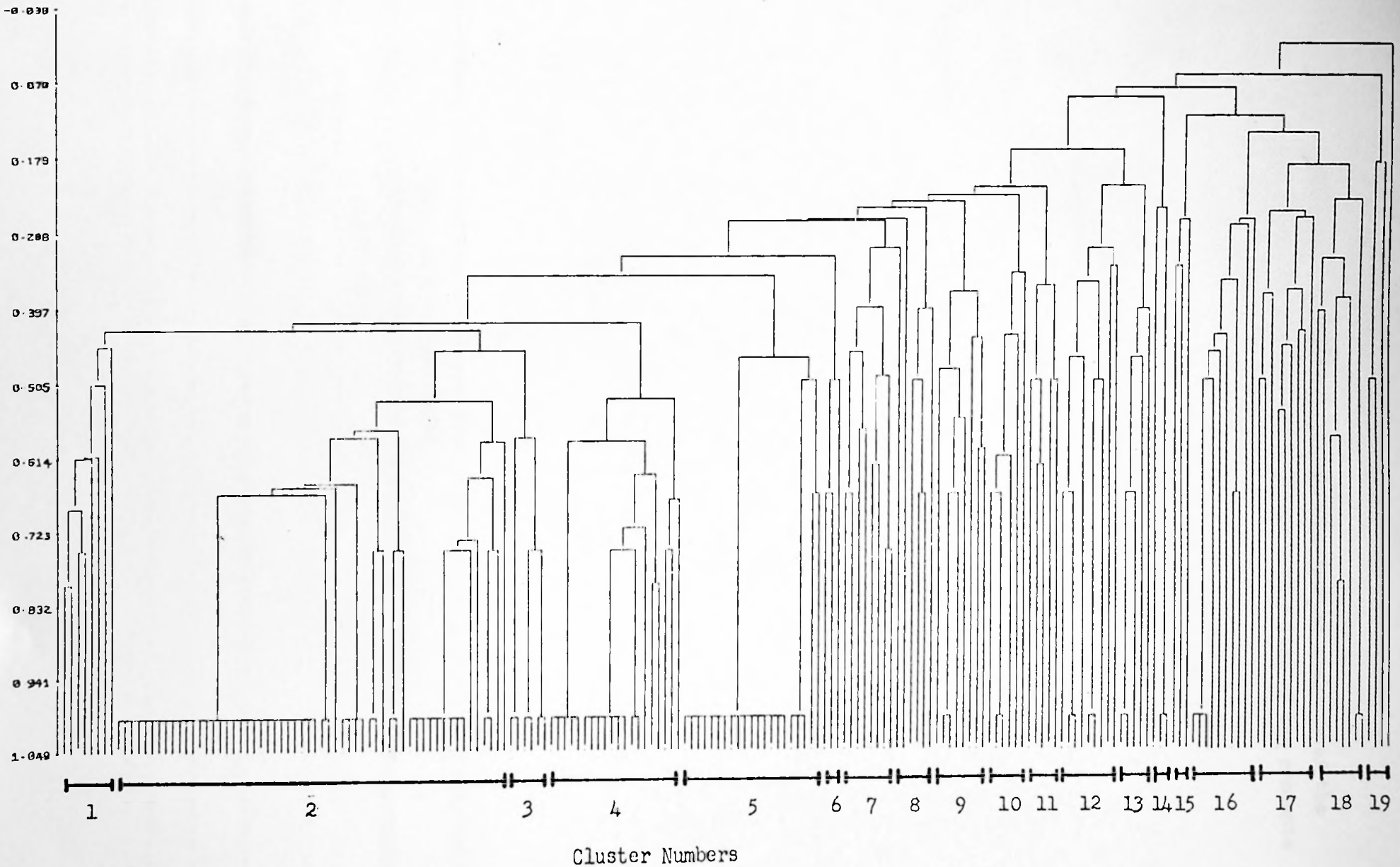
Grave No.	Contents
199	Decorated Bell Beaker, arrowhead, copper awl, copper dagger, wrist-guard.
197	Decorated Bell Beaker, Topf, arrowhead, sherds, scraper.

Cluster 18

Grave No.	Contents
33	Bowl, copper dagger, wrist-guard.
172	Decorated jug, copper dagger, wrist-guard, copper sheet.
70	Decorated Bell Beaker, jug, copper dagger, wrist-guard, blade.
81	Jug, decorated bowl, copper dagger, wrist-guard.
82	Decorated Bell Beaker, decorated bowl, copper dagger, wrist-guard.
93	Decorated Bell Beaker, vessel, stone axe, copper dagger, wrist-guard.
85	Wrist-guard.
189	" "

Cluster 19

Grave No.	Contents
25	Undecorated Bell Beaker, urn.
109	Undecorated Bell Beaker.
138	Undecorated Bell Beaker, undecorated handled Bell Beaker, jug, polypod bowl, amphora.
43	Vessel, amphora.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0.288
0.397
0.505
0.614
0.723
0.832
0.941
1.049
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2
3
4
5
6
7
8
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12
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14
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16
17
18
19
Cluster Numbers

Figure 5.6 Dendrogram produced by average-link cluster analysis of the relations between Bell Beaker graves, together with a list of the contents of the graves in the clusters. Bohemia.

Cluster 1

Grave No.	Contents
1	Bowl, arrowhead.
107	Arrowhead.
105	Arrowhead, amphora.
192	Handled Topf, arrowhead, scraper.

Cluster 2

Grave No.	Contents
2	Jug, sherds.
119	" "
94	Sherds.

Cluster 3

Grave No.	Contents
3	Jug, decorated jug.
131	Jug, decorated jug, polypod bowl.
8	Jug, polypod bowl.
49	" " "
162	" " "
163	" " "
194	" " "
159	Jug, polypod bowl, Topf.
164	Decorated Bell Beaker, undecorated Bell Beaker, jug, polypod bowl.

Cluster 4

Grave No.	Contents
27	Jug.
41	"
52	"
121	"
129	"
111	"

Fig. 5.6 (continued)

Cluster 4 (continued)

Grave No.	Contents
112	Jugs.
113	"
115	"
117	"
120	"
54	"
62	"
63	"
64	"
76	"
81	"
88	"
90	"
96	"

Cluster 5

Grave No.	Contents
5	Undecorated handled Bell Beaker, jug, bowl, stone axe,
67	Undecorated handled Bell Beaker, jug, bowl.
87	" " " " " "
66	Undecorated handled Bell Beaker, jug.
69	" " " " "
155	" " " " "
6	Jug, bowl.
13	" "
14	" "
31	" "
34	" "
40	" "
45	" "
48	" "
50	" "
184	" "
181	" "
195	" "
51	" "
109	" "

Fig. 5.6 (continued)

Cluster 5 (continued)

Grave No.	Contents
124	Jug, bowl.
127	" "
128	" "
136	" "
137	" "
138	" "
142	" "
168	" "
169	" "
170	" "
173	" "
174	" "
176	" "
177	" "
179	" "
180	" "
44	Jug,bowl, animal bones.
77	Jug, bowl, animal bones, blade.
7	Decorated Bell Beaker, jug, bowl.
24	" " " " "
104	Decorated Bell Beaker, jug, bowl, flake.
153	Decorated Bell Beaker, undecorated Bell Beaker, jug, bowl.
36	Undecorated handled Bell Beaker, jug, bowl, Topf.
68	" " " " " " "
185	Jug, bowl, Topf.
193	" " "
187	Jug, bowl, decorated bowl, Topf.
47	Jug, bowl, V-perforated button, copper sheet.

Cluster 6

Grave No.	Contents
30	Undecorated handled Bell Beaker, jug, bowl, arrowhead, blade.
154	Undecorated Bell Beaker, jug, bowl, scraper blade.
165	Jug, bowl, blade.

Fig. 5.6 (continued)

Cluster 6 (continued)

Grave No.	Contents
80	Jug, bowl, arrowhead, wrist-guard, blade.
196	Jug, bowl, handled Topf, pendant, wrist-guard, blade.

Cluster 7

Grave No.	Contents
72	Undecorated Bell Beakers, jug.
82	Undecorated Bell Beaker, undecorated handled Bell Beaker, jug, bowl.
123	Undecorated Bell Beaker, jug, bowl.
157	Undecorated Bell Beaker, undecorated handled Bell Beaker, jug, blade.

Cluster 8

Grave No.	Contents
18	Jug, vessel.
58	" "
110	Jug, bowl, vessel.
147	Jug, bowl, handled Topf, vessel, bone awl.

Cluster 9

Grave No.	Contents
38	Jug, bowl, wrist-guard.
197	Jug, bowl, wrist-guard, copper sheet.
145	Bowl, wrist-guard.
150	Jug, bowl, flake, wrist-guard, boar's tusk.
39	Jug, wrist-guard.
182	Jug, polypod bowl, wrist-guard.
61	Decorated Bell Beaker, bowl, stone axe, wrist-guard.
198	Decorated Bell Beaker, decorated handled Bell Beaker, jug, bowl, wrist-guard.
101	Decorated Bell Beaker, jug, bowl, arrowhead, copper dagger, wrist-guard, scraper.

Fig. 5.6 (continued)

Cluster 10

Grave No.	Contents
17	Jug, bowl, arrowhead, flake, copper dagger.
79	Jug, bowl, arrowhead, flake, bone pendant, blade.

Cluster 11

Grave No.	Contents
55	Undecorated handled Bell Beaker, handled Topf.
83	Undecorated Bell Beaker, undecorated handled Bell Beaker, bowl, handled Topf.
60	Bowl, handled Topf.
122	" " "
141	Jug, bowl, handled Topf.
116	Handled Topf.
190	Jug, handled Topf.
191	" " "

Cluster 12

Grave No.	Contents
10	Undecorated handled Bell Beaker, jug, Topf, copper awl, copper dagger, animal bones, blade.
19	Jug, copper dagger, blade.
49	Undecorated handled Bell Beaker, jug, bone pendant, copper dagger, wrist-guard, blade.
20	Decorated Bell Beaker, jug, vessel, arrowhead, wrist-guard, blade.
108	Decorated Bell Beaker, jug, wrist-guard, blade.
126	Decorated Bell Beaker, undecorated Bell Beaker, jug, arrowhead, stone axe, blade, whetstone.
156	Undecorated Bell Beaker, jug, arrowhead, wrist-guard, amphora.

Cluster 13

Grave No.	Contents
4	Decorated Bell Beaker, undecorated handled Bell Beaker, bowl.
146	Decorated Bell Beaker, bowl.
158	Undecorated handled Bell Beaker, bowl, amphora.

Fig. 5.6 (continued)

Cluster 13 (continued)

Grave No.	Contents
189	Undecorated handled Bell Beaker, bowl.
16	Bowl.
42	"
70	"
75	"
132	"
183	"
186	Bowl, blade.
12	Bowl, bone pendant.
140	Bowl, bone pendant, wrist-guard,
33	Decorated handled Bell Beaker, bowl, amphora.
144	Bowl, Topf, vessel.
178	Bowl, Topf.
37	Topf.

Cluster 14

Grave No.	Contents
9	Undecorated Bell Beaker, bowl, animal bones.
133	Bowl, animal bones.
167	Undecorated Bell Beaker, undecorated handled Bell Beaker, bowl, animal bones, amphora.
130	Bowl, handled Topf, copper awl, animal bones, copper sheet.
134	Bowl, animal bones, copper sheet.
43	Animal bones sherds, sherds.
166	Animal bones.

Cluster 15

Grave No.	Contents
21	Undecorated Bell Beaker, bowl, vessel.
22	Undecorated Bell Beaker, bowl, vessel, blade.
26	Decorated Bell Beaker, undecorated Bell Beaker.
71	Undecorated Bell Beaker.
106	Decorated Bell Beaker, undecorated Bell Beaker, flake, amphora.
118	Decorated Bell Beaker,undecorated Bell Beaker, bowl, amphora.

Fig.5.6 (continued)

Cluster 16

Grave No.	Contents
23	Decorated Bell Beaker, jug.
56	" " " "
65	" " " "
59	Decorated Bell Beaker, jug, stone axe.
151	Decorated Bell Beaker, jug, decorated bowl, bone pendant.
25	Decorated Bell Beaker.
53	" " "
57	" " "
84	" " "
103	" " "
172	" " "
95	Decorated Bell Beaker, sherds.
78	Decorated Bell Beaker, ear-rings, blade.
92	Decorated Bell Beaker, jug, copper dagger, wrist-guard, ear-rings.
125	Decorated Bell Beaker, copper dagger, ear-rings.
29	Decorated Bell Beaker, vessel, flake.
32	Decorated Bell Beaker, vessel, copper awl, ear-rings, scraper.

Cluster 17

Grave No.	Contents
35	Copper dagger, wrist-guard.
91	Undecorated handled Bell Beaker, copper dagger, wrist-guard.
74	Wrist-guard.
139	" "
86	Decorated Bell Beaker, copper dagger, amber buttons.
161	Decorated Bell Beaker, decorated handled Bell Beaker, decorated jug, arrowhead, flake, wrist-guard, amber buttons.

Cluster 18

Grave No.	Contents
89	Undecorated handled Bell Beaker.
100	" " " "
48	" " " "

Fig. 5.6 (continued)

Cluster 18 (continued)

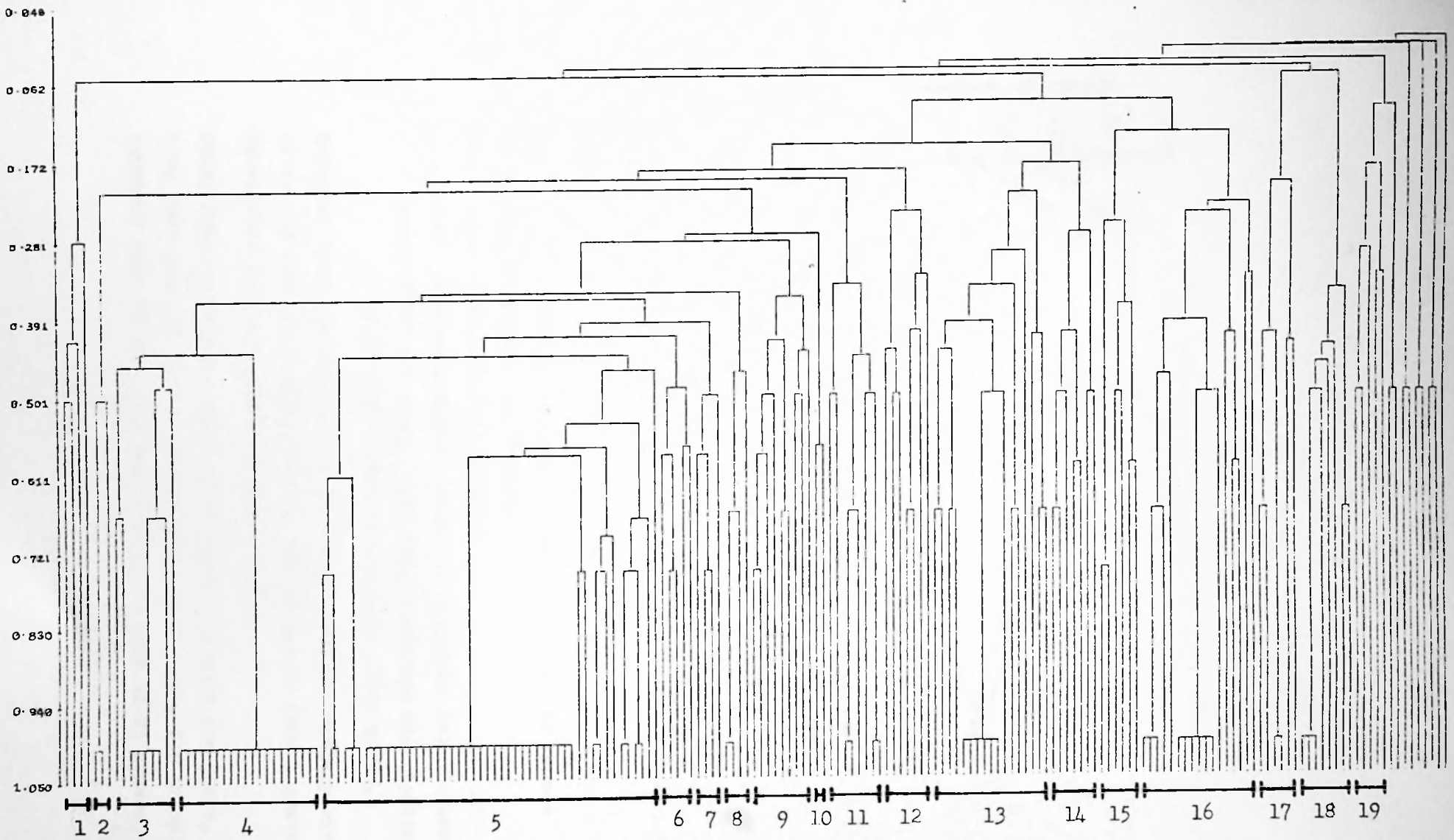
Grave No.	Contents
99	Undecorated handled Bell Beaker, stone axe.
102	Undecorated handled Bell Beaker, scraper.
43	Undecorated handled Bell Beaker, copper awl, bone beads.
152	Undecorated handled Bell Beaker, blade.
188	Decorated Bell Beaker, undecorated handled Bell Beaker, blade.

Cluster 19

Grave No.	Contents
28	Polypod bowl, V-perforated button.
93	V-perforated button.
46	Jug, polypod bowl, arrowhead, V-perforated button, animal bones.
85	Undecorated handled Bell Beaker, polypod bowl, vessel.
175	Polypod bowl.

Other

Grave No.	Contents
114	Decorated bowl.
135	Decorated bowl, V-perforated button.
15	Decorated handled Bell Beaker.
160	Decorated handled Bell Beaker, blade.
98	Flake, sherds.
171	Flake.
11	Decorated jug, animal bones.
97	Decorated jug.
73	Bone awl.



Cluster numbers

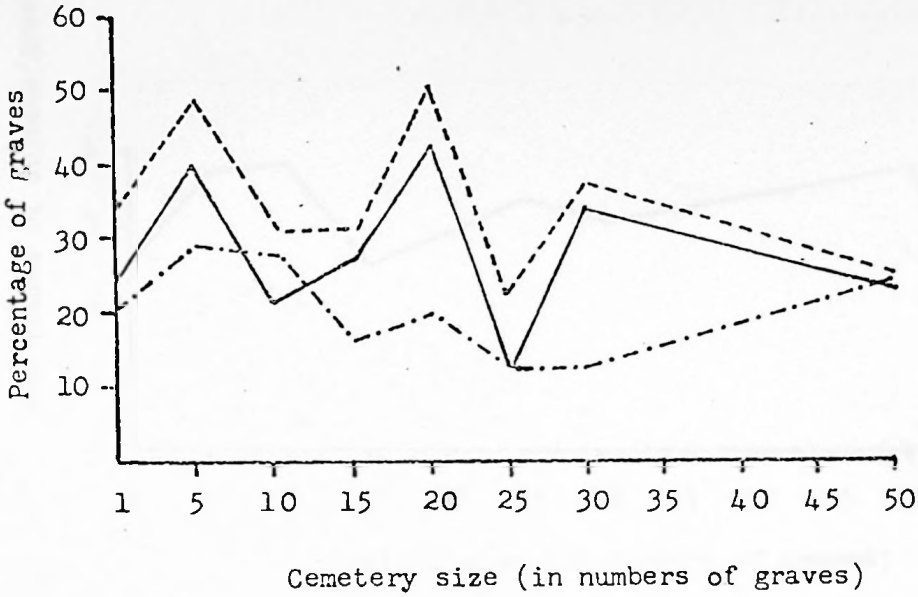


Figure 5.7 Cemetery size against the percentage of graves containing certain items. Moravia.

Key: —— Decorated Bell Beakers.

--- Cluster 1 goods, including decorated Bell Beakers.

-·-·- Cluster 1 goods, excluding decorated Bell Beakers, together with other non-ceramic grave goods.

Example: from the position of the solid line at cemetery size 1 it can be seen that approximately 25% of graves from 1 grave cemeteries contain decorated Bell Beakers.

Note: cemetery sizes, apart from those with only one grave, have been grouped into 5 grave intervals so that, for example, cemetery size 25 includes all cemeteries with 21-25 graves.

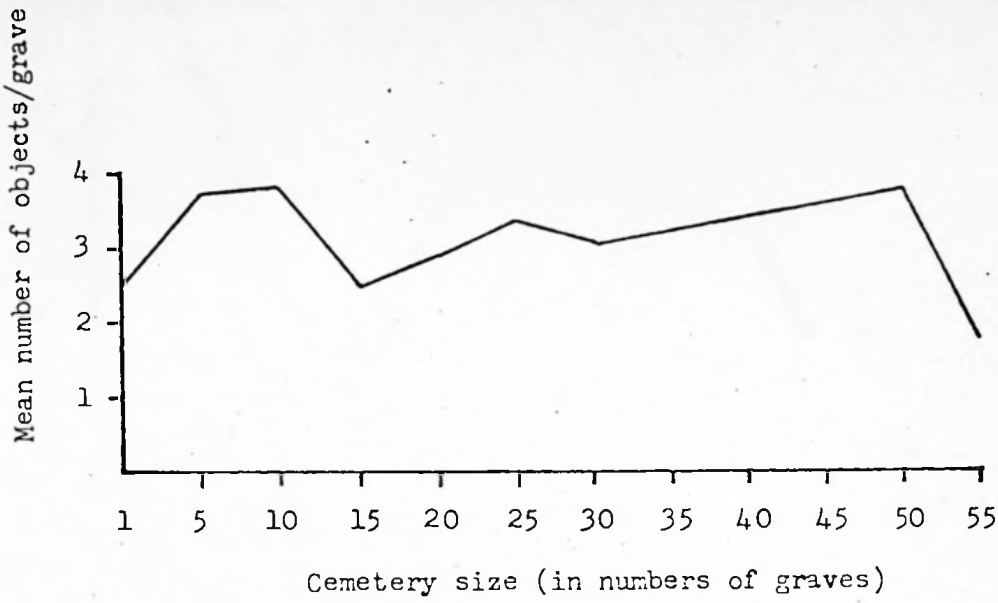


Figure 5.8 Cemetery size against mean number of objects/grave. Moravia.

Example: from the position of the line at cemetery size 1 it can be seen that the mean number of objects/grave in 1 grave cemeteries is approximately 2.5.

Note: cemetery sizes, apart from those with only one grave, have been grouped into 5 grave intervals so that, for example, cemetery size 25 includes all cemeteries with 21-25 graves.

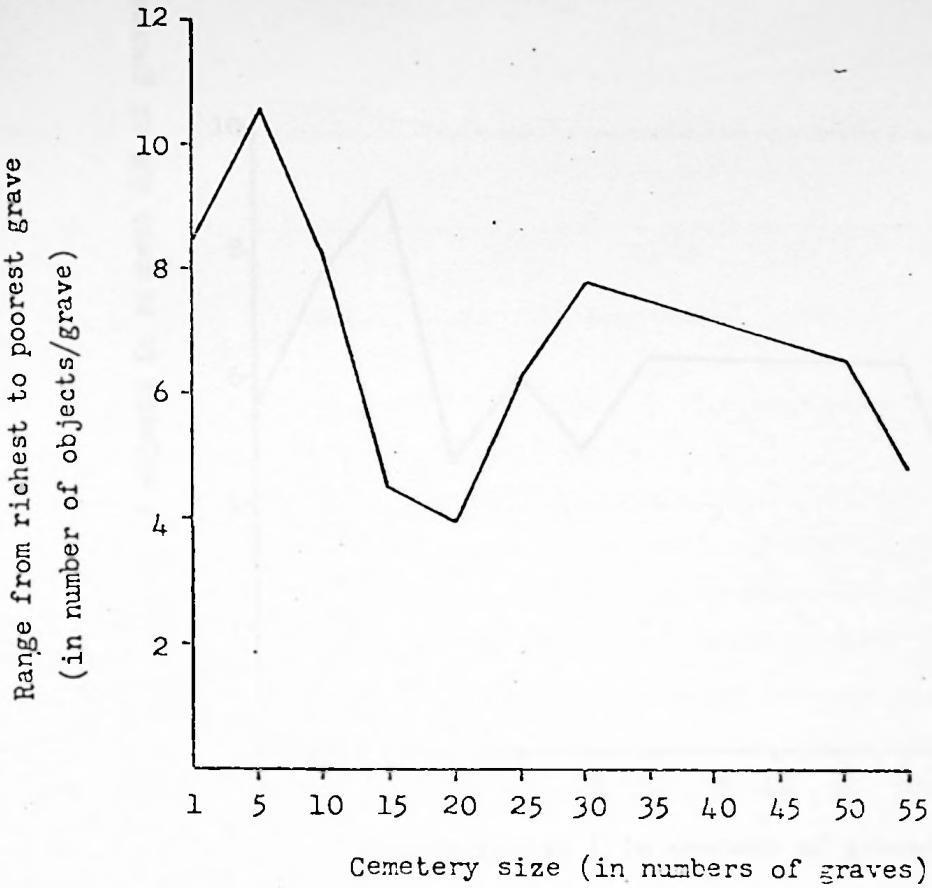


Figure 5.9 Cemetery size against the range from richest to poorest grave measured in terms of number of objects/grave. Moravia. The range was obtained by taking the mean of the three maximum differences in number of objects/grave for each size category.

Example: from the position of the line at cemetery size 1 it can be seen that the difference between the richest and poorest graves in all 1 grave cemeteries taken together is approximately 8.3 objects.

Note: as above, cemetery sizes have been grouped into 5 grave intervals so that, for example, cemetery size 25 includes all cemeteries with 21-25 graves.

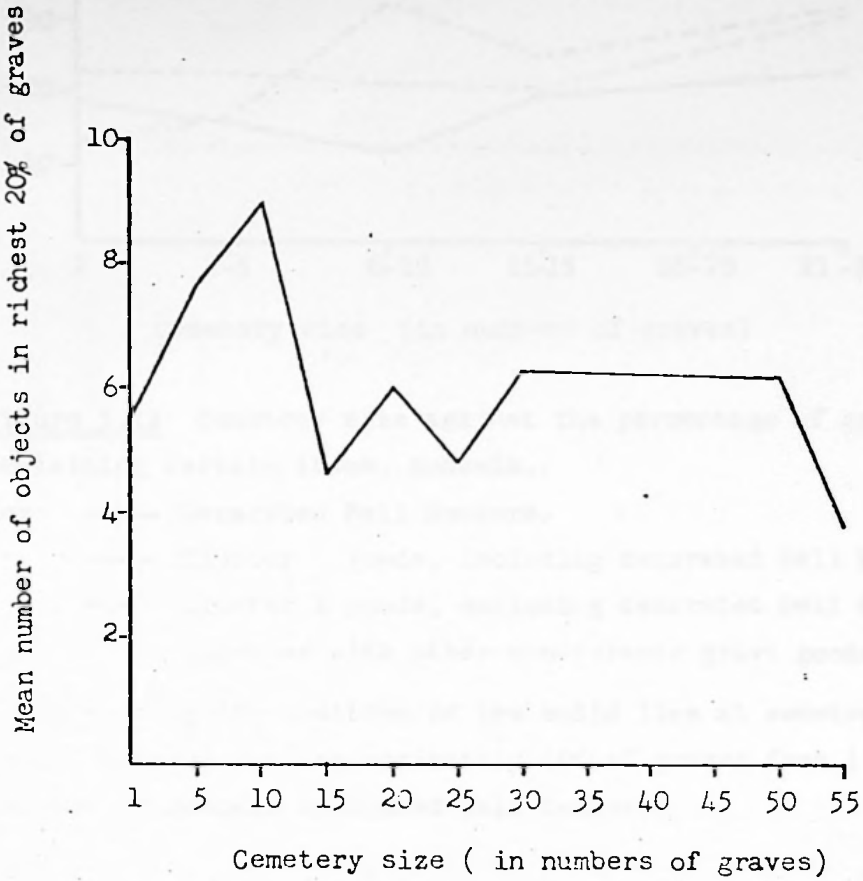


Figure 5.10 Cemetery size against the mean number of objects in the richest 20% of graves. Moravia.

Example: from the position of the line at cemetery size 1 it can be seen that the mean number of objects in the richest 20% of graves from 1 grave cemeteries is 5.5.

Note: as above, cemetery sizes have been grouped into 5 grave intervals so that, for example, cemetery size 25 includes all cemeteries with 21-25 graves.

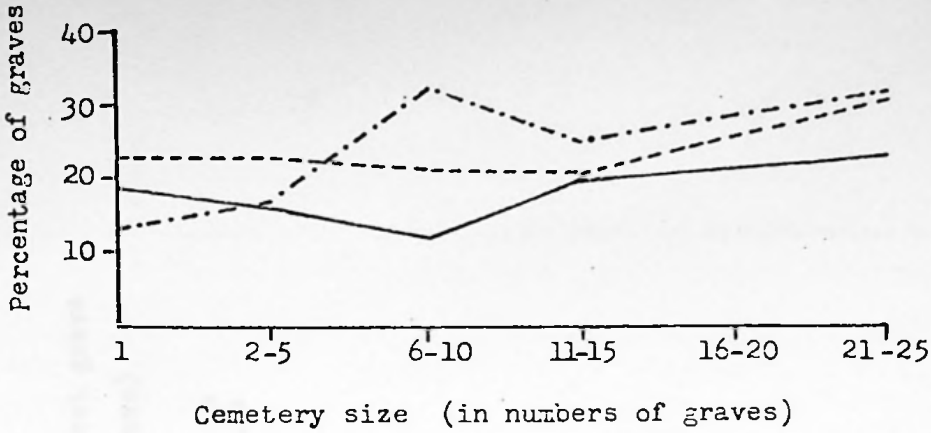


Figure 5.11 Cemetery size against the percentage of graves containing certain items. Bohemia.

Key: —— Decorated Bell Beakers.

--- Cluster 1 goods, including decorated Bell Beakers.

-·-· Cluster 1 goods, excluding decorated Bell Beakers, together with other non-ceramic grave goods.

Example: from the position of the solid line at cemetery size 1 it can be seen that approximately 19% of graves from 1 grave cemeteries contain decorated Bell Beakers.

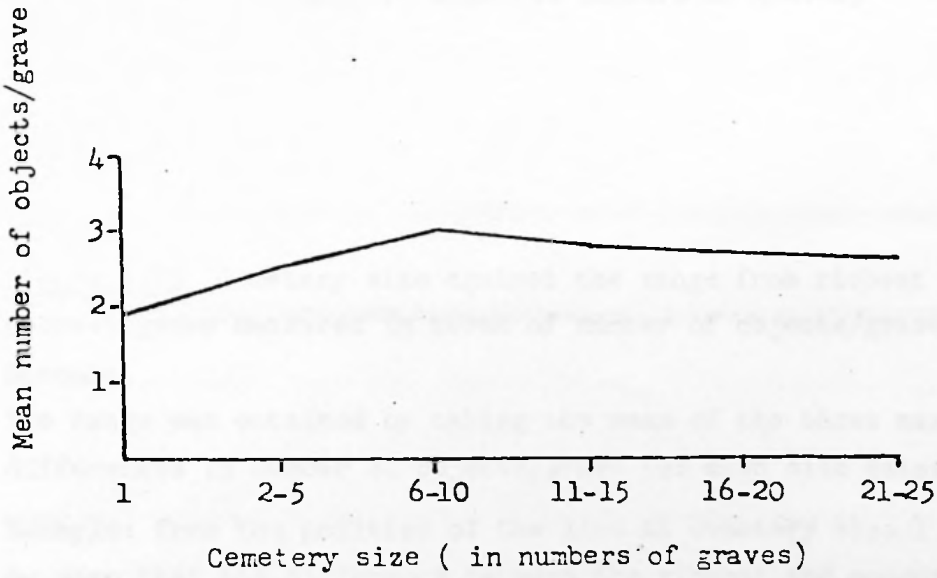


Figure 5.12 Cemetery size against mean number of objects/grave. Bohemia.

Example: from the position of the line at cemetery size 1 it can be seen that the mean number of objects/grave in 1 grave cemeteries is approximately 1.9.

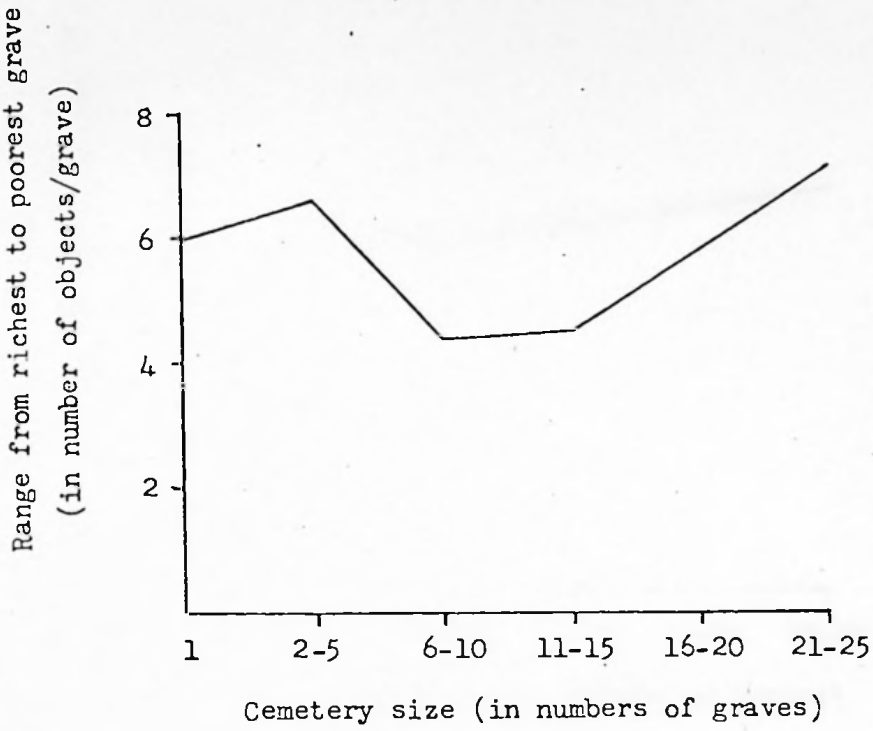


Figure 5.13 Cemetery size against the range from richest to poorest grave measured in terms of number of objects/grave. Bohemia.

The range was obtained by taking the mean of the three maximum differences in number of objects/grave for each size category.

Example: from the position of the line at cemetery size 1 it can be seen that the difference between the richest and poorest graves in all 1 grave cemeteries taken together is 6 objects.

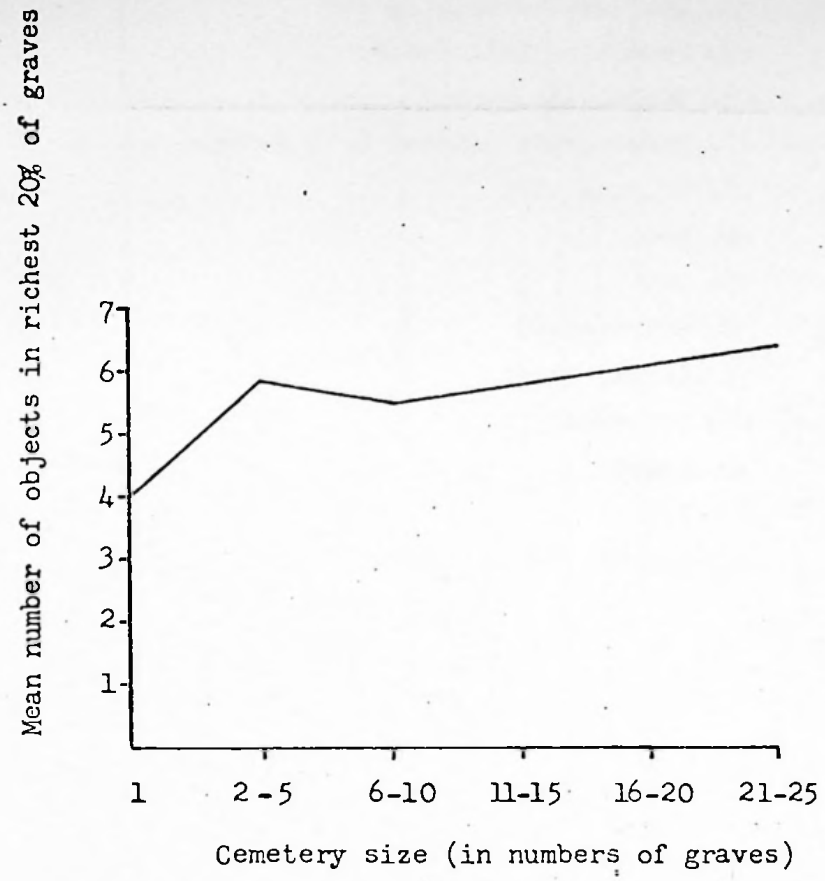
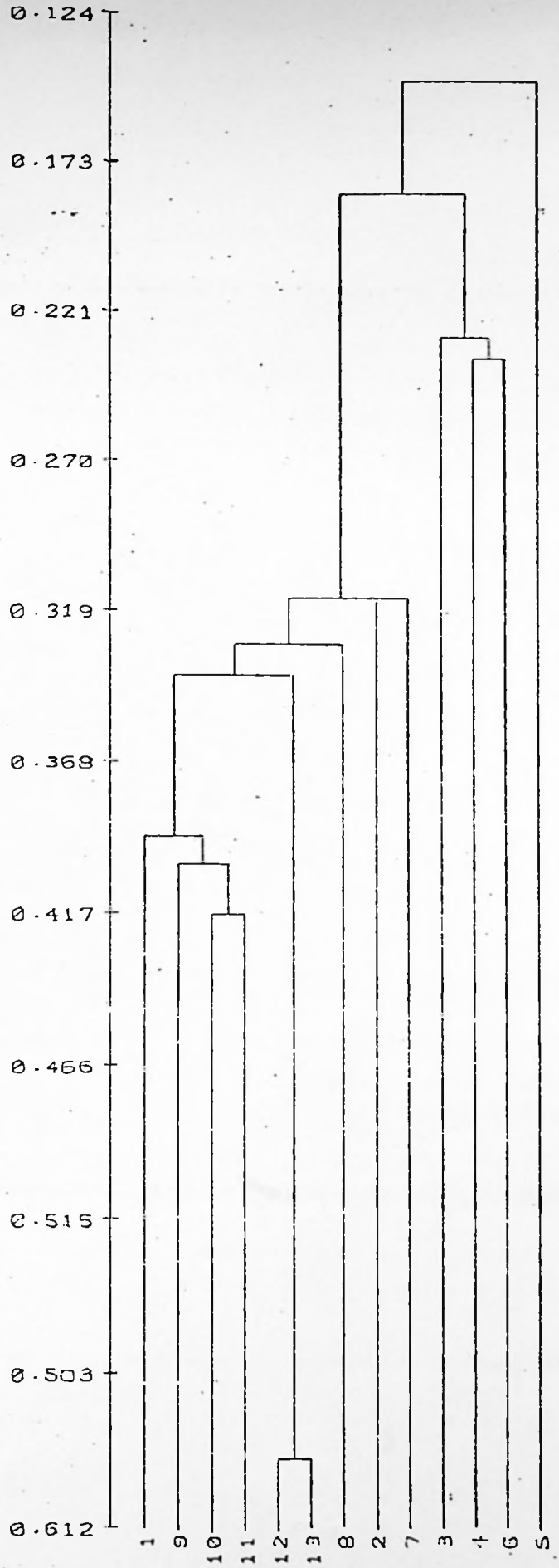


Figure 5.14 Cemetery size against the mean number of objects in the richest 20% of graves. Bohemia.

Example: from the position of the line at cemetery size 1 it can be seen that the mean number of objects in the richest 20% of graves from 1 grave cemeteries is 4.0.

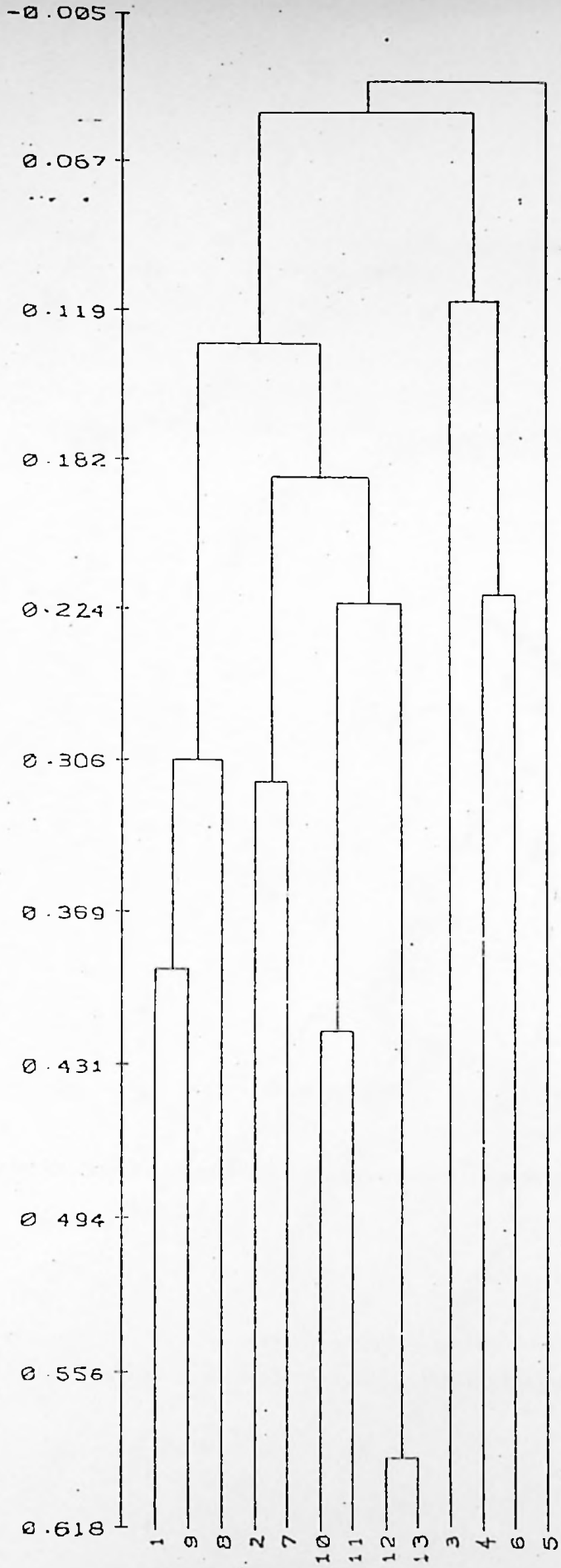
Type	Number of occurrences
1. Undecorated Bell Beaker	48
2. Decorated Bell Beaker	31
3. Vessel	3
4. Undecorated handled Bell Beaker	8
5. Polypod bowl	6
6. Bowl	9
7. Jug	8
8. Wrist-guard	9
9. Animal bones	13
10. Arrowhead	12
11. Blade	8
12. Flake	7
13. Sherds	4

Figure 6.1 Single-link dendrogram of the relationships between objects from Central German Bell Beaker graves. Inter-object associations calculated by means of the Kulczynski coefficient (see p. 35).


0.124
0.173
0.221
0.270
0.319
0.368
0.417
0.466
0.515
0.503
0.612
1
9
10
11
12
13
8
2
7
3
4
6
5

Type	Number of occurrences
1. Undecorated Bell Beaker	48
2. Decorated Bell Beaker	31
3. Vessel	3
4. Undecorated handled Bell Beaker	8
5. Polypod bowl	6
6. Bowl	9
7. Jug	8
8. Wrist-guard	9
9. Animal bones	13
10. Arrowhead	12
11. Blade	8
12. Flake	7
13. Sherds	4

Figure 6.2 Average-link dendrogram of the relationships between objects from Central German Bell Beaker graves. Inter-object associations calculated by means of the Kulczynski coefficient (see p. 35).


-0.005
0.067
0.119
0.182
0.224
0.306
0.369
0.431
0.494
0.556
0.618
1
9
8
2
7
10
11
12
13
3
4
6
5

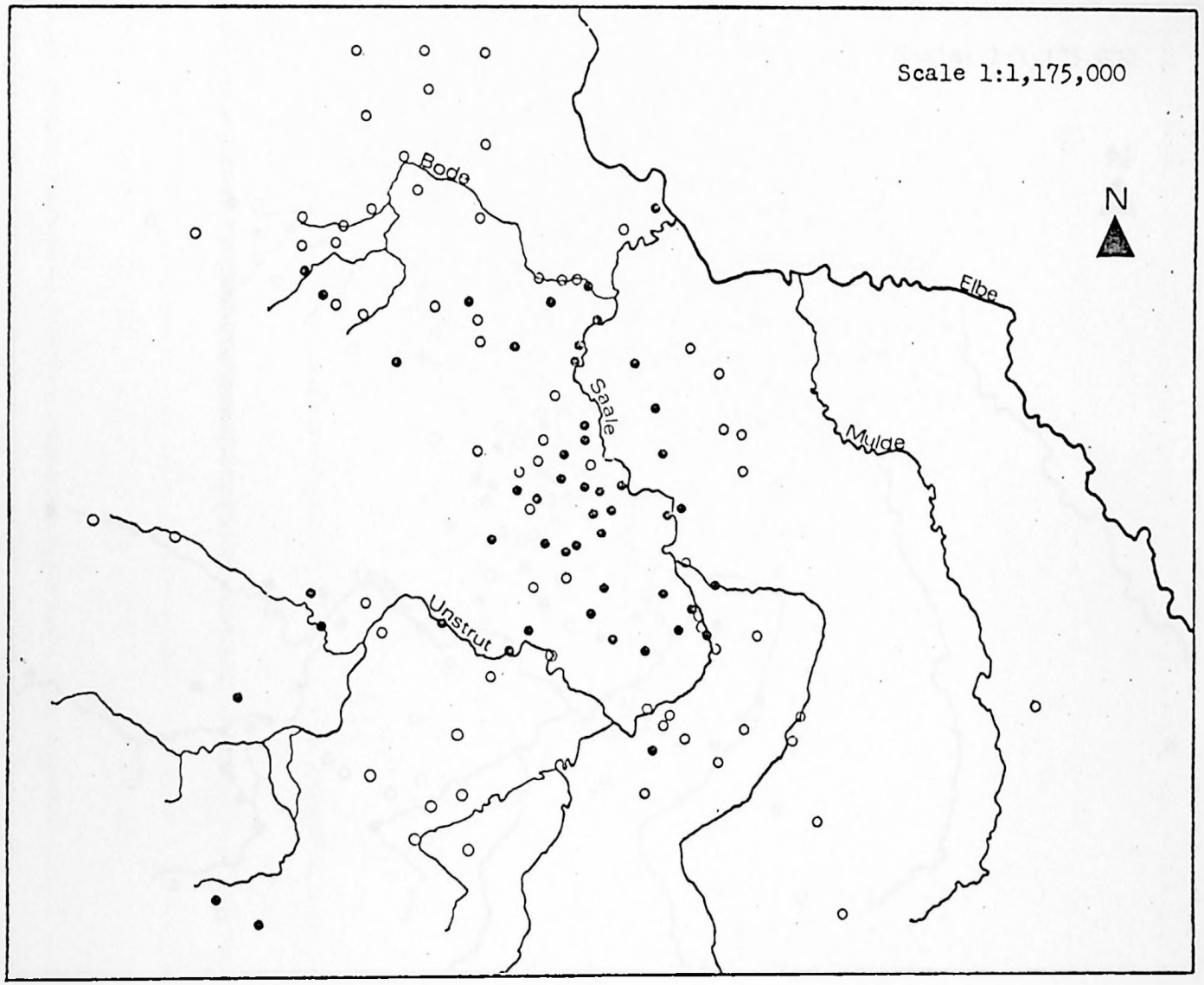


Figure 6.3 Distribution of sites with stone cist graves against grave sites without stone cists. Central Germany.

Key: ● Sites with stone cist graves.
○ Sites without stone cist graves.

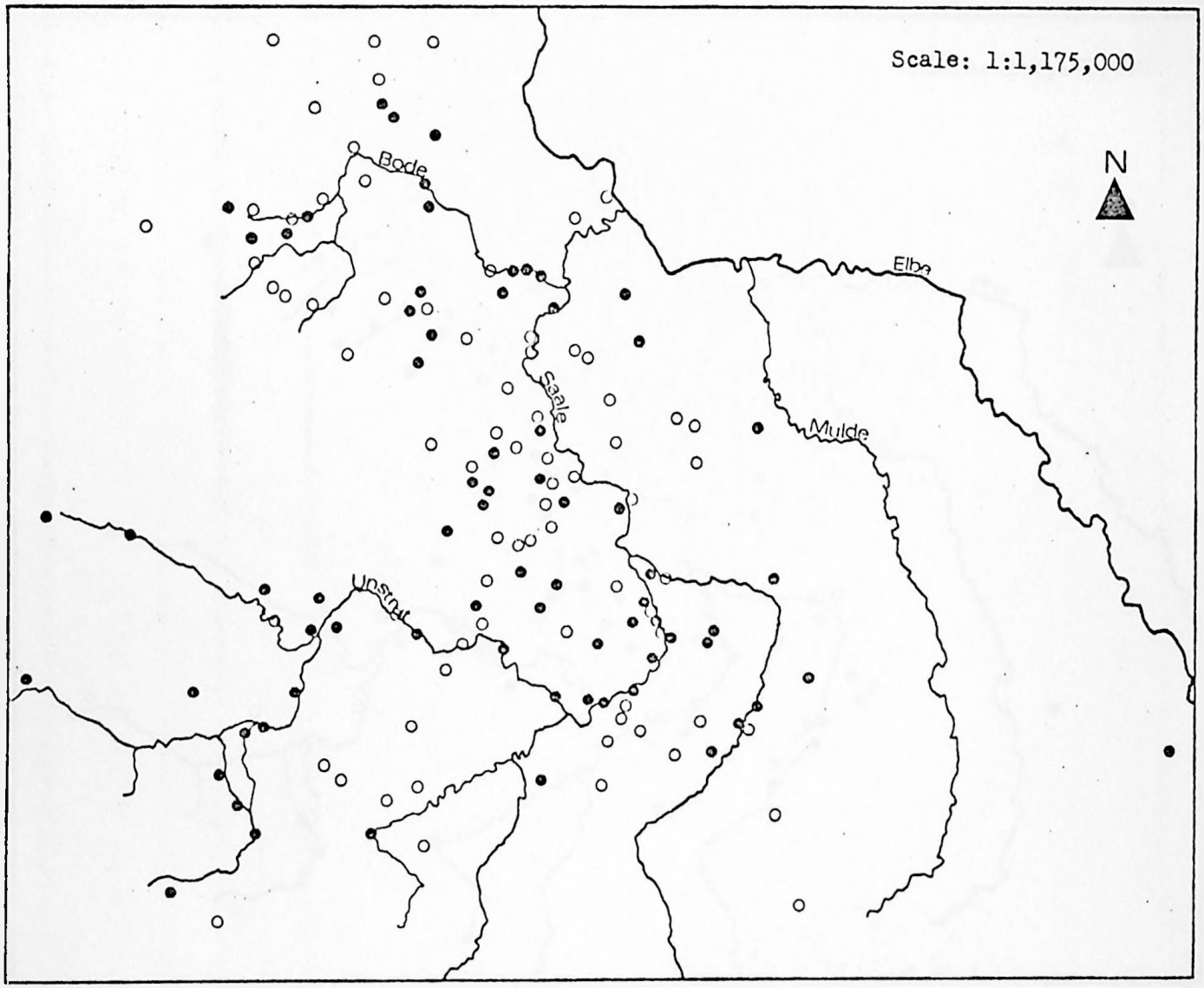


Figure 6.4 Distribution of grave sites with decorated Bell Beakers against those without decorated Bell Beakers. Central Germany.

Key: ● Sites with decorated Bell Beakers.
○ Sites without decorated Bell Beakers.

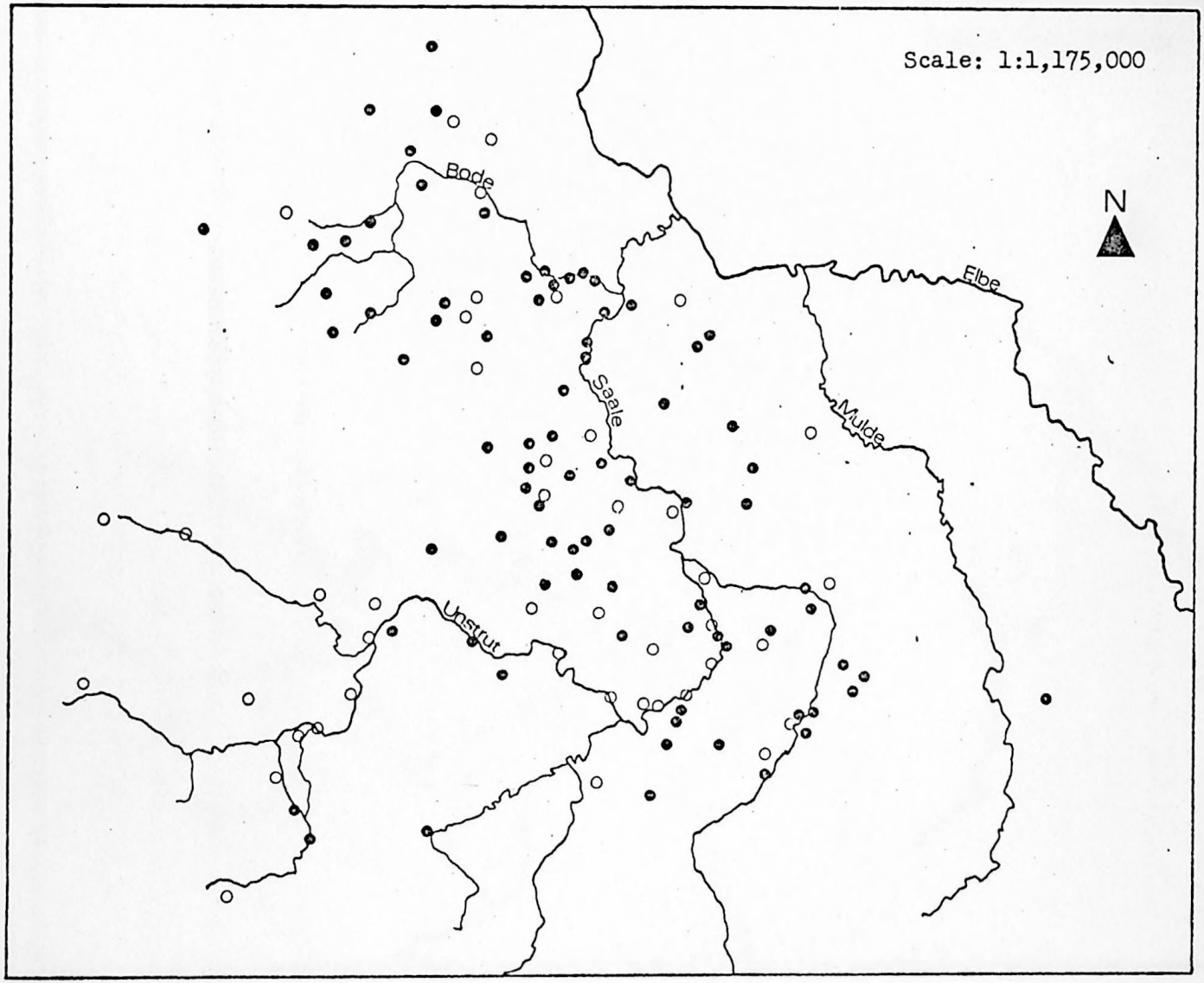


Figure 6.5 Distribution of sites with undecorated Bell Beakers against sites without undecorated Bell Beakers but with decorated Bell Beakers. Central Germany.

Key: ● Sites with undecorated Bell Beakers
○ Sites without undecorated Bell Beakers but with decorated Bell Beakers

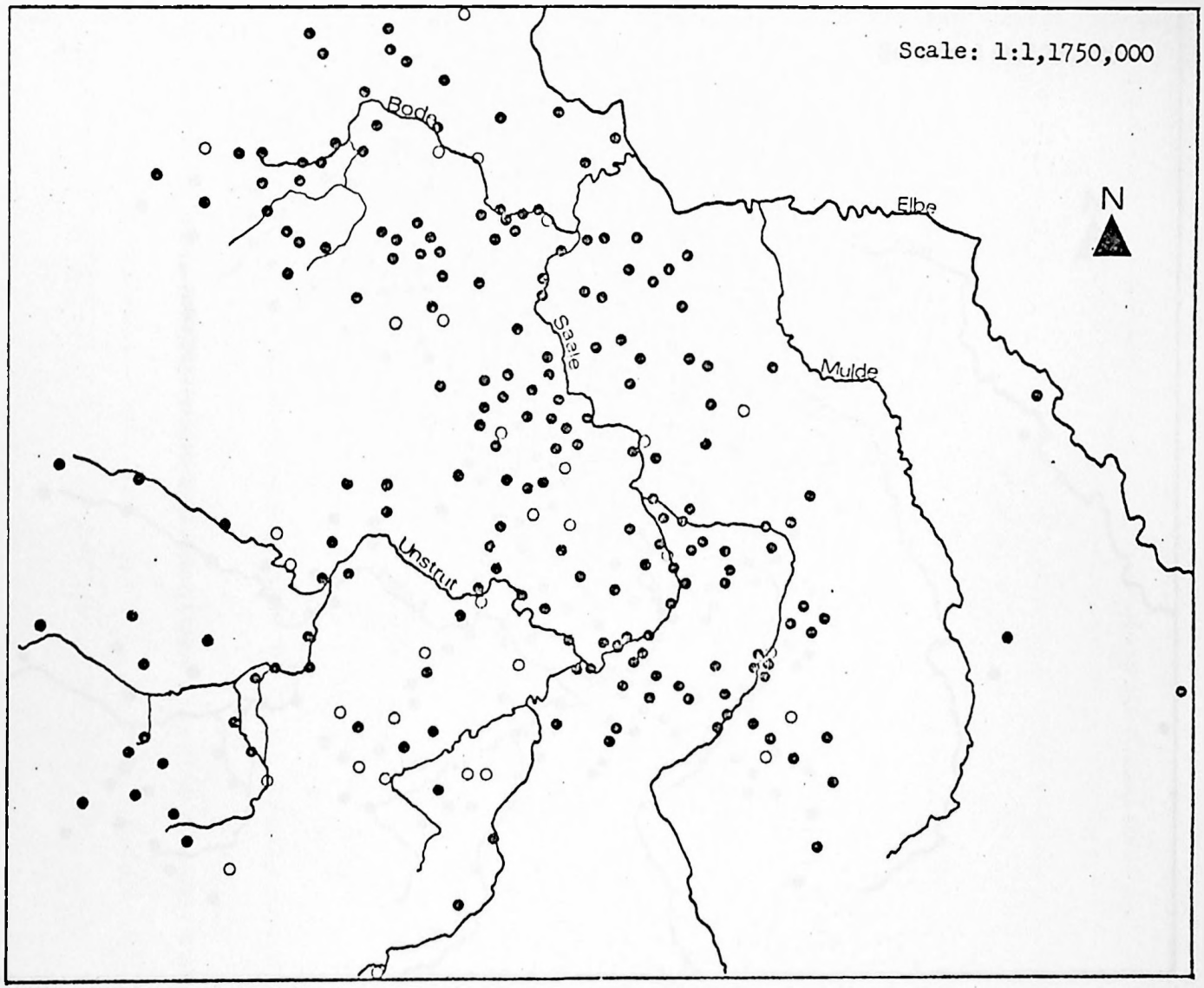


Figure 6.6 Distribution of sites with wrist-guards against all other Bell Beaker sites in Central Germany.

Key: O Sites with wrist-guards.
● Sites without wrist-guards.

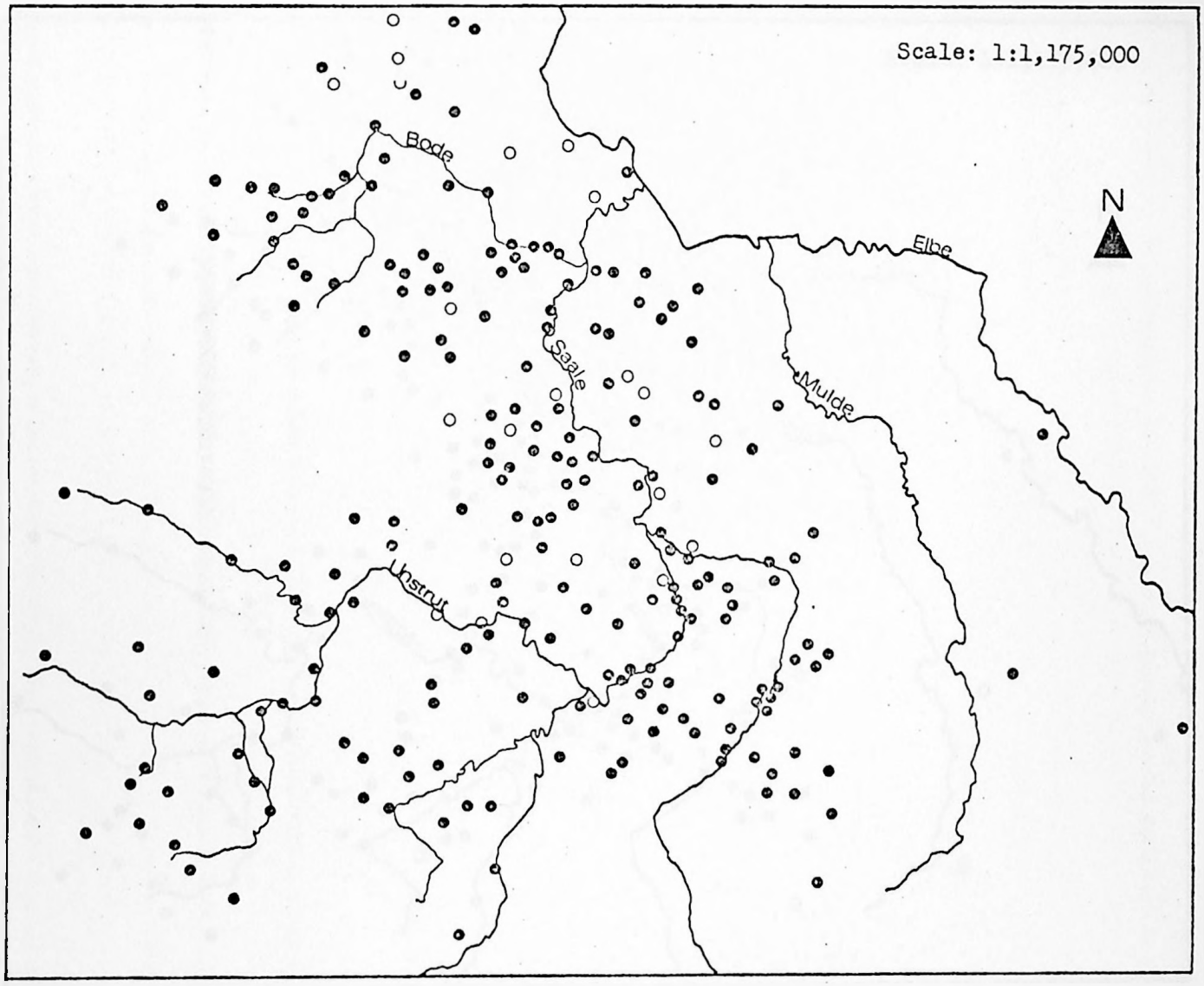


Figure 6.7 Distribution of sites with ordinary bowls against all other Bell Beaker sites in Central Germany.

Key: ○ Sites with bowls.
● Sites without bowls.

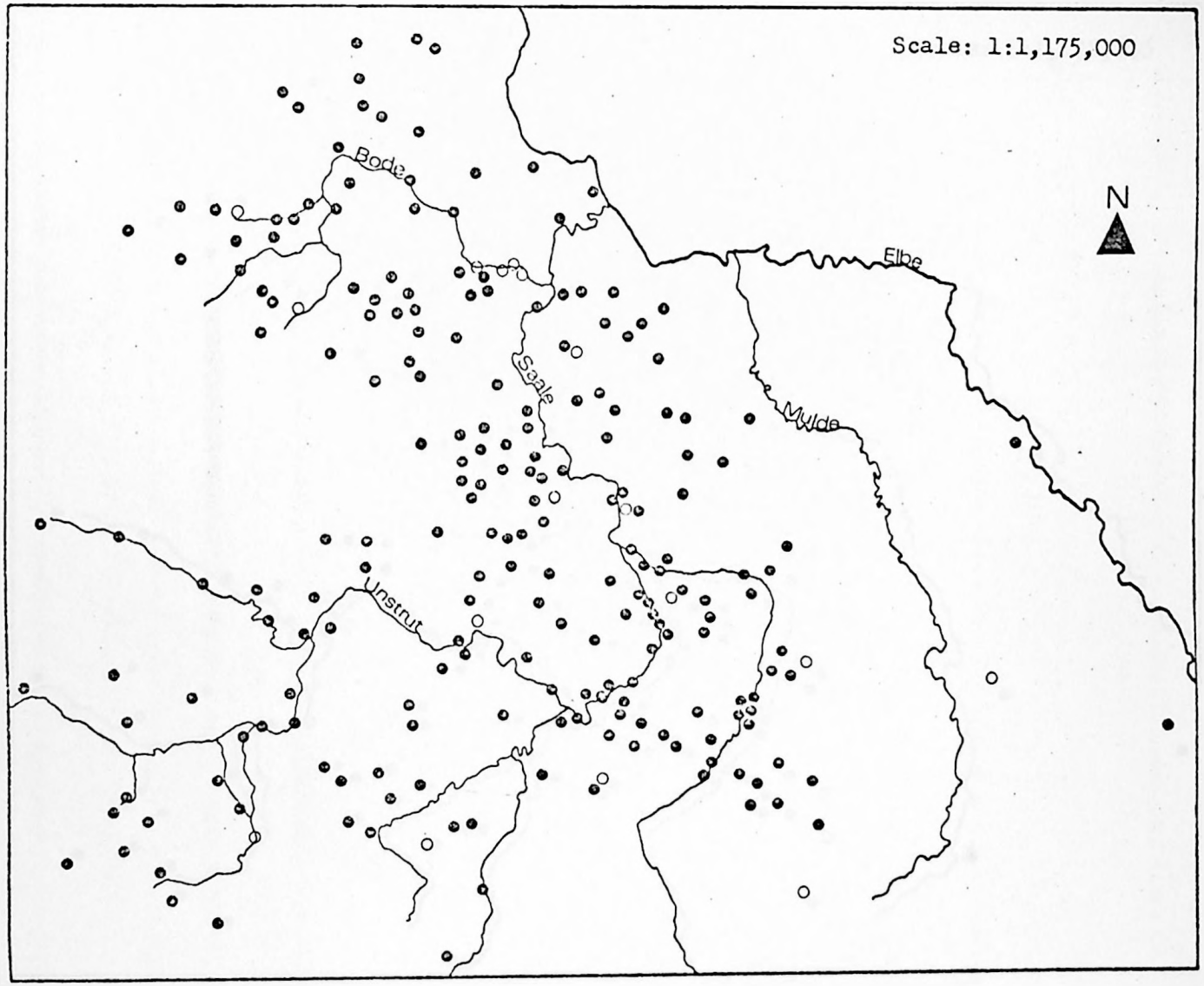


Figure 6.8 Distribution of sites with polypod bowls against all other Bell Beaker sites in Central Germany.

Key: Sites with polypod bowls.
Sites without polypod bowls.

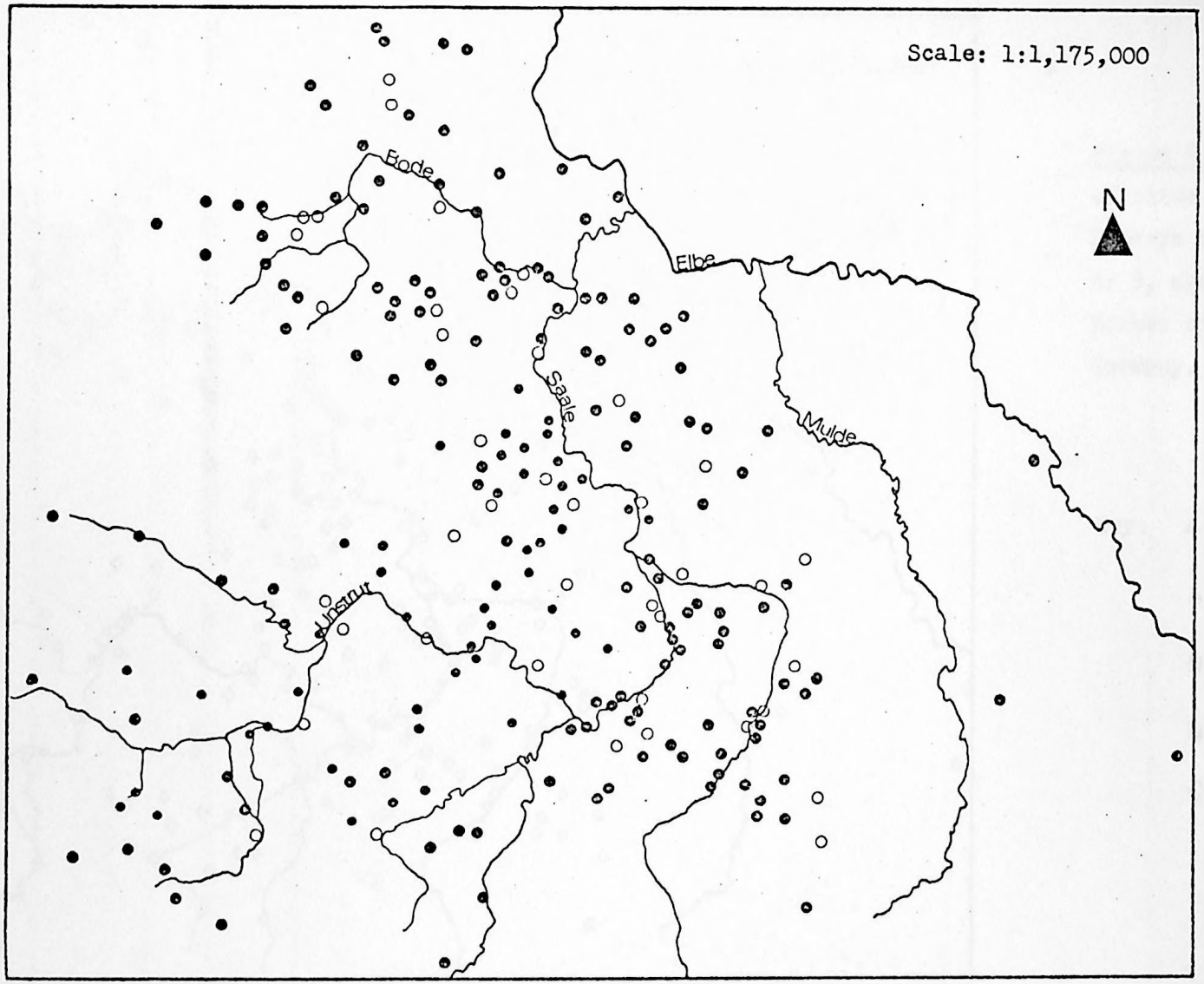


Figure 6.9 Distribution of sites with handled vessels against all other Bell Beaker sites in Central Germany.

Key: O Sites with handled vessels
● Sites without handled vessels

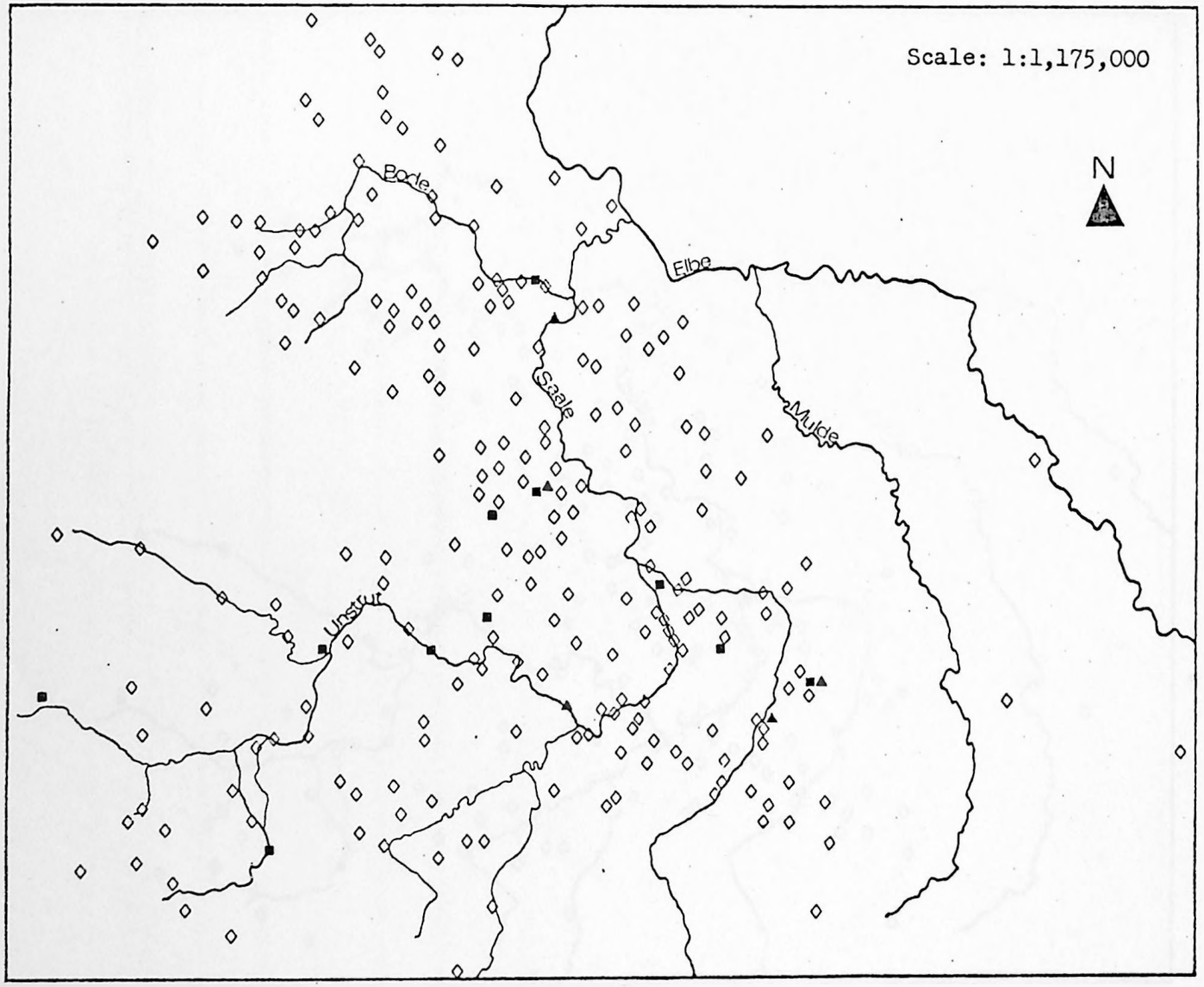


Figure 6.10 Distribution map of sites with decorated Bell Beakers having motifs 1,3, 4 or 5, against all other Bell Beaker sites in Central Germany.

Key:
▲ Motif 1:
▲ Motif 3:
■ Motif 4:
■ Motif 5:
◇ Other sites

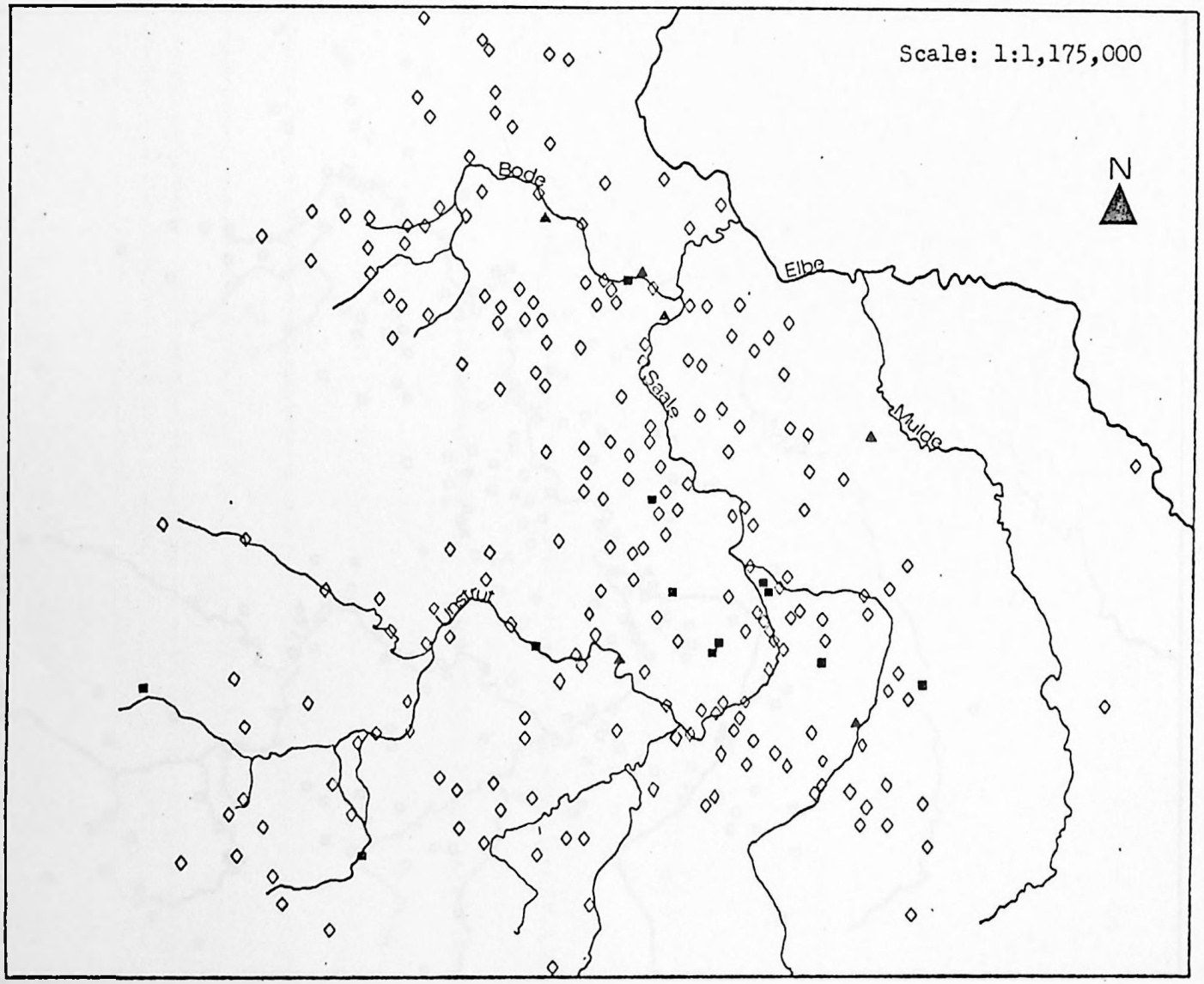


Figure 6.11 Distribution map of sites with decorated Bell Beakers having motifs 6, 12, 18 or 20, against all other Bell Beaker sites in Central Germany.

Key: ▲ Motif 6:

▲ Motif 12:

■ Motif 18:

■ Motif 20:

◇ Other sites

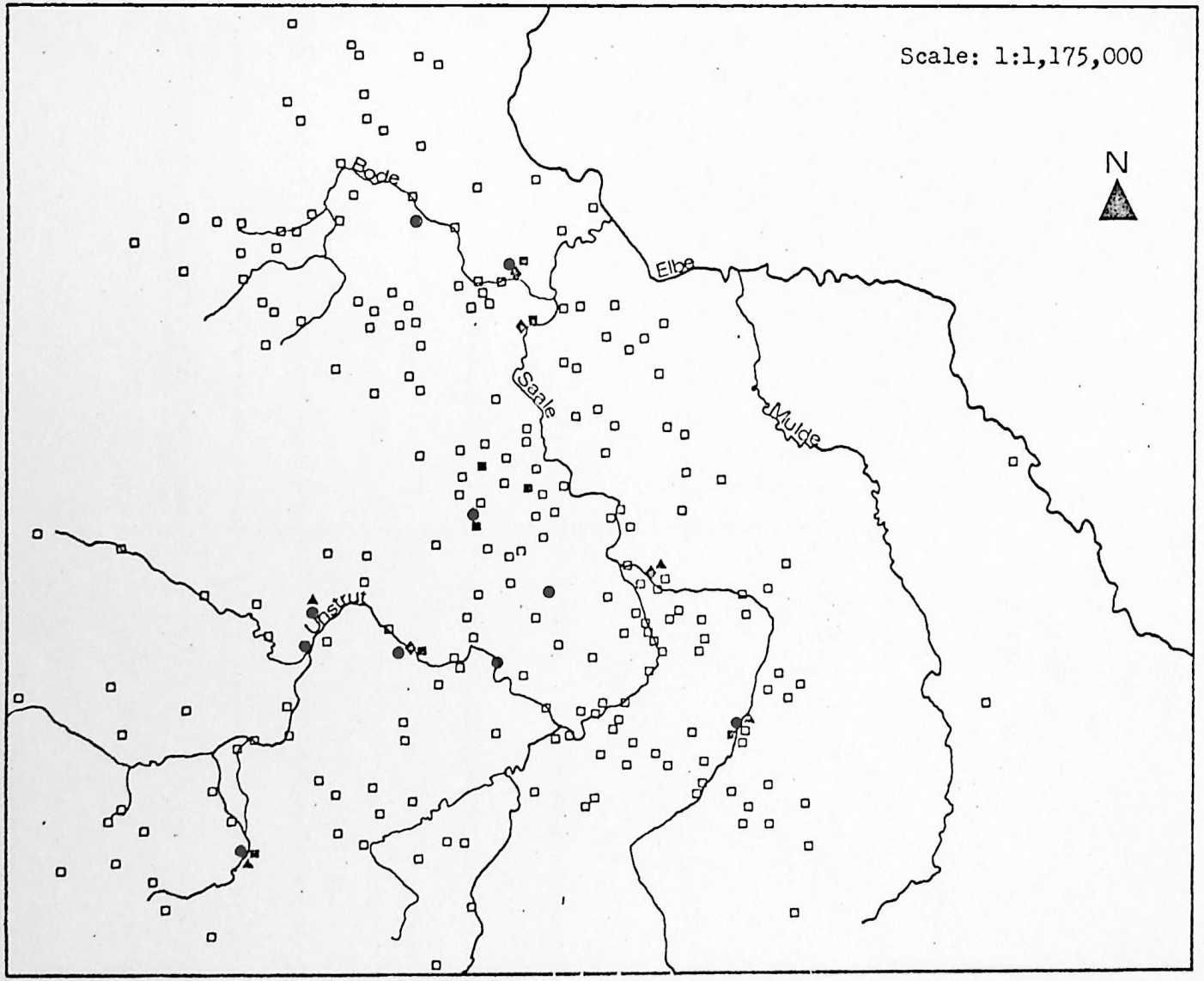
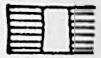


Figure 6.12 Distribution map of sites with decorated Bell Beakers having motifs 21, 29, 31 or 41, against all other Bell Beaker sites in Central Germany.

Key: ◆ Motif 21: 

● Motif 29: 

■ Motif 31: 

▲ Motif 41: 

□ Other sites

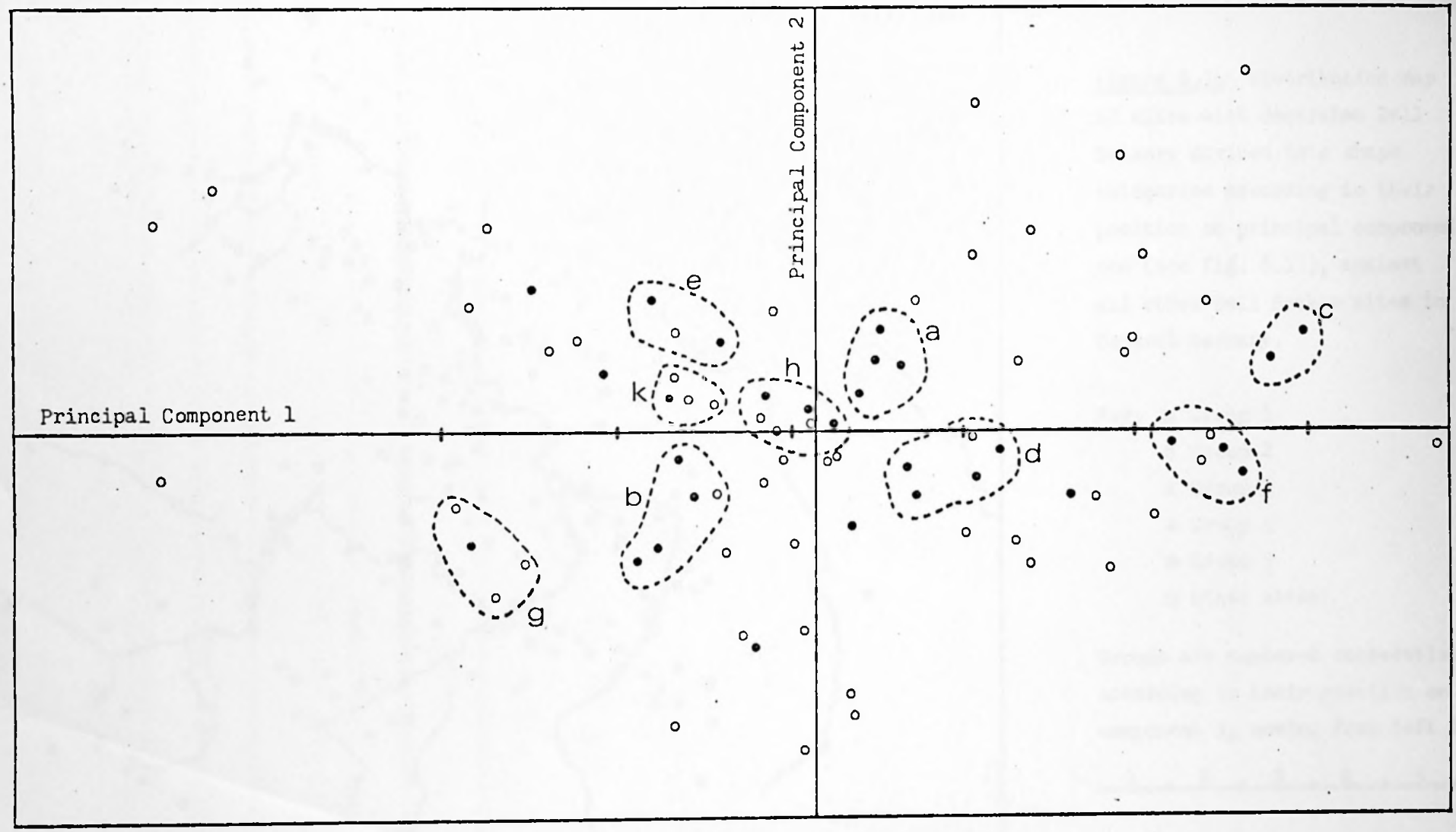
Figure 6.13 Decorated and undecorated Bell Beakers from Central Germany plotted on a scattergram produced from a principal components analysis carried out on measurements of their shape.

Key: ● Decorated Bell Beaker

○ Undecorated Bell Beaker

In order to find out if component 1 represented a spatial trend it was divided into intervals (see this figure) and those decorated Beakers in a given interval were marked by the same symbol on a map (fig. 6.14).

Secondly, groups detectable by visual examination of the scattergram were also plotted on a map to see if they had any spatial significance (see fig. 6.15). The groups plotted are marked by dashed lines in the scattergram.


Principal Component 2
Principal Component 1
a
b
c
d
e
f
g
h
k

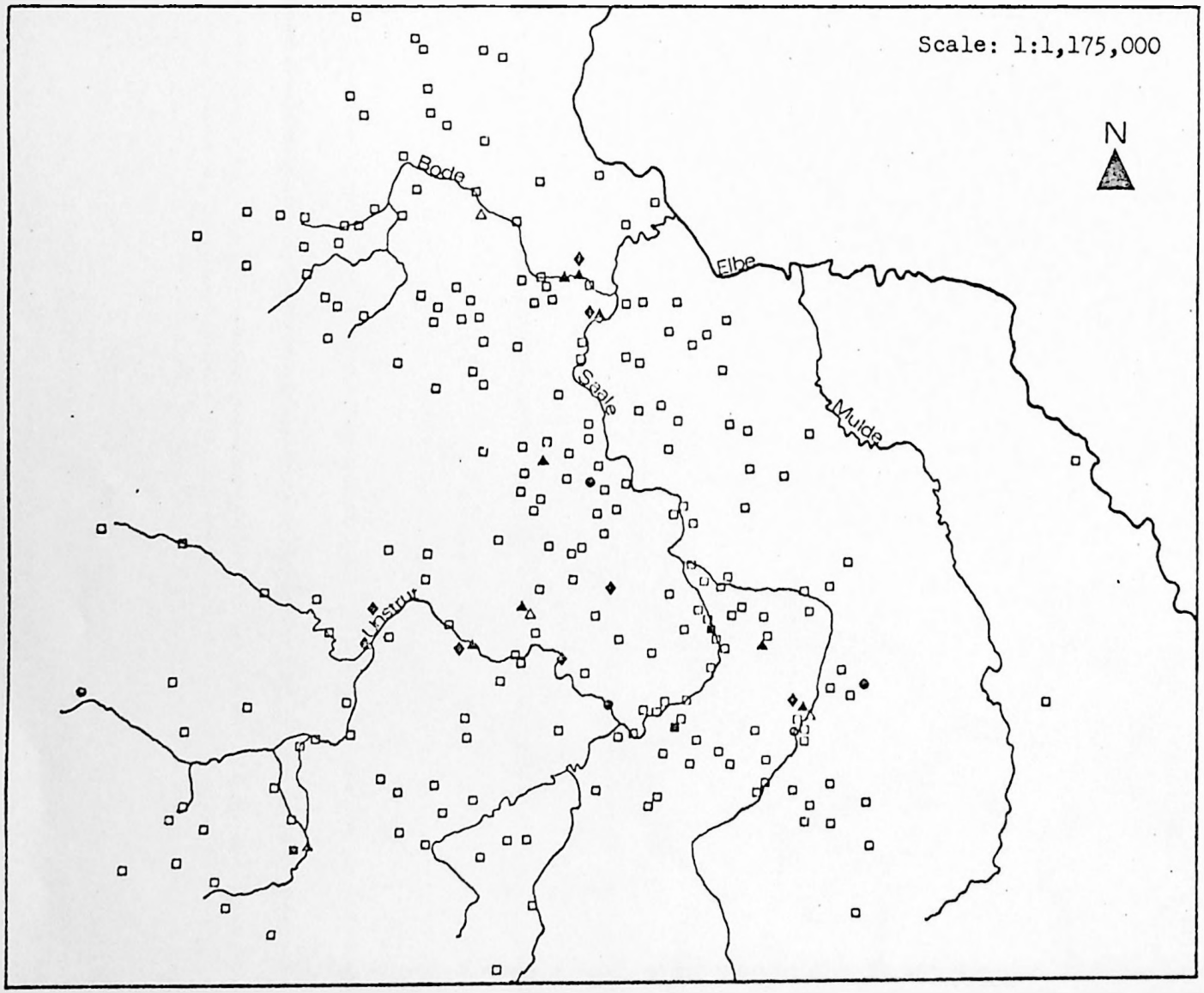


Figure 6.14 Distribution map of sites with decorated Bell Beakers divided into shape categories according to their position on principal component one (see fig. 6.13), against all other Bell Beaker sites in Central Germany.

Key: ■ Group 1
◆ Group 2
▲ Group 3
△ Group 4
● Group 5
□ Other sites

Groups are numbered consecutively according to their position on component 1, moving from left to right

1 . 2 . 3 . 4 . 5

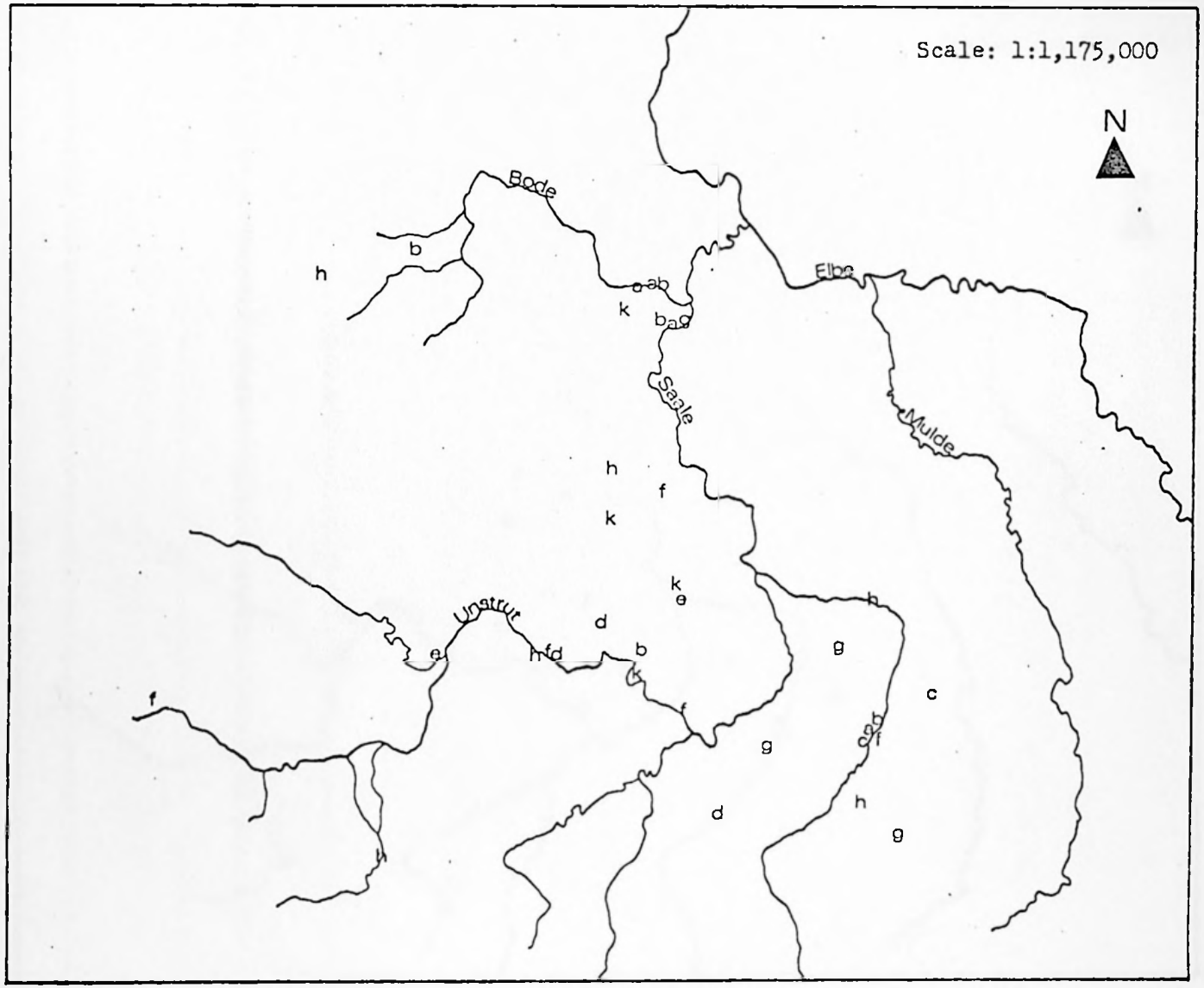


Figure 6.15 Distribution map of Bell Beakers divided into shape categories on the basis of groups visible in the principal components scattergram fig. 6.13. Letters correspond to those which designate the groups in the scattergram.

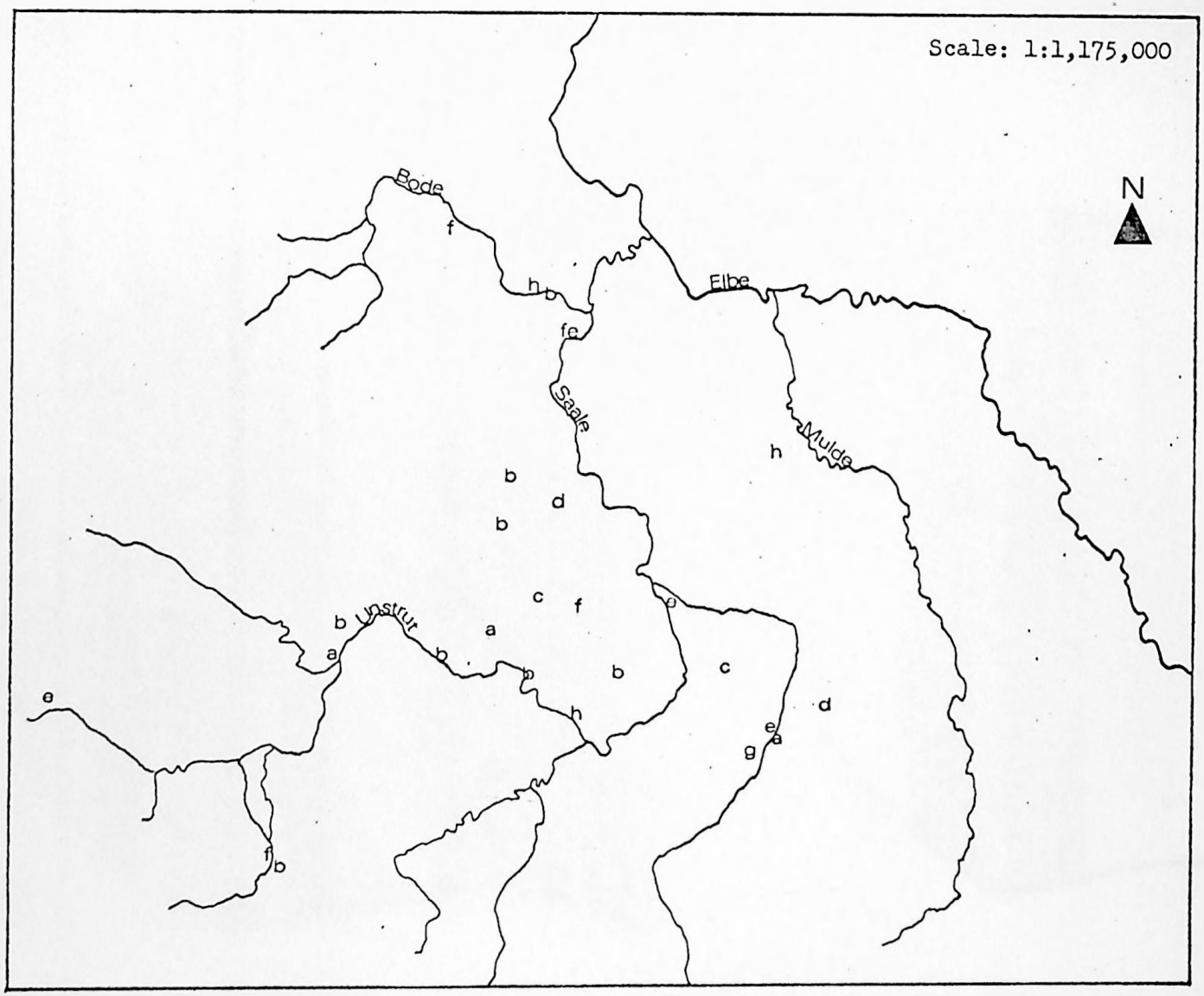
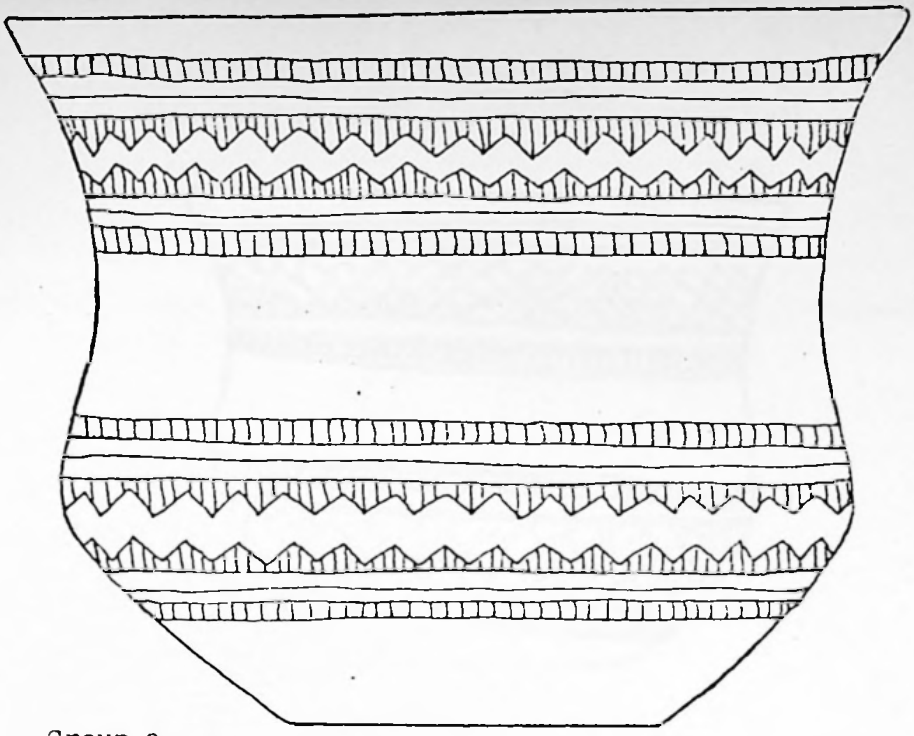
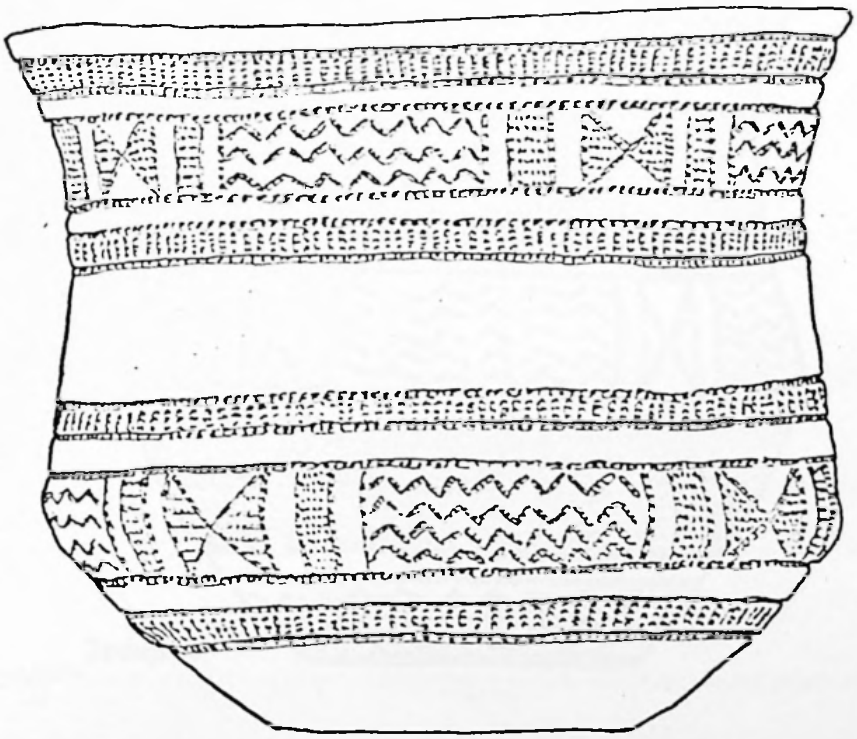


Figure 6.16 Distribution map of decorated Bell Beakers divided into groups on the basis of visual inspection. Examples of the groups are shown in fig. 6.17, where the letters designating the groups correspond to those on the map.



Group a

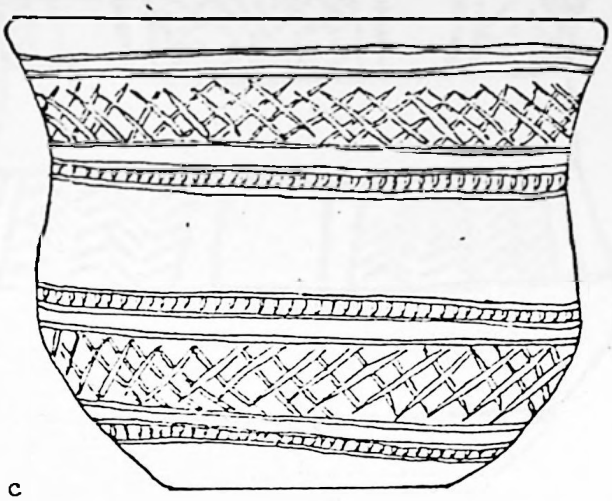


Group b

Figure 6.17 Examples of decorated Bell Beakers belonging to groups defined by visual inspection.

Group a: Niederschmon Scale: 3:4

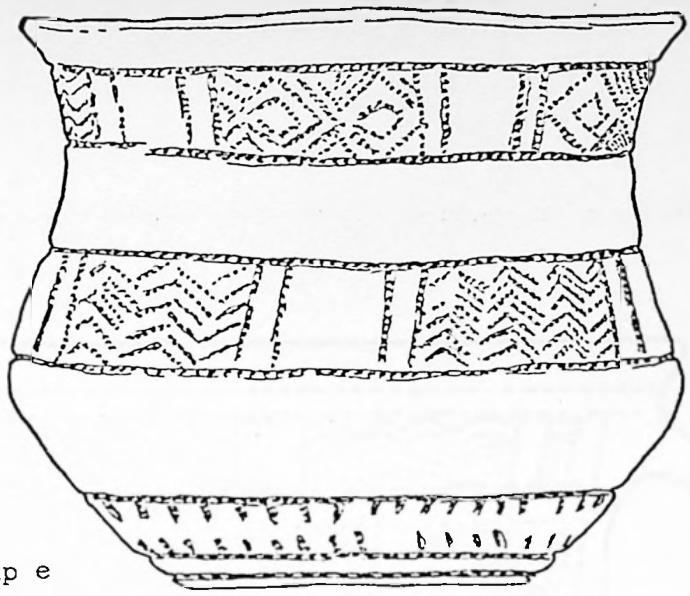
Group b: Neehausen Scale:3:4



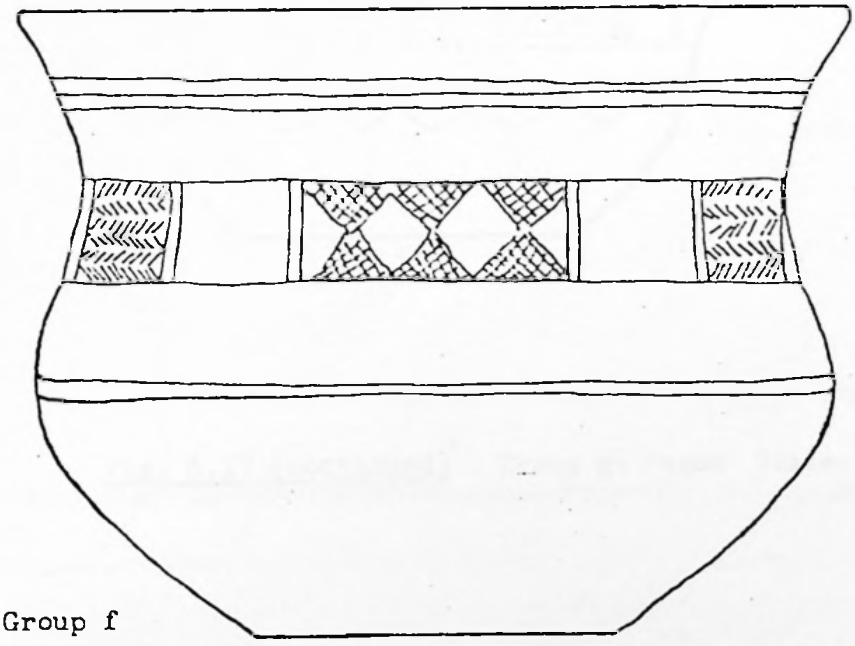
Group c

Group d

Fig. 6.17 (continued) Group c: Grosslehna Scale: 3:4
Group d: Neehausen Scale: 3:4



Group e



Group f

Fig. 6.17 (continued) Group e: Bernburg Scale: 3:4
Group f: Bernburg Scale: 3:4

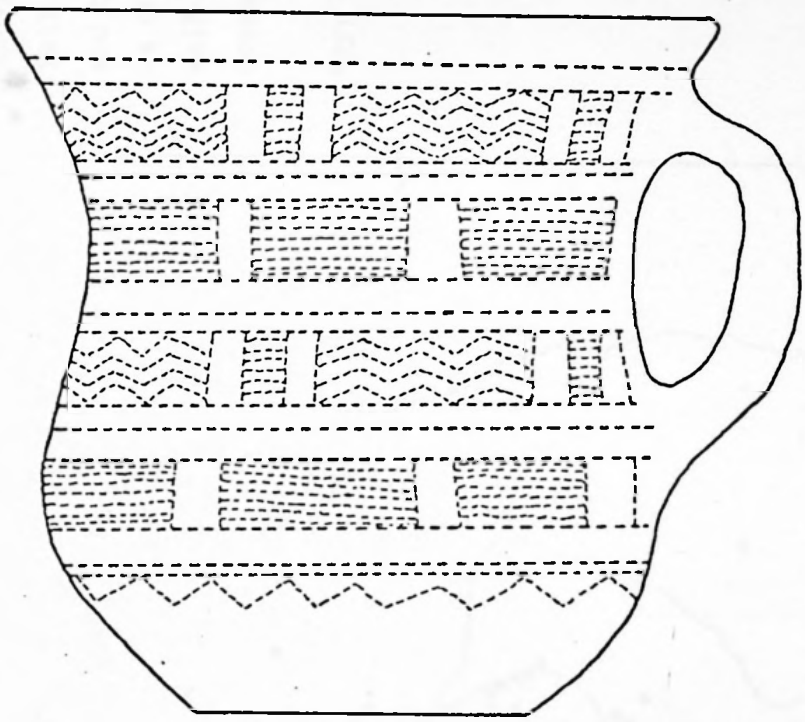


Fig. 6.17 (continued) Group g: Pegau Scale: 3:4

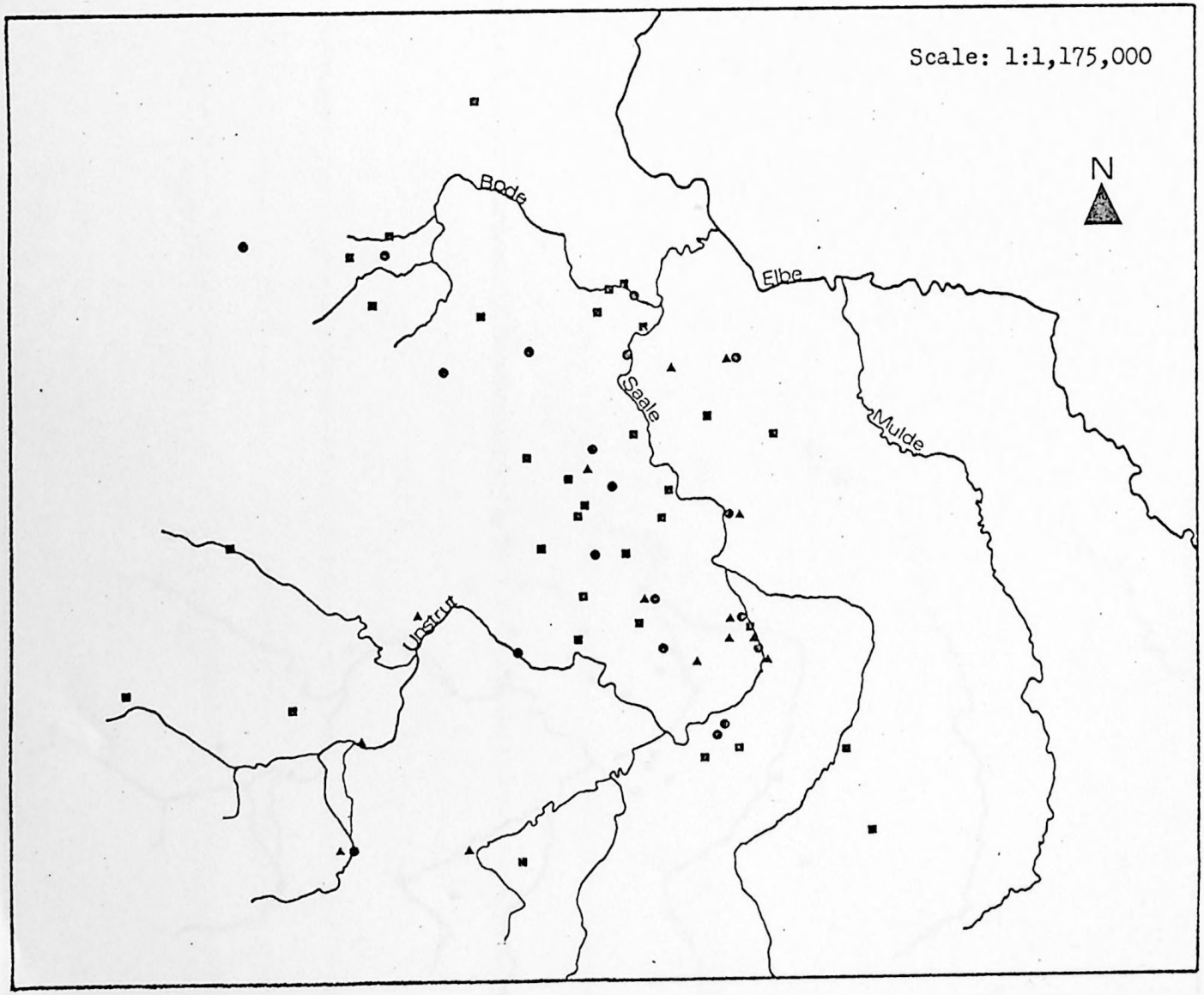


Figure 6.18 Distribution map showing those graves with undecorated Bell Beakers as the sole grave good, and those with decorated Bell Beakers as the sole grave good, against all well-documented graves in Central Germany.

Key: ● Undecorated Bell Beaker alone in grave.

▲ Decorated Bell Beaker alone in grave.

■ Other well-documented graves.

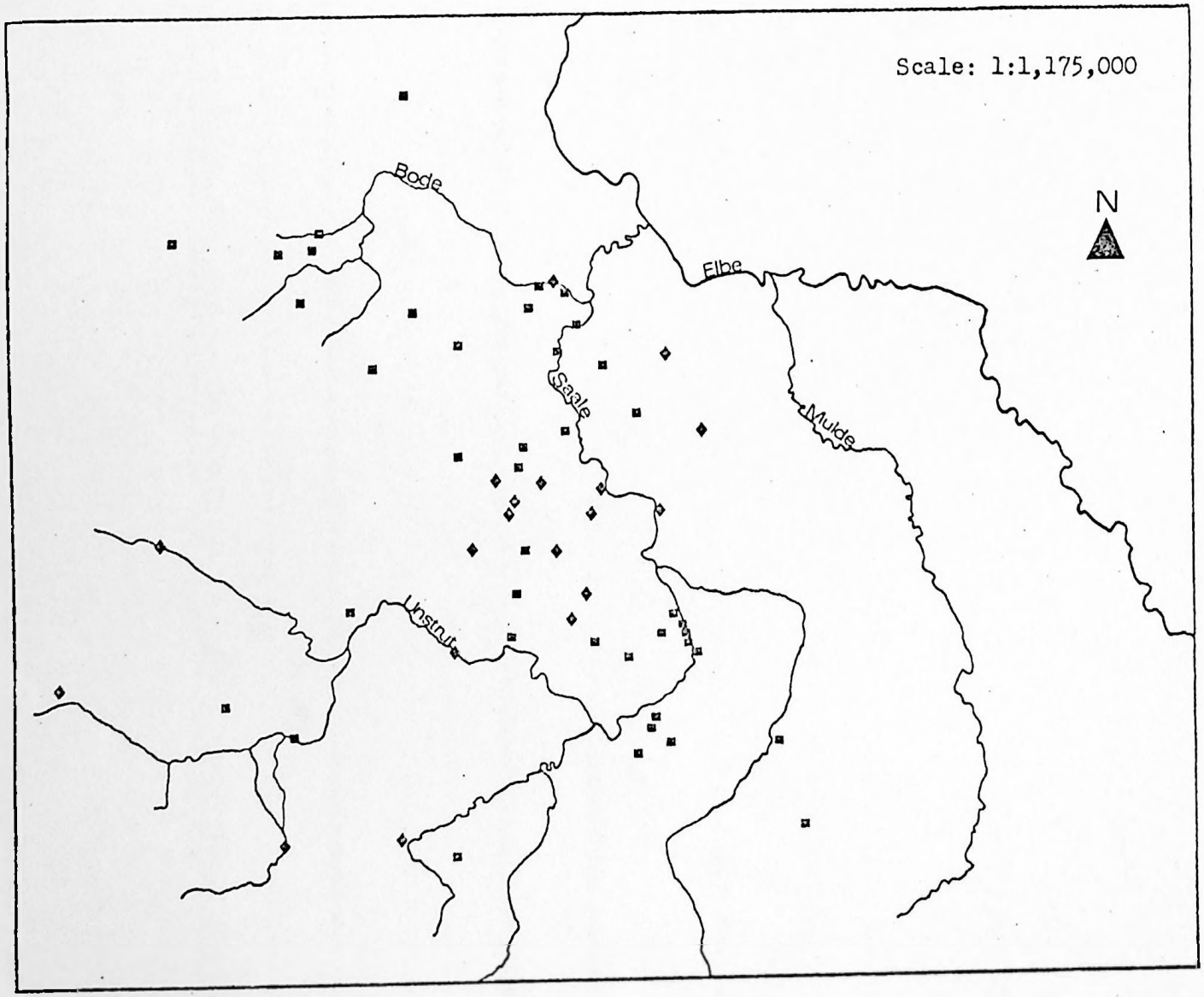


Figure 6.19 Distribution map of sites containing graves with goods scoring 20 or more points, against all well-documented graves in Central Germany.

Key: ◆ Graves with 20 or more points.

■ Other well-documented graves.

Figure 6.20 Dendrogram produced by average-link cluster analysis of the relations between Bell Beaker graves, together with a list of the contents of the graves. Central Germany.

Undecorated Bell Beaker group

Grave No.	Contents
1	Undecorated Bell Beaker
2	" " "
3	" " "
99	" " "
100	" " "
76	" " "
89	" " "
95	" " "
4	" " "
13	" " "
21	" " "
23	" " "
24	" " "
26	" " "
30	" " "
32	" " "
37	" " "
38	" " "
40	" " "
43	" " "
47	" " "
49	" " "
57	" " "
58	" " "
62	" " "
65	" " "
20	Undecorated Bell Beaker, sherds.
61	Undecorated Bell Beaker, coarse jar.
87	Undecorated Bell Beaker, jug.
105	" " " "

Fig. 6.20 (continued)

Undecorated Bell Beaker group (continued)

Grave No.	Contents
88	Undecorated Bell Beaker, bone pin.
10	Undecorated Bell Beaker, wrist-guard, animal bones.
25	" " " " " " "
85	" " " " " " "
53	Undecorated Bell Beaker, wrist-guard.
63	" " " " "
41	Undecorated Bell Beaker, animal bones, flake.
74	Undecorated Bell Beaker, animal bones.
90	" " " " "
82	Undecorated Bell Beaker, animal bones, arrowhead.
5	Undecorated Bell Beaker, vessel.
86	Vessel
69	Undecorated Bell Beaker, flake,copper awl, sherds, bone point, shell.
11	Undecorated handled Bell Beaker.
19	" " " "
67	" " " "
27	Undecorated Bell Beaker, undecorated handled Bell Beaker.
56	" " " " " " "
79	Decorated Bell Beaker, vessel, undecorated handled Bell Beaker, amber bead, amber button.
7	Undecorated Bell Beaker, bowl, handled Topf.
54	Undecorated Bell Beaker, bowl.
66	Bowl.
68	"
72	"
77	"
94	"
36	Undecorated handled Bell Beaker, bowl, blade.
104	Undecorated handled Bell Beaker, bowl.
75	Wrist-guard, coarse jar.

Fig. 6.20 (continued)

Decorated Bell Beaker group

Grave No.	Contents
6	Decorated Bell Beaker.
8	" " "
9	" " "
106	" " "
107	" " "
71	" " "
81	" " "
102	" " "
14	" " "
16	" " "
17	" " "
18	" " "
28	" " "
42	" " "
44	" " "
55	" " "
70	" " "
46	Decorated Bell Beaker, burnt clay.
98	Decorated Bell Beaker, wrist-guard.
103	Decorated Bell Beaker, wrist-guard, pendant.
22	Decorated Bell Beaker, jug, animal bones.
33	Decorated Bell Beaker, jug.
73	" " " "
84	Jug, animal bones.
29	Decorated Bell Beaker, arrowhead, blade, scraper, amber bead.
64	Decorated Bell Beaker, blade, stone chisel, stone axe.
39	Decorated Bell Beaker, animal bones, arrowhead, colouring matter.
48	Decorated Bell Beaker, animal bones, arrowhead, blade.
92	Animal bones, arrowhead, blade, flake.
101	Undecorated Bell Beaker, arrowhead, blade.
31	Decorated Bell Beaker, jug, blade, flake, sherds.
50	Decorated Bell Beaker, arrowhead, flake, boar's tusk, sherds.
51	" " " " " " " "
59	Decorated Bell Beaker, wrist-guard, arrowhead, tanged copper dagger, amber bead.

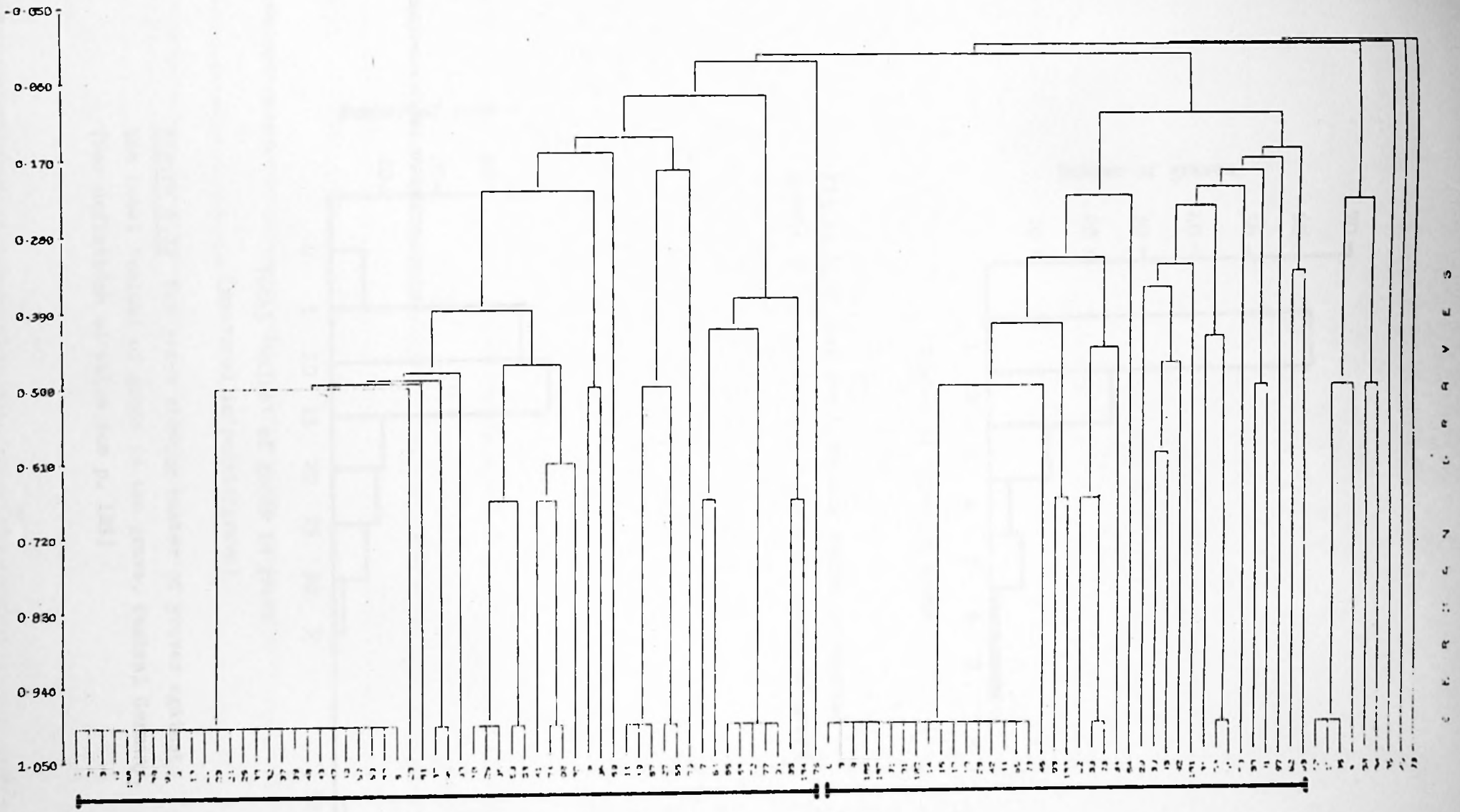
Figure 6.20 (continued)

Decorated Bell Beaker group (continued)

Grave No.	Contents
83	Polypod bowl, arrowhead.
91	Arrowhead.
97	Undecorated Bell Beaker, animal bones, arrowhead, boar's tusk, tanged copper dagger, polishing stone, antler object.
52	Arrowhead, flake, scraper.
93	Flake.

Others

Grave No.	Contents
12	Polypod bowl.
15	" "
96	" "
34	Polypod bowl, blade.
60	Polypod bowl, decorated handled Bell Beaker.
80	Decorated handled Bell Beaker.
35	Handled Topf.
45	Basin.
78	Wood.


-0.050
0.060
0.170
0.280
0.390
0.500
0.610
0.720
0.830
0.940
1.050
Undecorated Bell Beaker group
Decorated Bell Beaker group

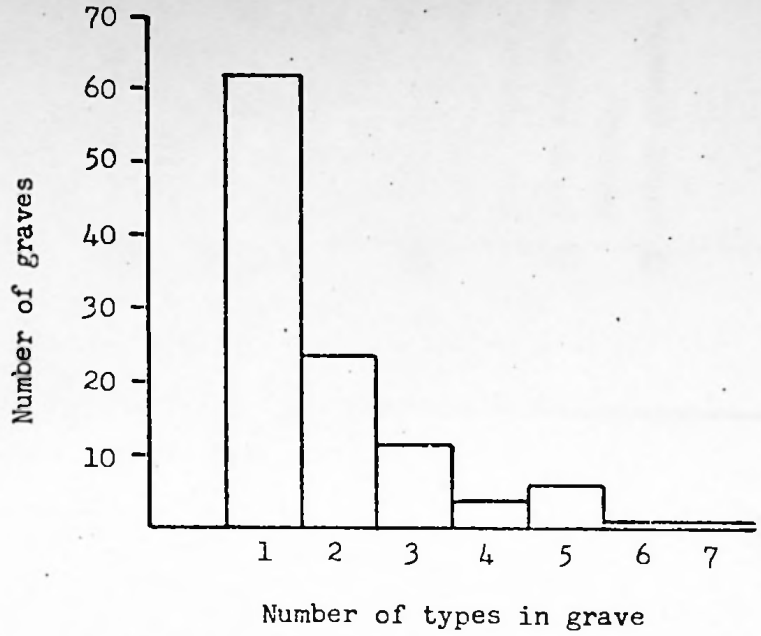


Figure 6.21 Bar graph showing number of Central German graves containing different numbers of grave good types.

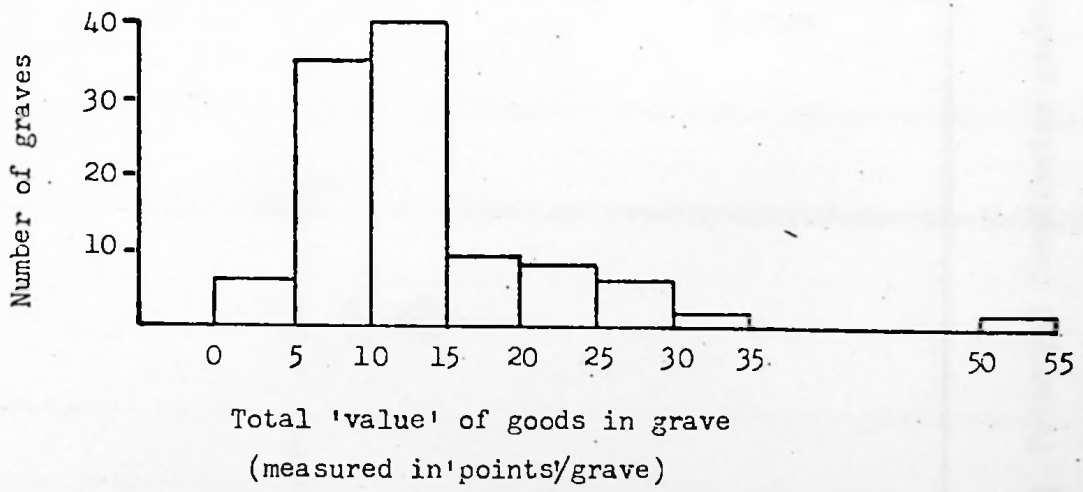
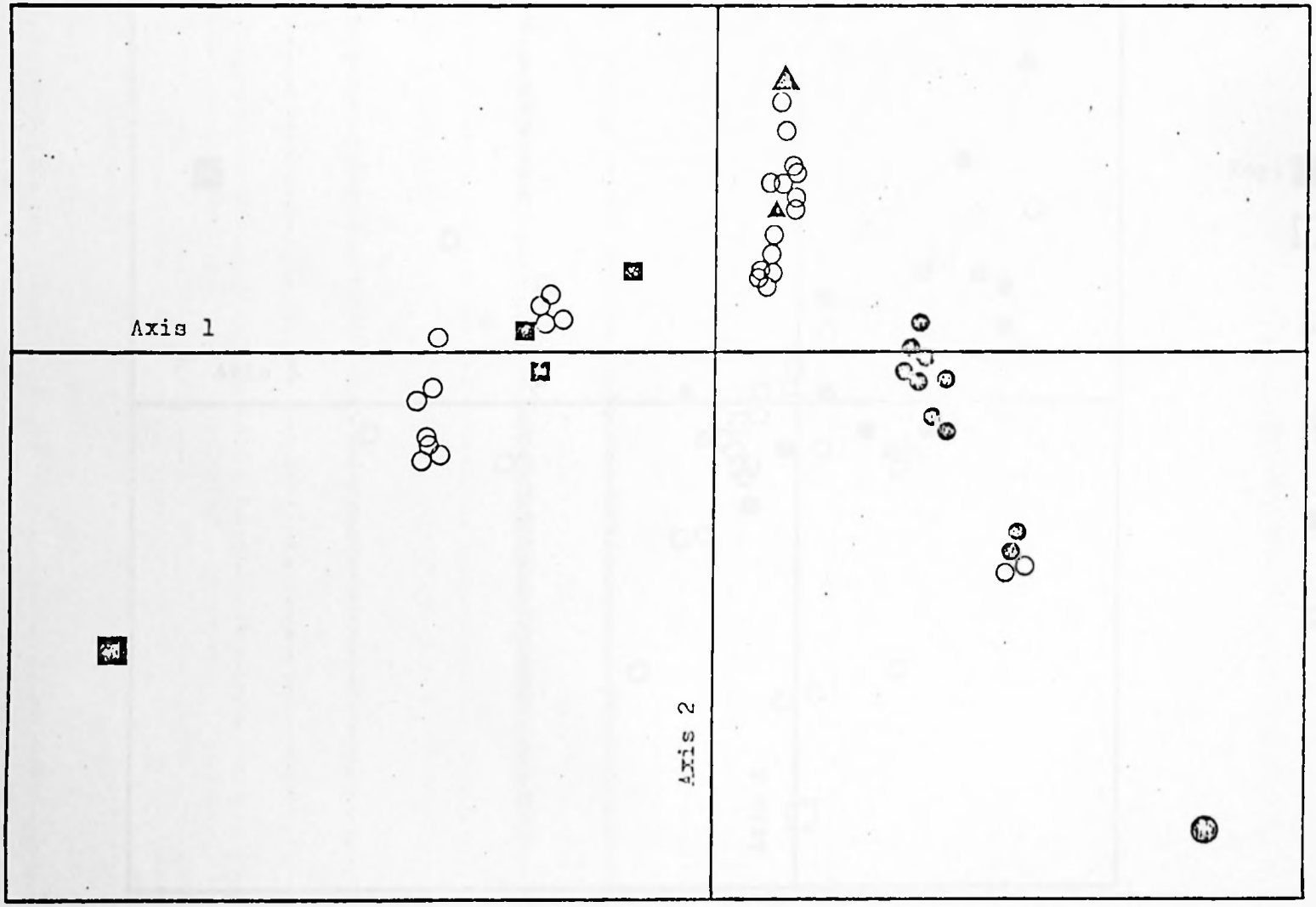
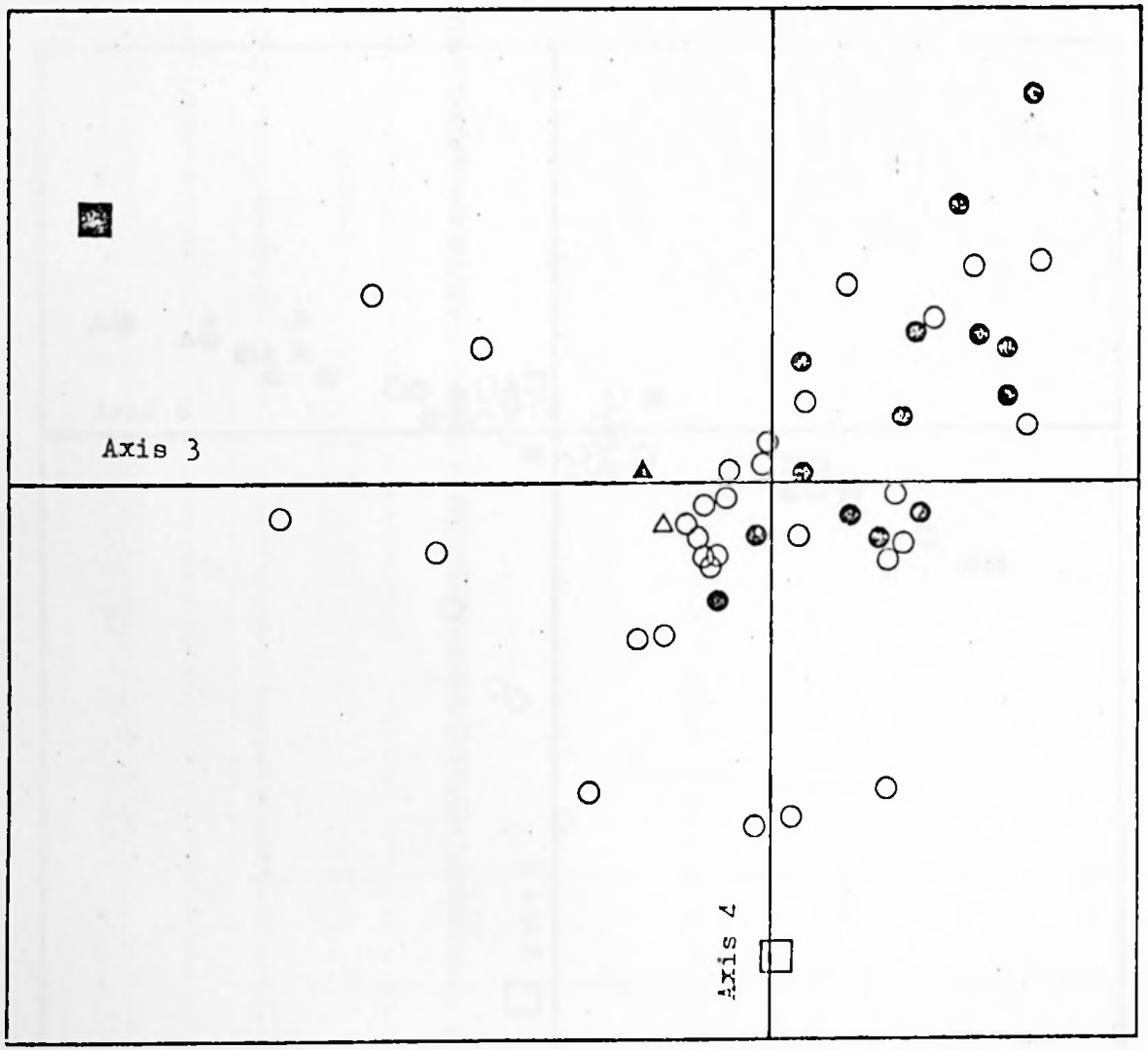


Figure 6.22 Bar graph showing number of graves against the total 'value' of goods in the grave. Central Germany. (For definition of value see p. 125)



Key:
- Graves with decorated Bell Beaker alone.
- Graves with undecorated Bell Beaker alone.
- Graves with bowl alone.
- Graves with ≥ 20 points containing decorated Bell Beakers.
- Graves with ≥ 20 points containing undecorated Bell Beakers.
- Other graves with ≥ 20 points.
- Other graves.

Figure 6.23 Principal Coordinates scattergram of Central German Bell Beaker graves. Axes 1 and 2.



Key: Graves with bowl alone.

Graves with polypod bowl alone.

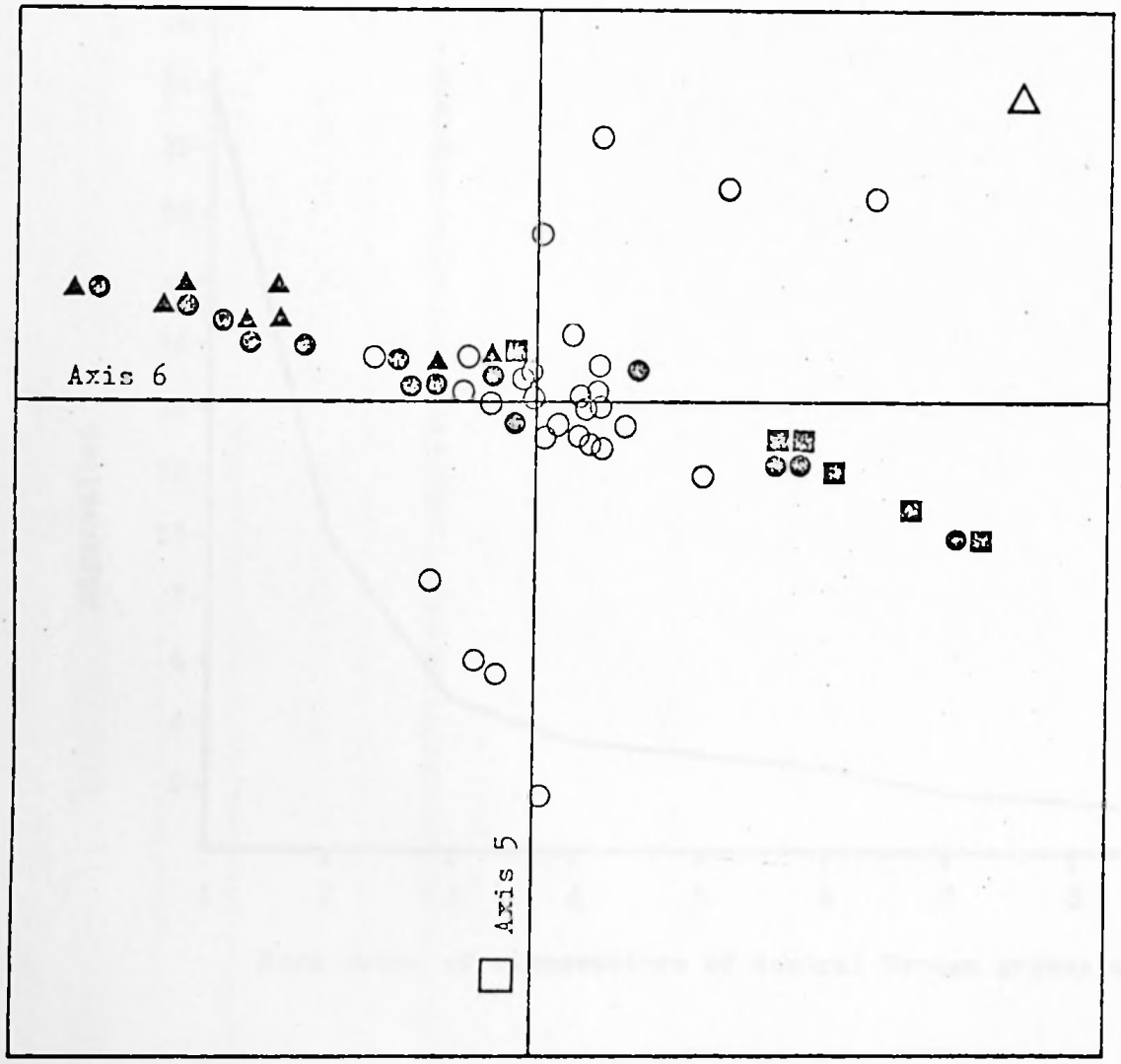
Graves with decorated Bell Beaker alone.

Graves with undecorated Bell Beaker alone.

Graves with ⩾ 20 points.

Other graves.

Figure 6.24 Principal Coordinates scattergram of Central German Bell Beaker graves. Axes 3 and 4.



Key: △ Graves with polypod bowl alone.

□ Graves with undecorated handled Bell Beaker alone.

▲ Graves with arrowheads.

■ Graves with wrist-guards.

● Graves with ≥ 20 points.

○ Other graves.

Figure 6.25 Principal Coordinates scattergram of Central German Bell Beaker graves. Axes 5 and 6.

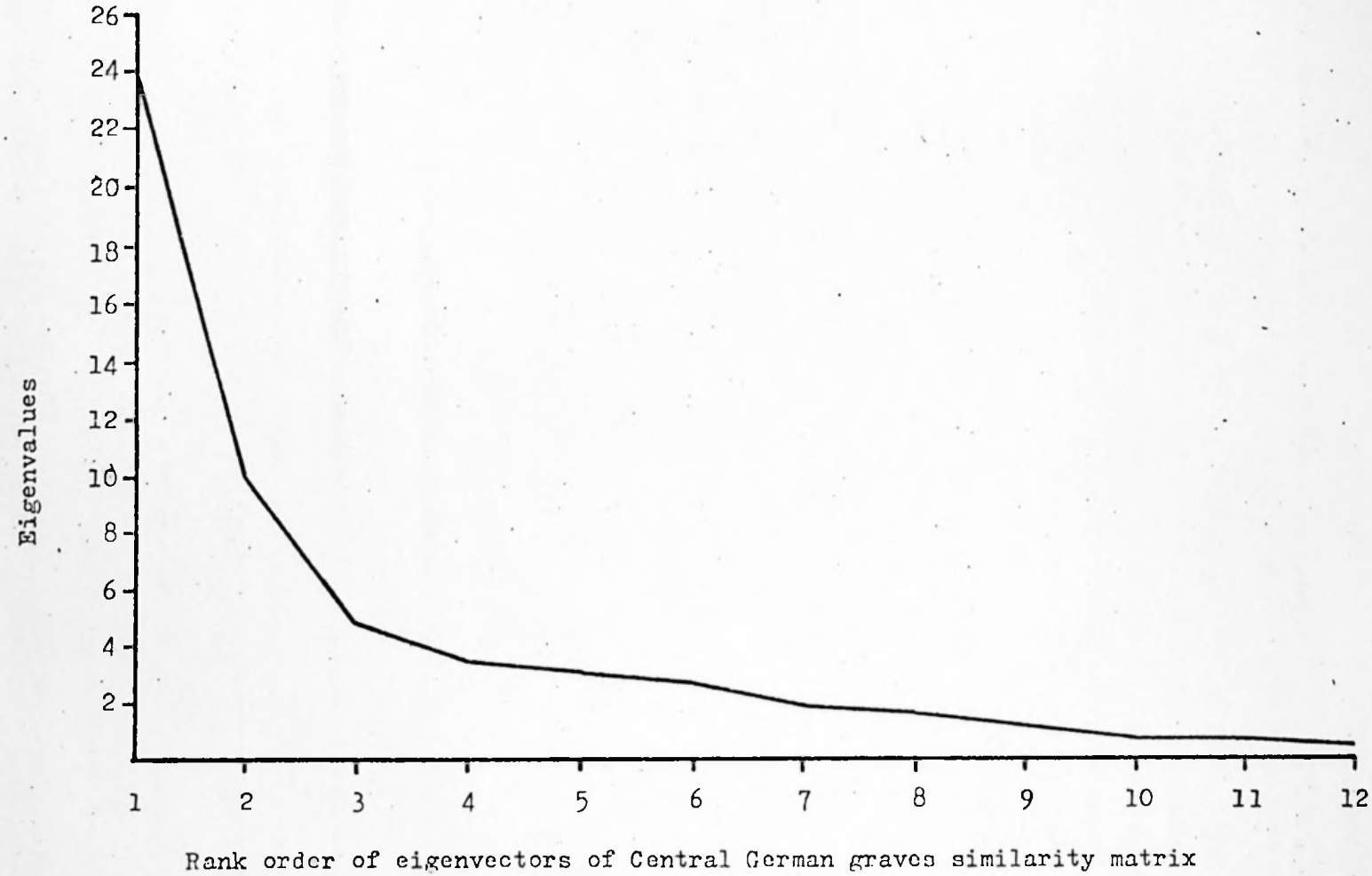


Figure 6.26 Graph of eigenvectors against their corresponding eigenvalues

Figure 7.1 Relative frequency of deposition for the more common goods found in Bell Beaker graves in different regions of Central Europe.

Key: x-axis runs from south-east to north-west; H=Hungary, M=Moravia, B=Bohemia, G= Central Germany. The meaning of the y-axis depends on which line is being considered (see immediately below), but all the units are at the same scale.

Line number

3	Percentage of all graves in each area that are cremations.
4	Number of undecorated Bell Beakers/100 graves in each area.
5	Number of polypod bowls in each area as a percentage of the total number of bowls in that area.
6	Number of undecorated handled Bell Beakers in each area, as a percentage of the total number of undecorated handled Bell Beakers and jugs in that area.
7	The number of bowls/100 graves in each area.
8	The number of jugs/100 graves in each area.
9	The number of undecorated handled Bell Beakers/100 graves in each area.
10	The number of polypod bowls/100 graves in each area.
11	The number of decorated Bell Beakers/100 graves in each area.
12	The number of copper daggers/100 graves in each area.
13	The number of wrist-guards/100 graves in each area.

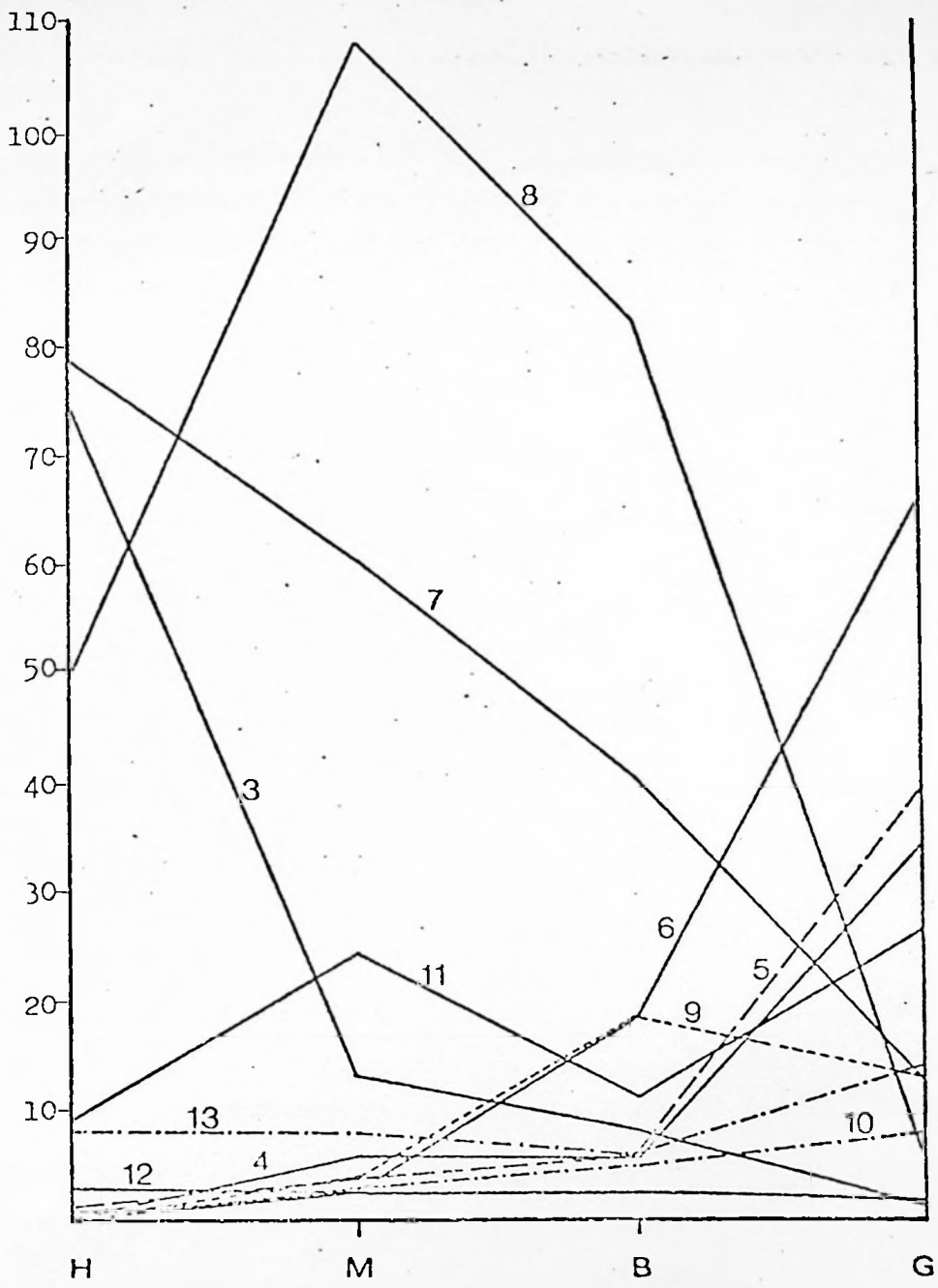

110
100
90
80
70
60
50
40
30
20
10
8
7
3
6
5
11
9
13
10
12
4
H
M
B
G

Figure 7.2 Multi-dimensional scalogram of Central European Bell Beaker shapes. The shapes of 100 randomly selected Central European Bell Beakers were described in terms of ratios and a number of groups was initially produced by average-link cluster analysis. Multi-dimensional scaling was carried out on the resulting groups (see text) and the result in two dimensions is shown in the figure.

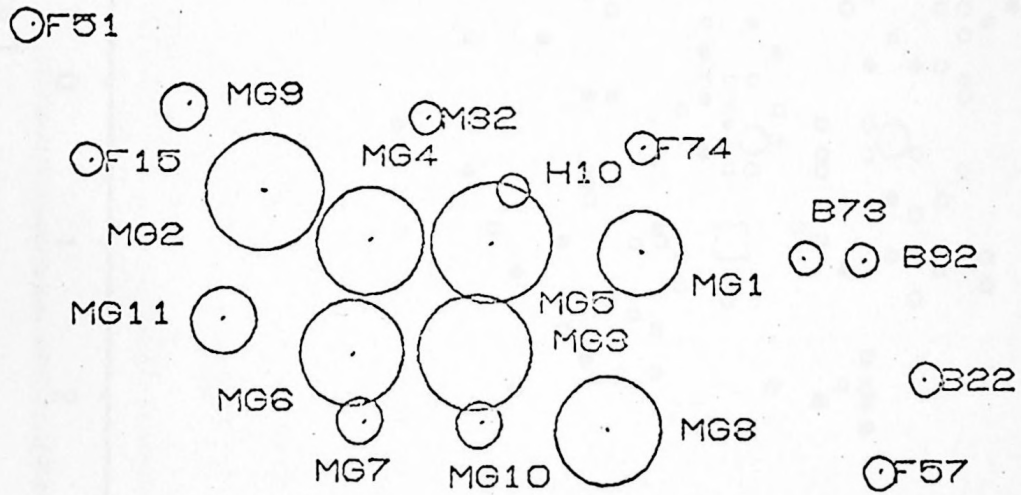
Key

Circles labelled MG are groups of more than 1 vessel produced by the cluster analysis; the area of the circle depends on the size of the group.

Other small circles represent individual vessels which did not fit into any of the clusters. The place of origin of these vessels is given by the alphabetic part of their identifier. B=Bohemia, F=Central Germany, H=Hungary, M=Moravia.

Stress of 2-dimensional solution is 0.070.

Simple Random Sample



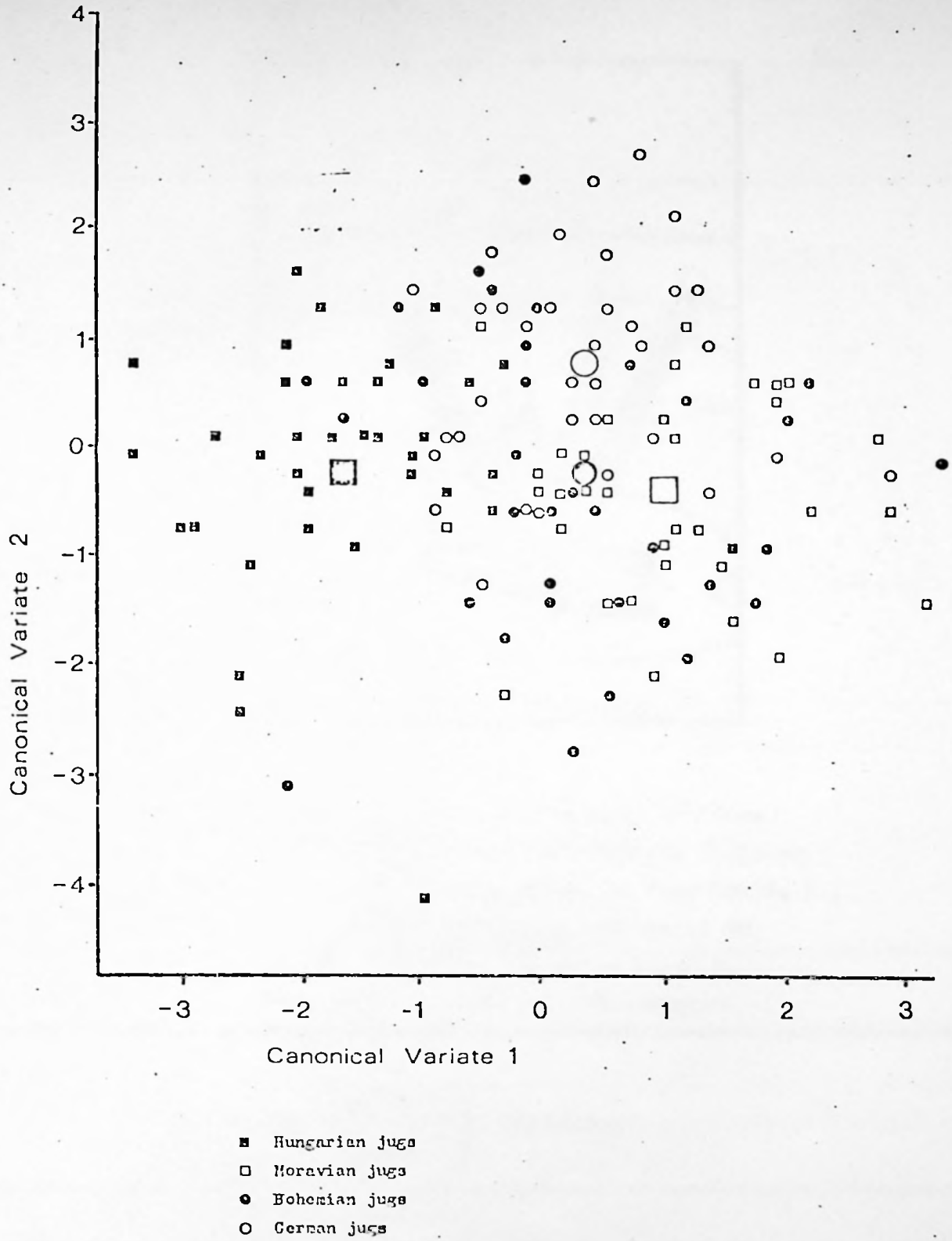


Figure 7.3 Scattergram of the undecorated jugs positioned in relation to the first and second canonical variates. The large symbols represent the means of their respective groups.

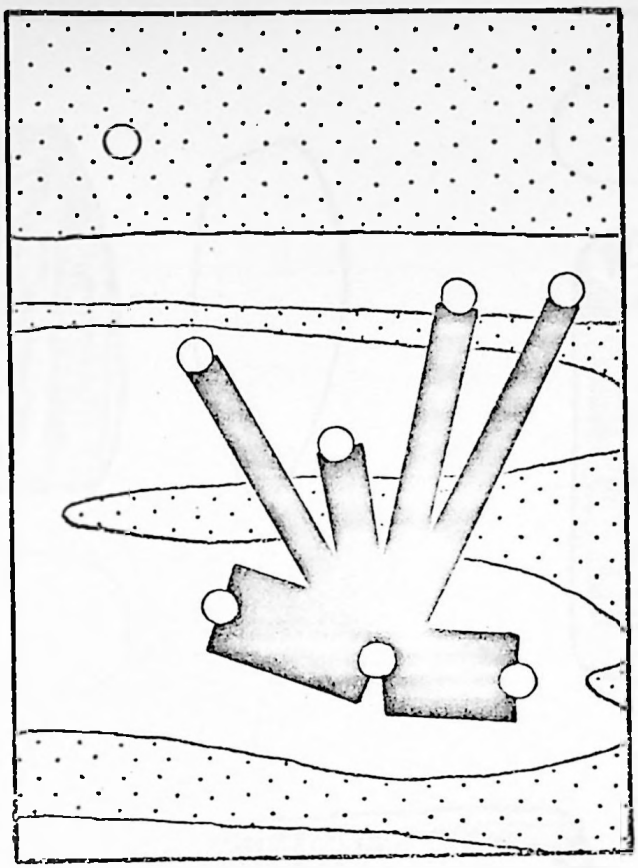


Figure 7.4 Effect of natural barriers on frequency of marriage between villages in the Appalachians (Fig. 22 from Gould, P., 1969. Spatial Diffusion Commission on College Geography, Resource Paper 4, Association of American Geographers. Washington DC).

Key: Mountains

Valleys

Width of bars relates to frequency of marriage.

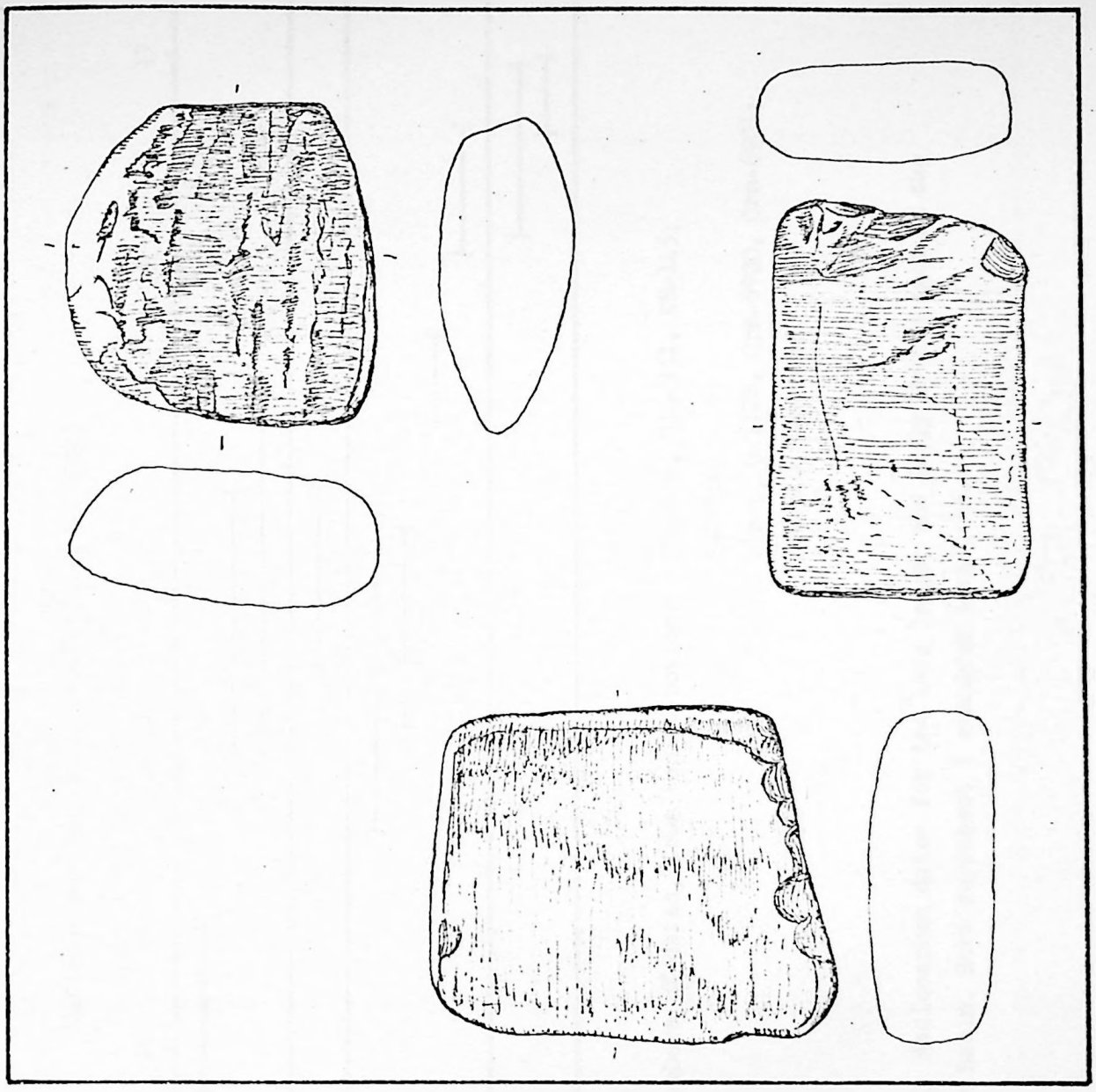
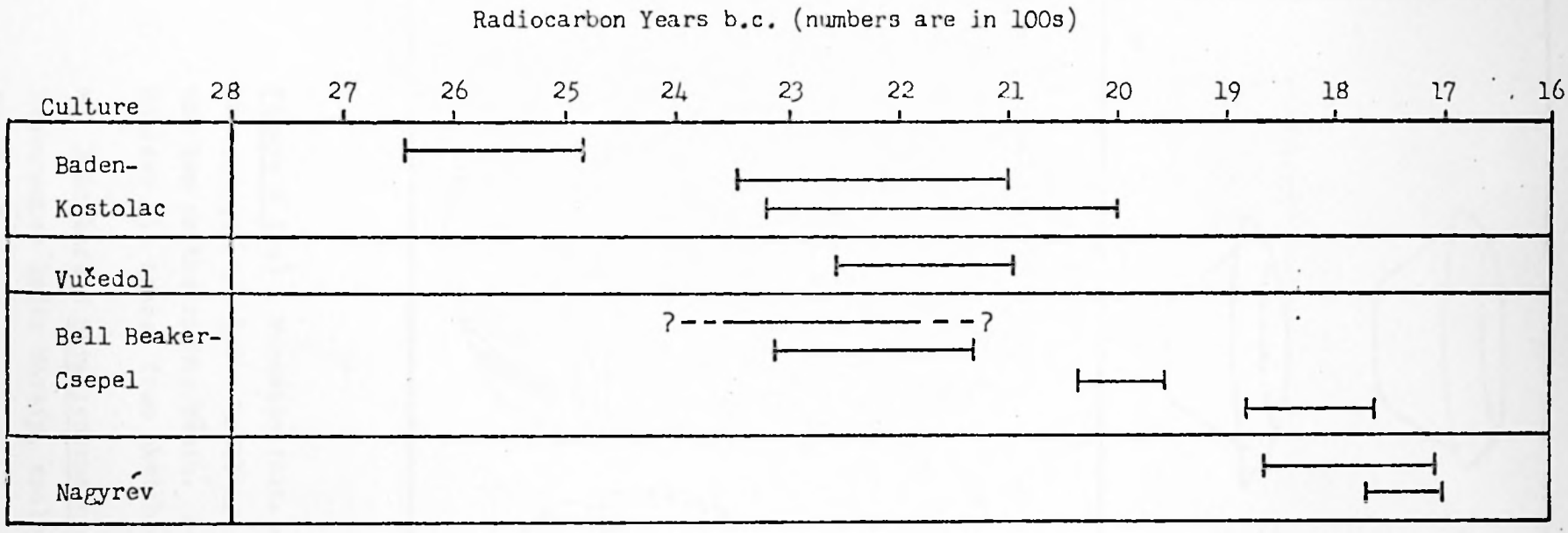


Figure 7.5 Three so-called 'cushion stones', probably connected with metal-working, from Grave X, Holěsov, Moravia. (Source: Ondráček, J., unpublished report.)



Reference numbers of dates, from top to bottom: Bln-476, Bln-351, KN-145;
Bln-564;
Bln-?, Q-1122, Grn-6900, Grn-6901;
Bln-340, Grn-6653.

Figure 8.1 Radiocarbon dates for the Late Copper and Early Bronze Ages in the Carpathian Basin. Bars represent 1 standard deviation.

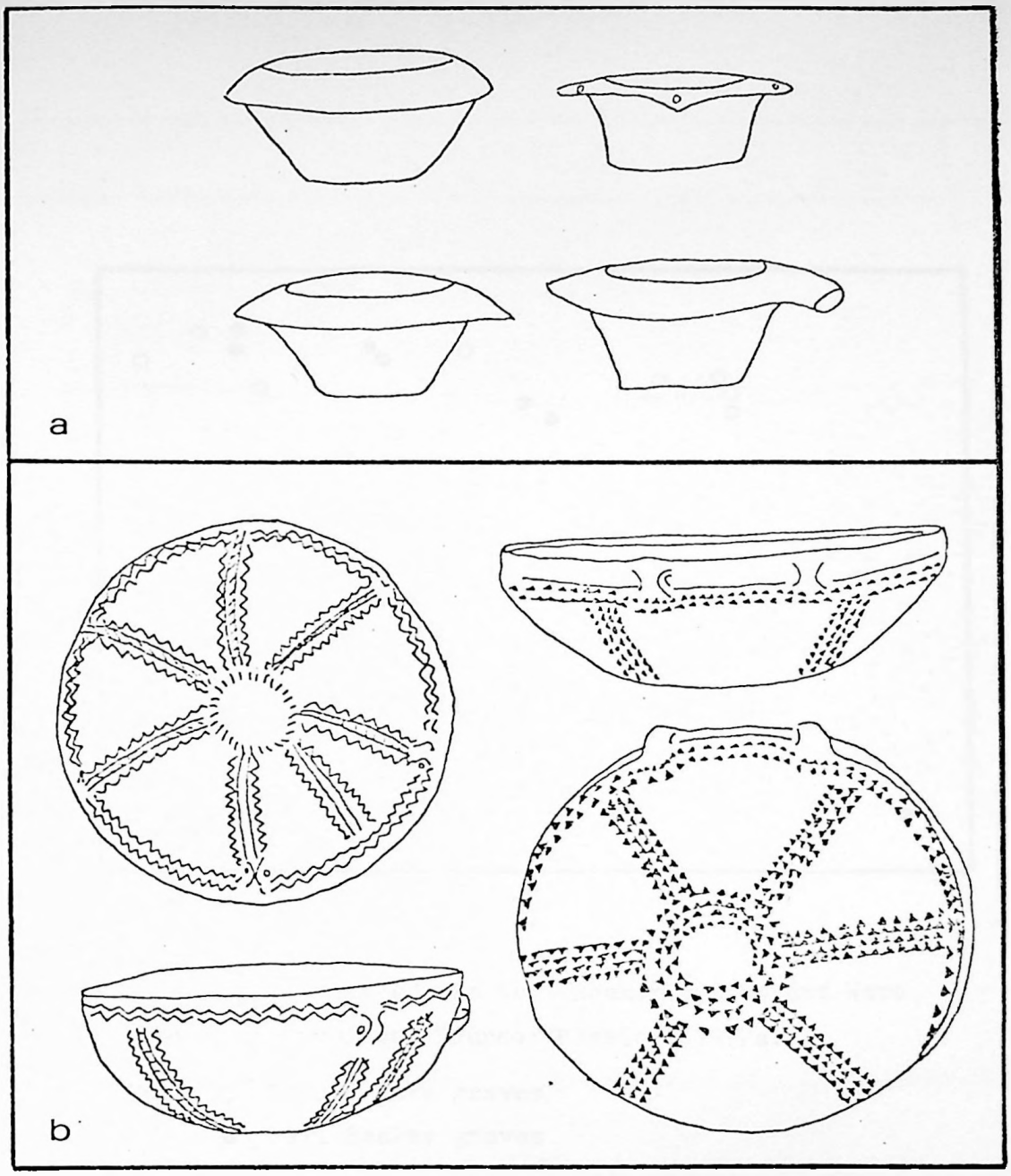


Figure 8.2 a) 4 Moravian 'hat-bowls'.
Provenance: top left: Opločany; bottom left: Němčice nad Hanou; the two on the right: Měnin. Scale: all 1:3.
Source: all traced from sketches in Červinka 1938b.

b) 2 Schönfeld Strahlenschalen from Moravia.
Provenance: left: Marefy, scale 1:5; right: Smržice, scale 1:3.
Source: both traced from sketches in Červinka 1938b.

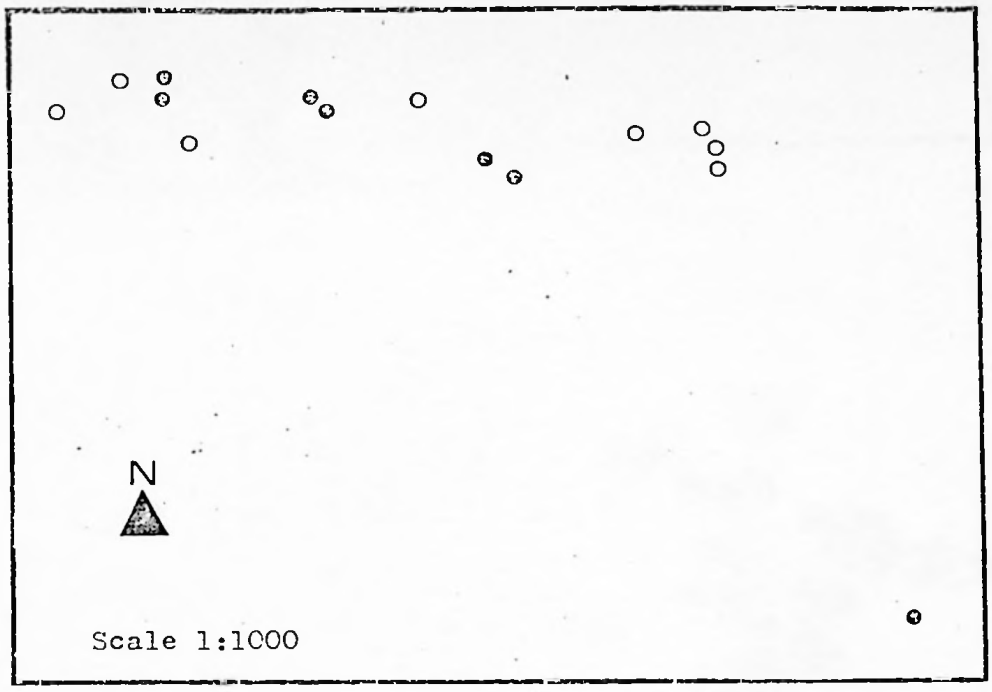


Figure 8.3 Plan of the Bell Beaker and Corded Ware graves at Lysolaje. Source: Pleslová 1972a.

Key: ○ Corded Ware graves

● Bell Beaker graves

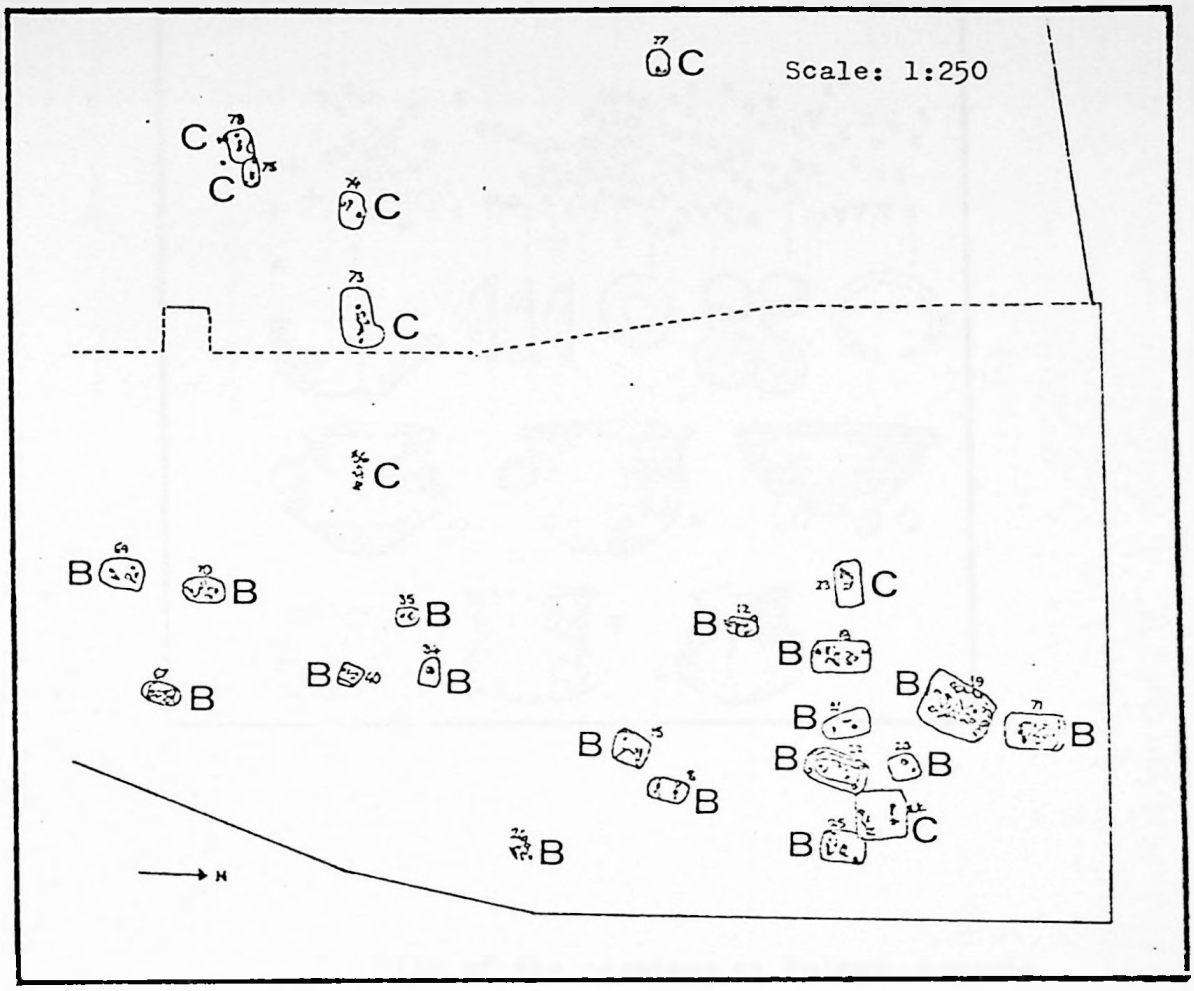


Figure 8.4 Plan of the Bell Beaker and Corded Ware graves at Brandýsek. Source: Hytlicová 1960.

Key: C Corded Ware graves

B Bell Beaker graves

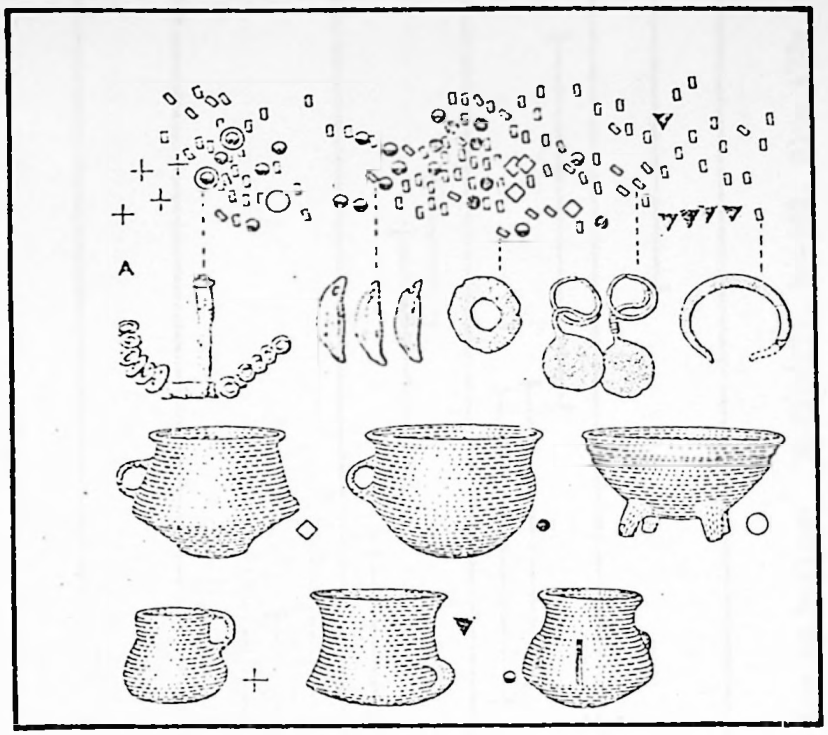
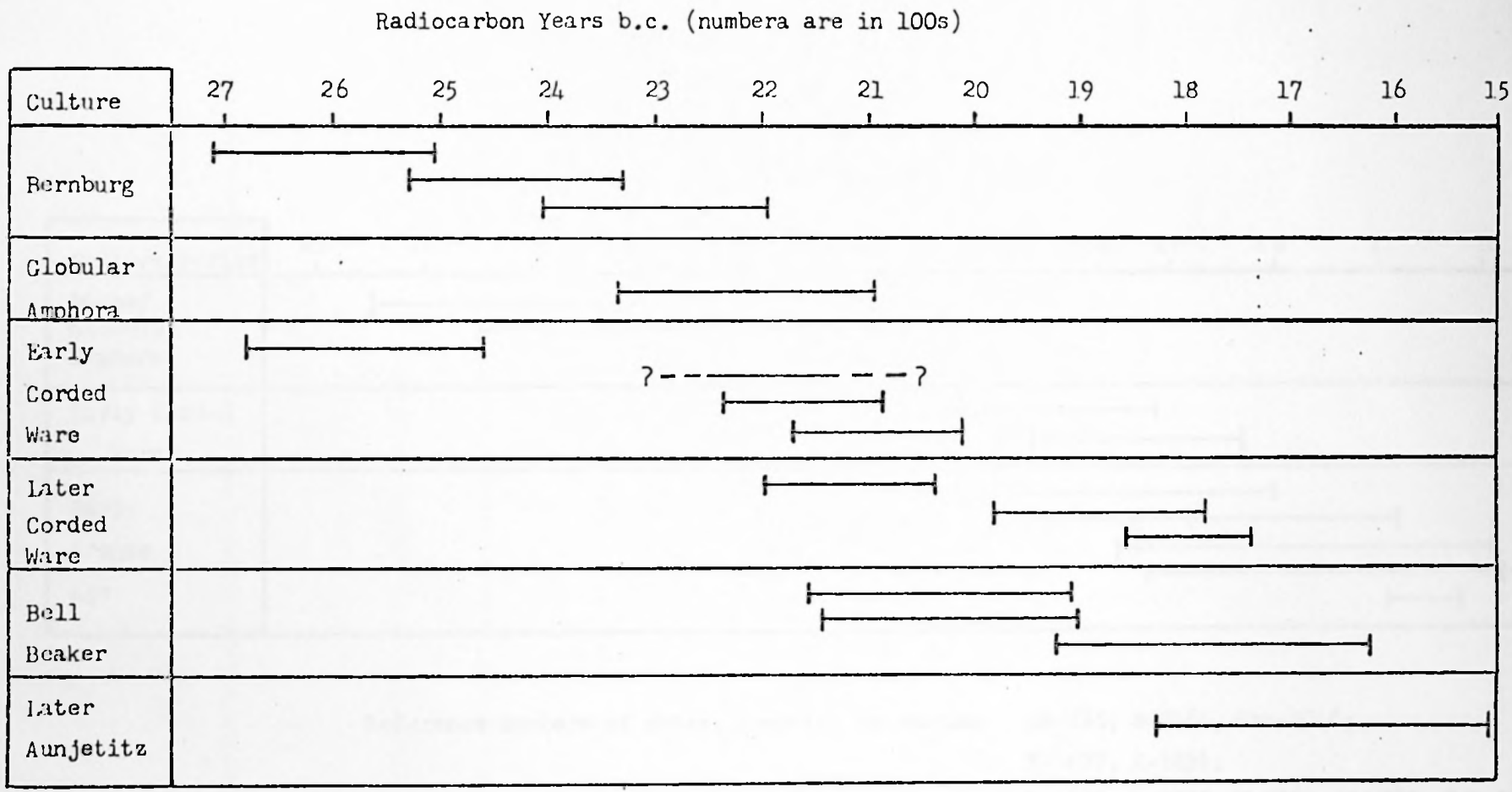


Figure 8.5 Plan of the cemetery at Polepy, Bohemia.
Source: Müller-Karpe 1974, Plate 525.

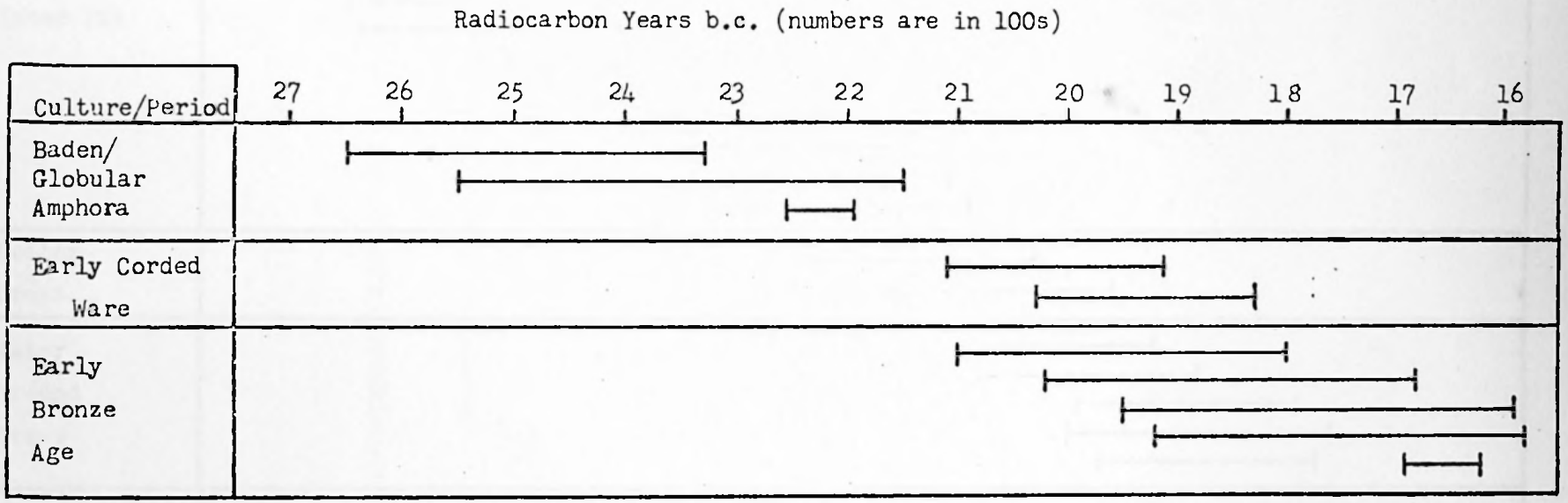
Key: + Graves with jugs of the type associated with Bell Beakers.

▼ Late Unetice cups.



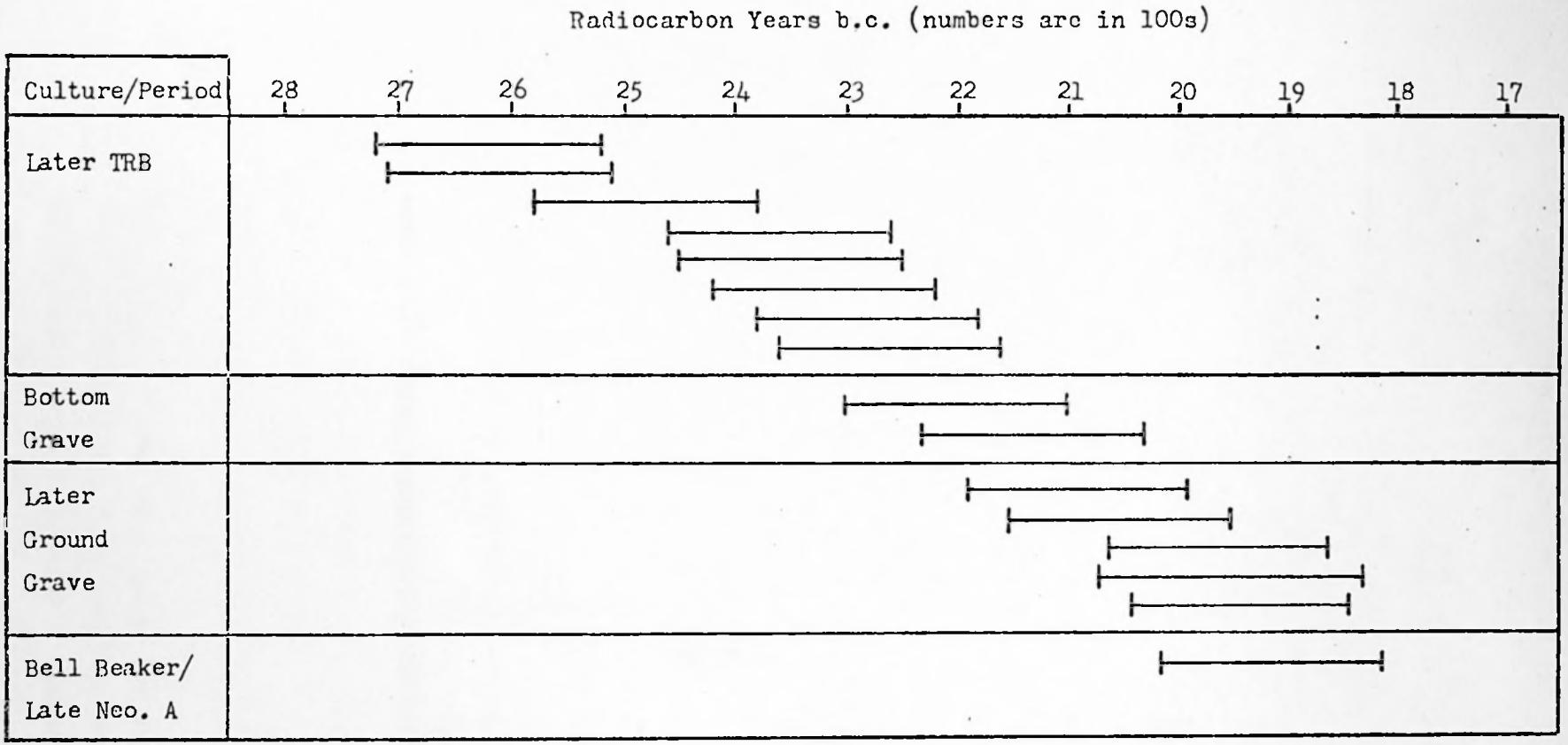
Reference numbers of dates, from top to bottom: H-210/271, Hv-582, Bln- 472; Bln-342; H-253/208, K- ?, H-572/919, Grn-4058; Bln-533, Bln-166, H-2123/1538; Bln-550, H-28/33, H-27/25; Bln-248.

Figure 8.6 Radiocarbon dates for the later Neolithic in Central Germany. Bars represent 1 standard deviation.



Reference numbers of dates, from top to bottom: KN-225, M-2166, Grn-5046;
K-1837, K-1836;
M-1325, M-2328, M-2168, M-2325, Grn-5037.

Figure 8.7 Radiocarbon dates for the later Neolithic and Early Bronze Age in Poland (bars represent 1 standard deviation).



Reference numbers of dates, from top to bottom: K-1566, K-1568, K-1567, K-1789, K-1571, K-1573, K-1572, K-1574:
K-1582, K-1483;
K-1569, K-1451, K-1831, K-1284, K-1138;
K-2067

Figure 8.8 Radiocarbon dates for the later Neolithic in Denmark (bars represent 1 standard deviation).

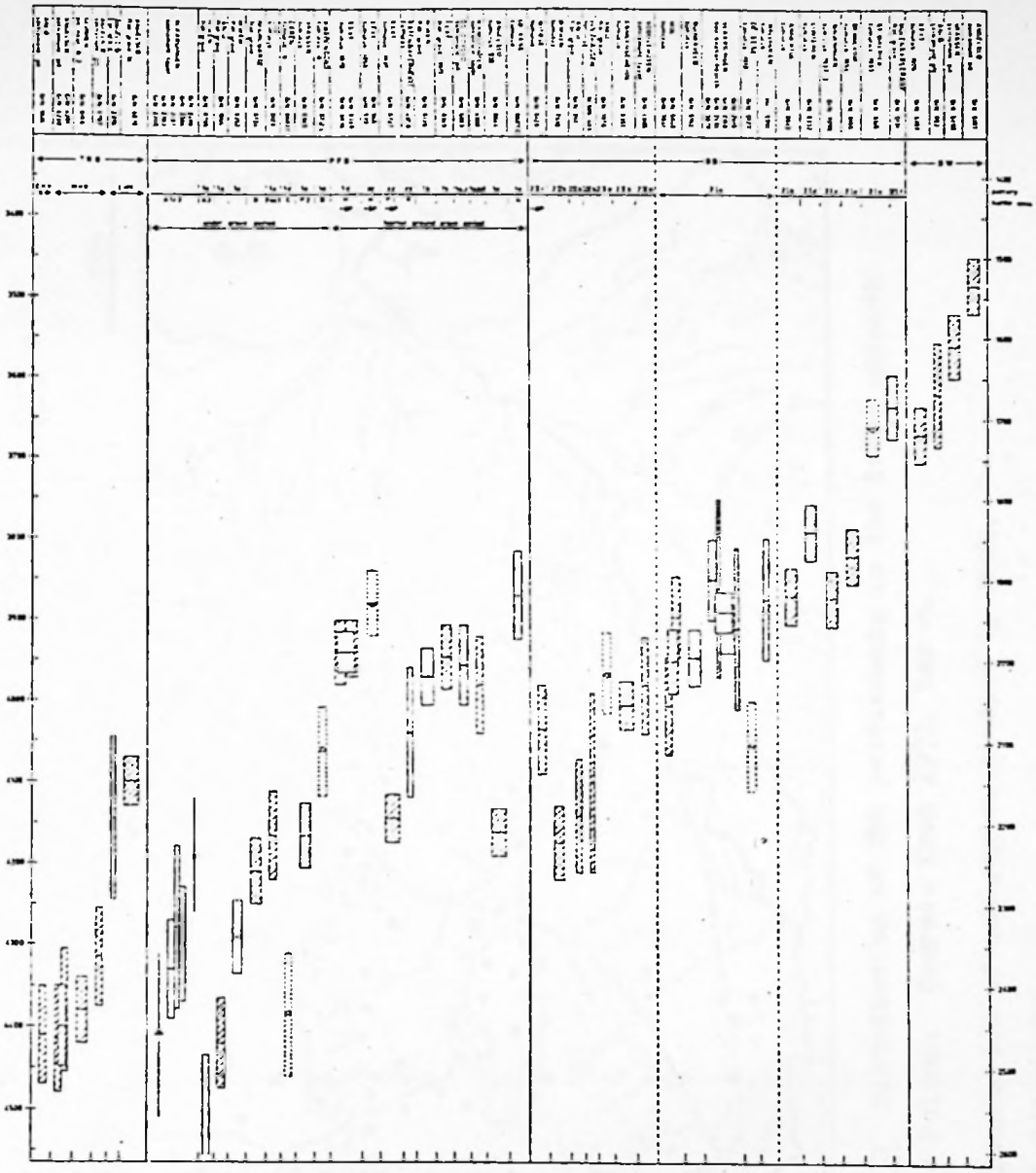


Figure 8.9 Radiocarbon dates for the later Neolithic in the Netherlands. From Lanting, Mook, and van der Waals 1973. Bars represent 1 standard deviation.

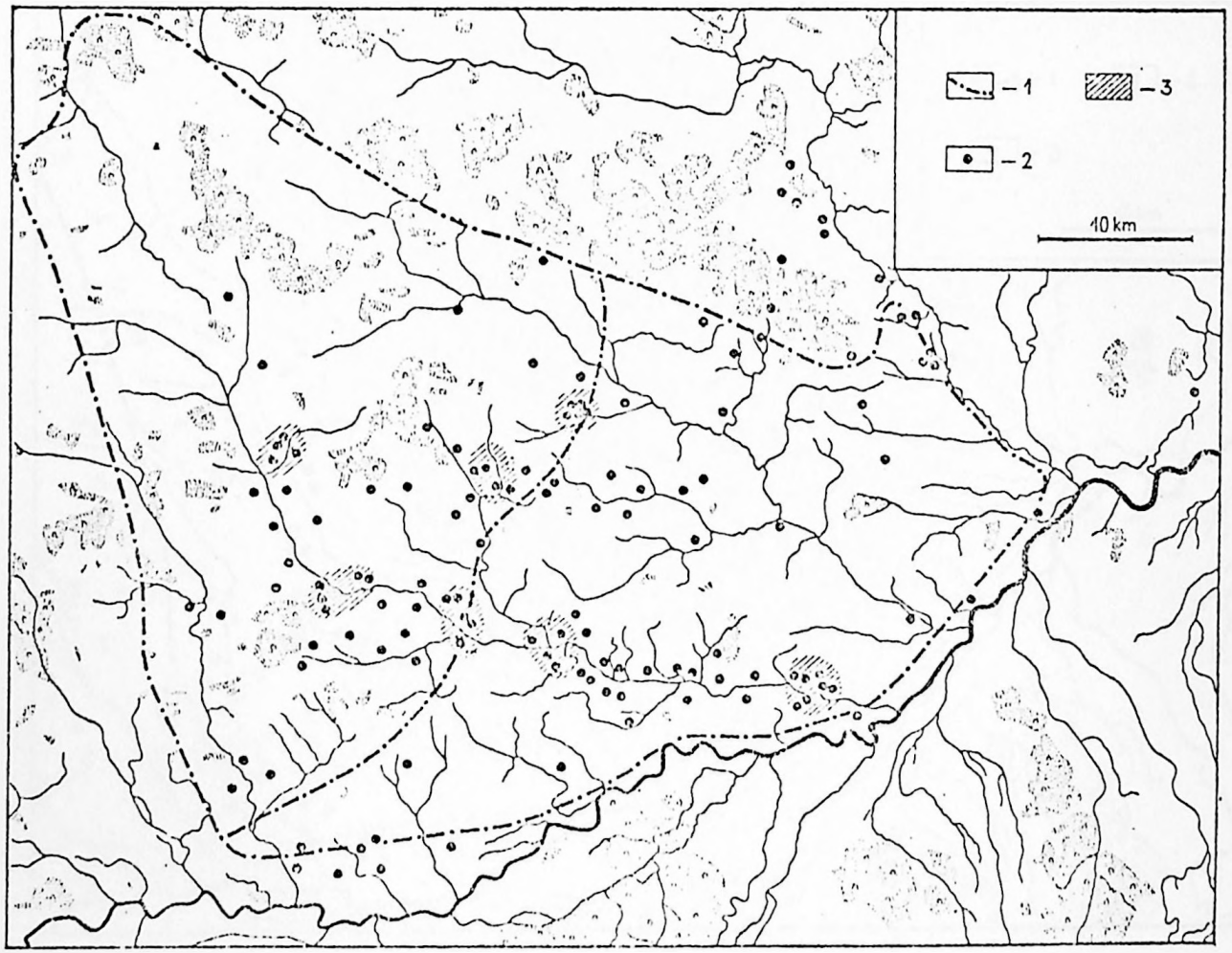


Figure 9.1 Distribution of TRB settlements in the loess uplands of Little Poland. Source: Kruk 1973, Map 6.

Key: 1. Boundaries of sub-region studied by Kruk.

2. Settlements.

3. Some zones of intensive settlement.

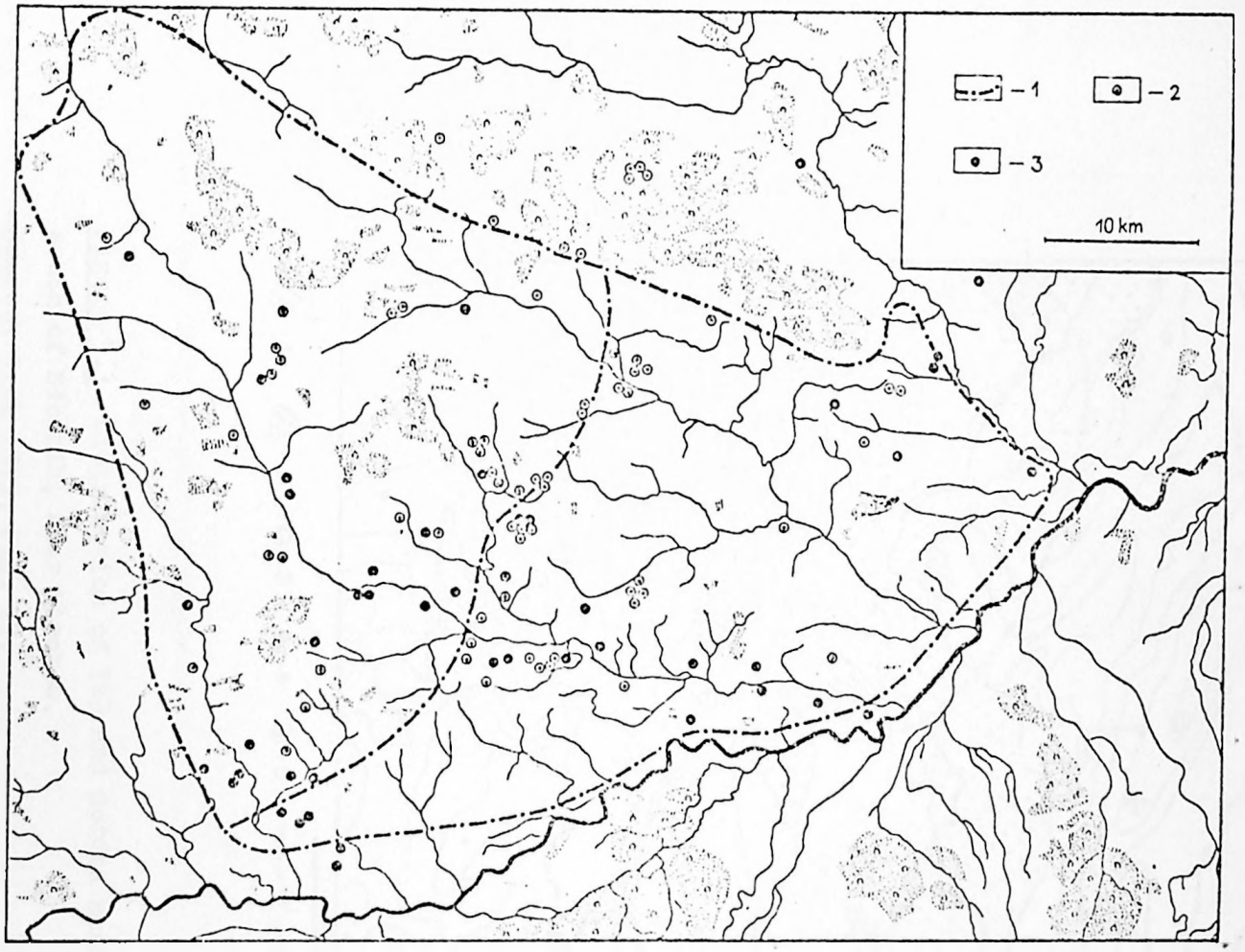


Figure 9.2 Distribution of Corded Ware sites in the loess uplands of Little Poland. Source: Kruk 1973, Map 7.

Key: 1. Boundaries of sub-region studied by Kruk.

2. Barrows.

3. Flat graves and isolated finds.

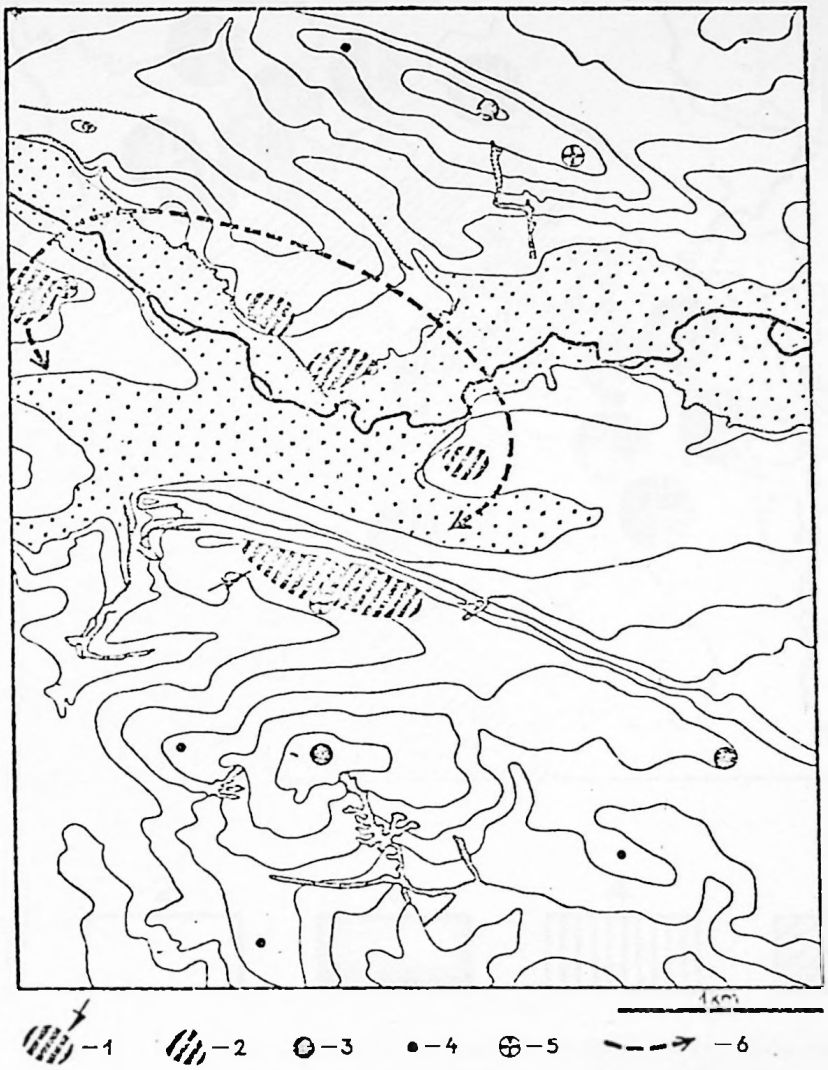


Figure 9.3 Distribution of TRB and Corded Ware sites south of Slomnik, near Miechow.

Source: Kruk 1973, Fig. 13.

Key: 1. Large settlements.

2. Smaller settlements.

3. Camps.

4. Isolated Finds.

5. Corded Ware flat graves.

6. Grouping of valley settlement of TRB culture.

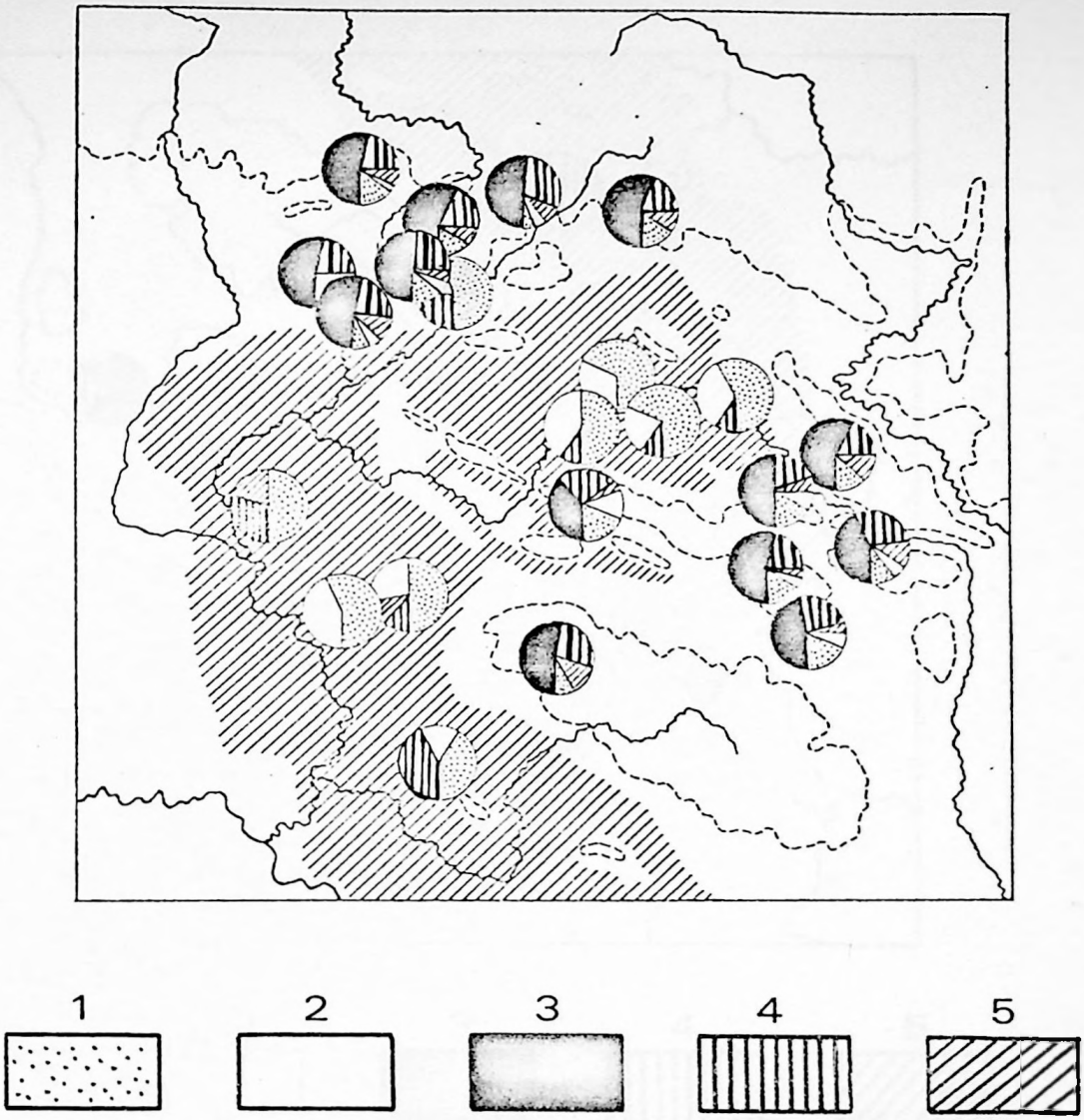


Figure 9.4 Relative proportions of different types in mollusc associations of the Atlantic period from the middle Elbe-Saale area. Source: Mania 1972, Fig.10.

Key: 1. Open landscape types
2. True steppe types
3. True forest types
4. Forest-steppe types
5. Meadow and bog types
Hatched area of map indicates the distribution of black earth and degraded black earth.

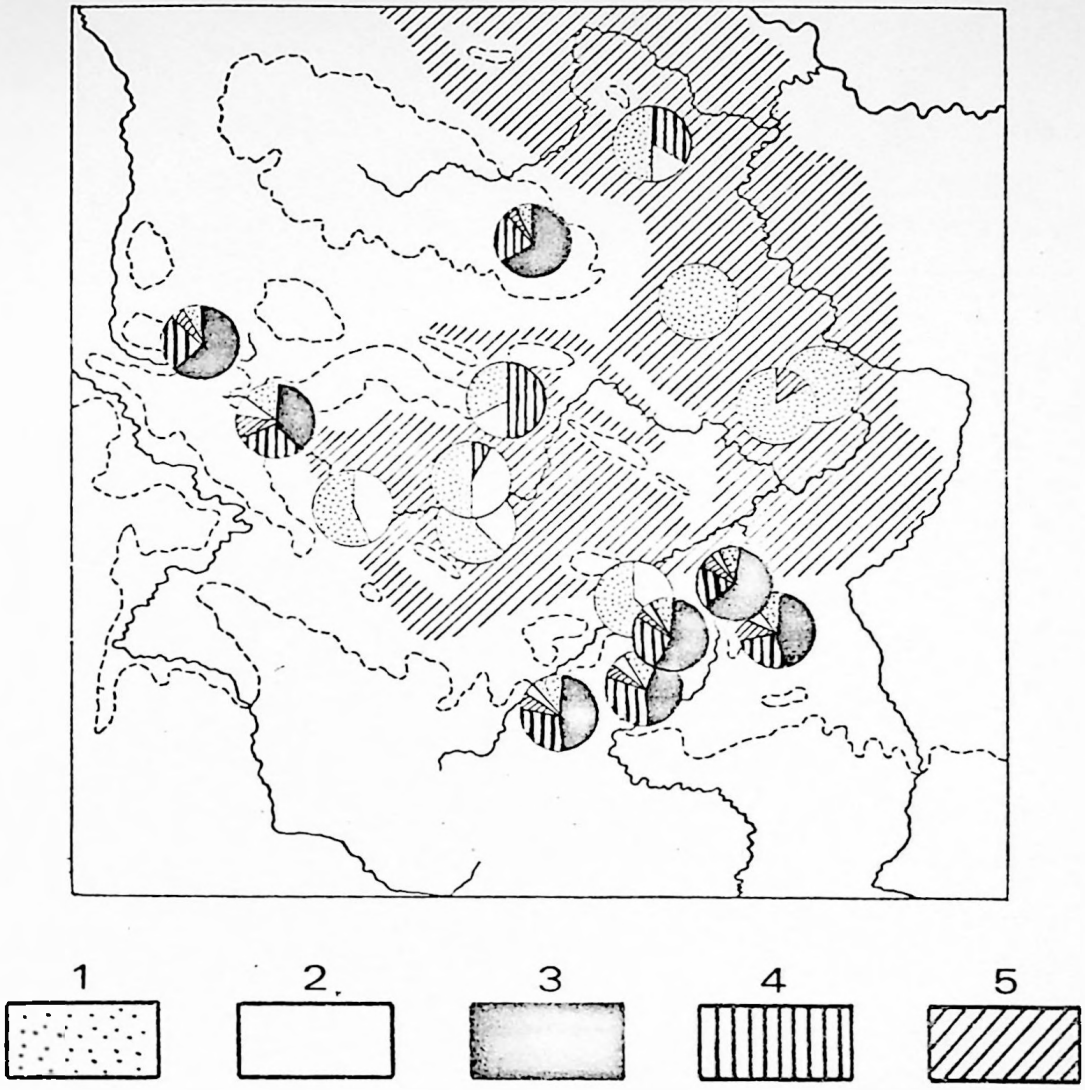


Figure 9.5 Relative proportions of different types in mollusc assccia tions of the Sub-boreal period from the middle Elbe-Saale area. Source: Mania 1972, Fig.11.

Key: 1. Open landscape types
2. True steppe types
3. True forest types
4. Forest-steppe types
5. Meadow and bog types

Hatched area of map indicates the distribution of black earth and degraded black earth.

Figure 9.6 The distribution of the later Neolithic cultures of the Saale area, Central Germany, in relation to soil types.

a) The Baalberg group

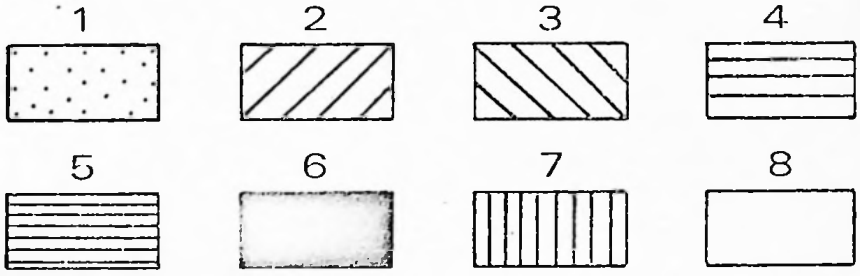
b) The Walternienburg-Bernburg group

c) Corded Ware

d) Bell Beakers

Source: Soil map: Preuss 1966

Distributions: Behrens 1973



Key:

1. Black earth on loess
2. Black earth on detritus marl
3. Degraded black earth on loess
4. Forest soils on loess
5. Forest soils on silt and sand
6. Moorland soils
7. Rocky soils
8. Wet soils

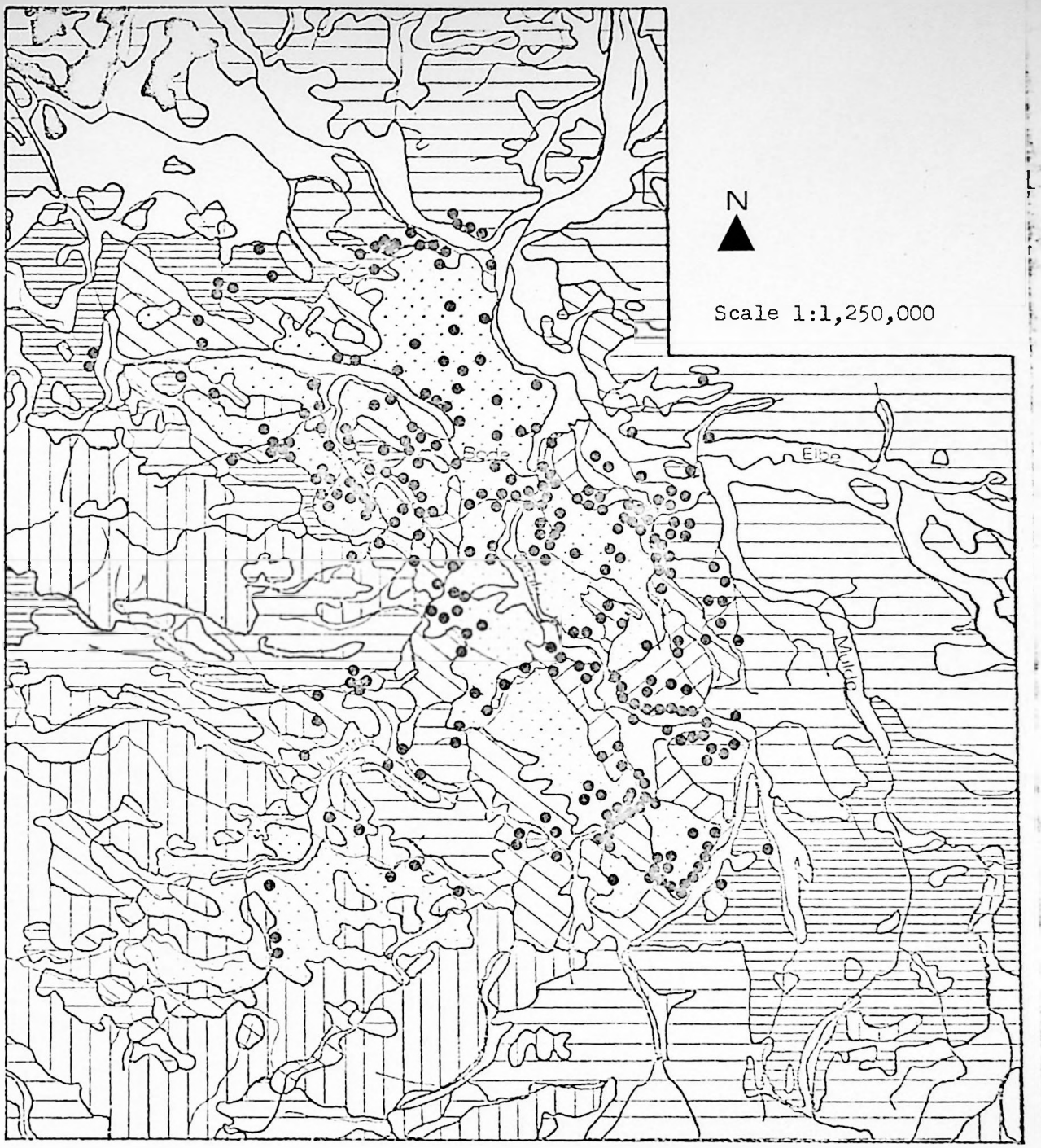
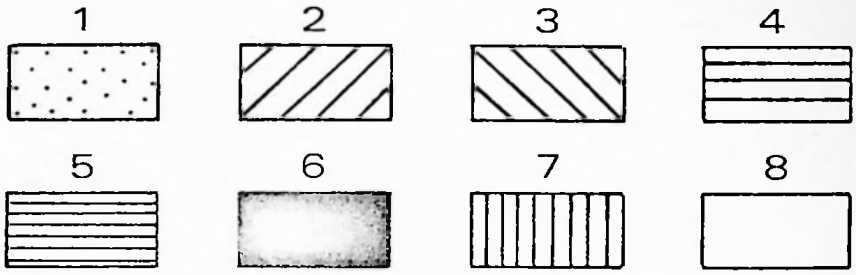


Figure 9.6a Baalberg group



Key:
1. Black earth on loess
2. Black earth on detritus marl
3. Degraded black earth on loess
4. Forest soils on loess
5. Forest soils on silt and sand
6. Moorland soils
7. Rocky soils
8. Wet soils

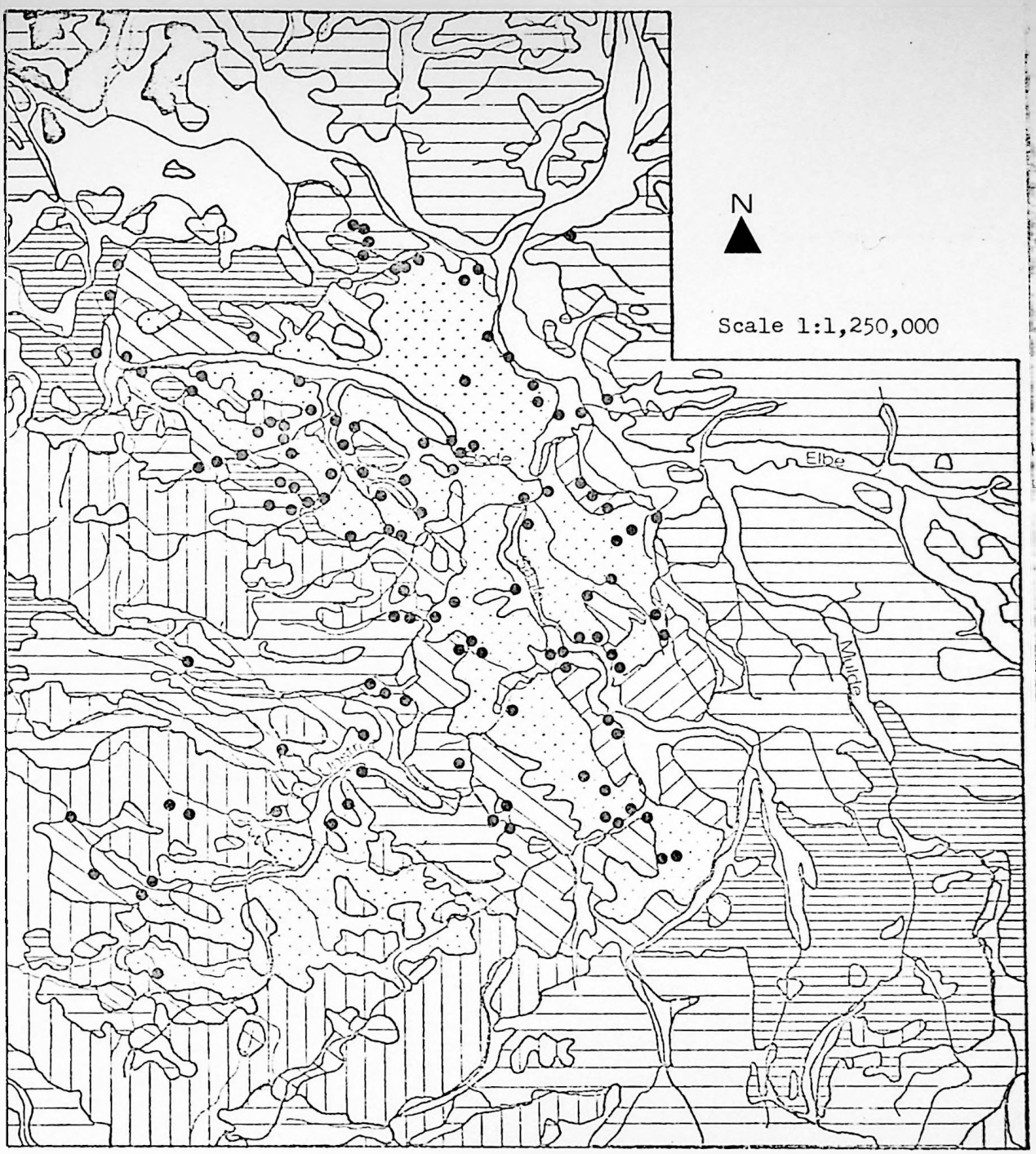
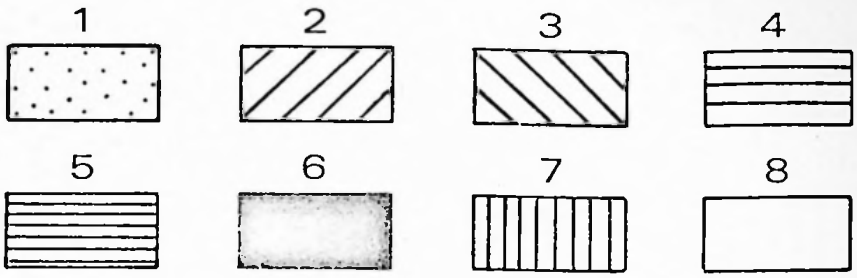
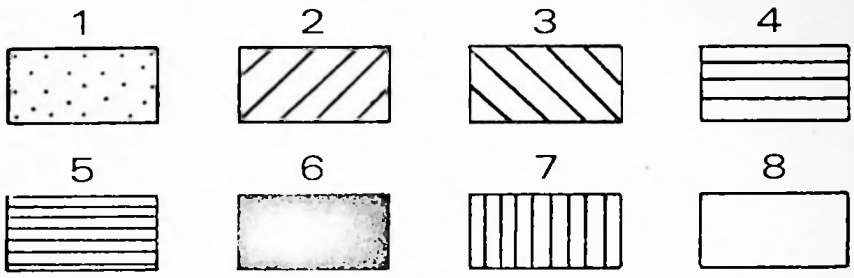


Figure 9.6b Walternienburg-Bernburg group



Key:
1. Black earth on loess
2. Black earth on detritus marl
3. Degraded black earth on loess
4. Forest soils on loess
5. Forest soils on silt and sand
6. Moorland soils
7. Rocky soils
8. Wet soils

Figure 9.6c Corded Ware



Key:
1. Black earth on loess
2. Black earth on detritus marl
3. Degraded black earth on loess
4. Forest soils on loess
5. Forest soils on silt and sand
6. Moorland soils
7. Rocky soils
8. Wet soils

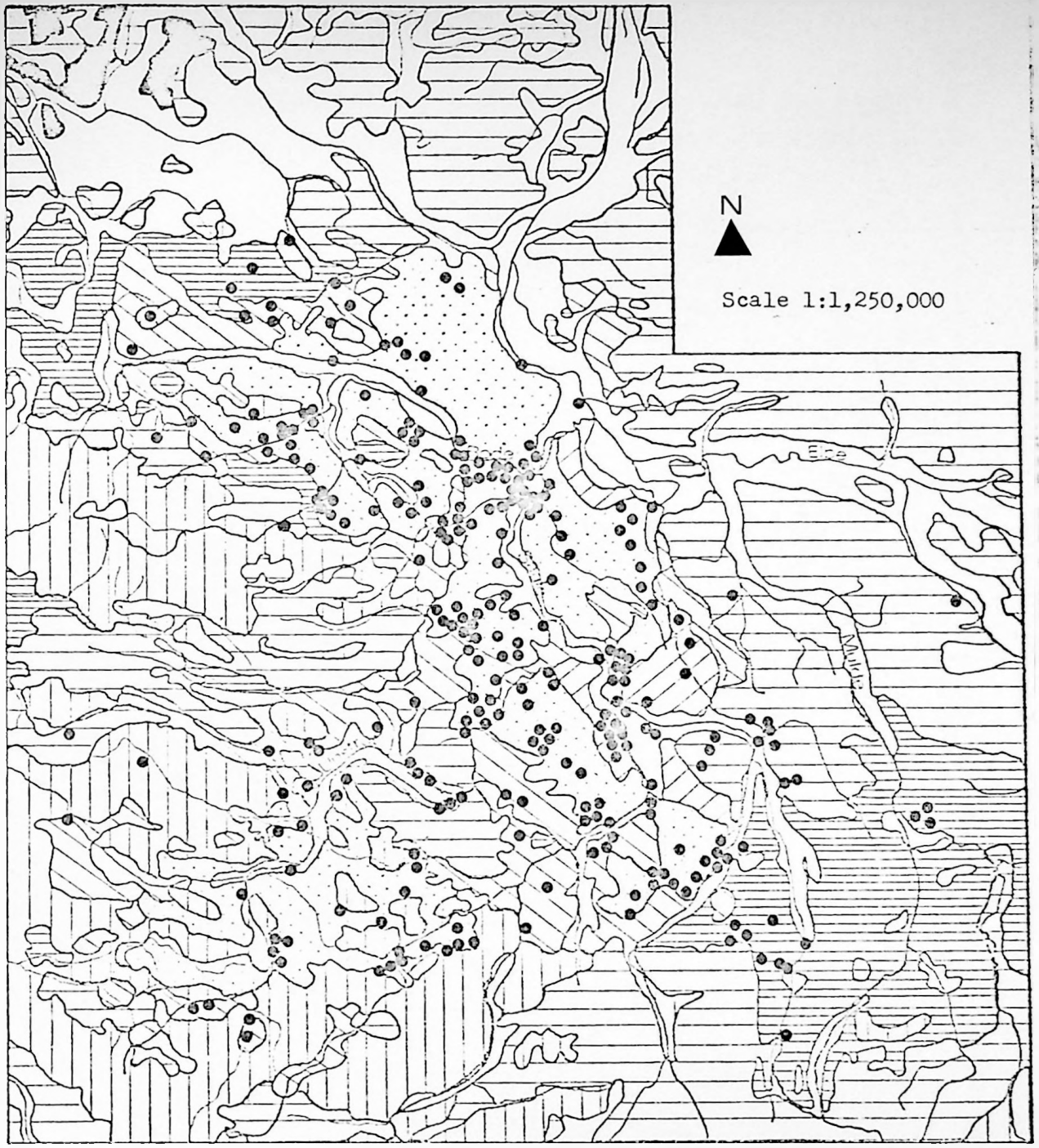


Figure 9.6d Bell Beakers

Figure 9.7 The distribution of the Eneolithic cultures of Bohemia and Moravia, in relation to soil types.

a) TRB

b) Řivnáč and Jevišovice B

c) Corded Ware

d) Bell Beakers

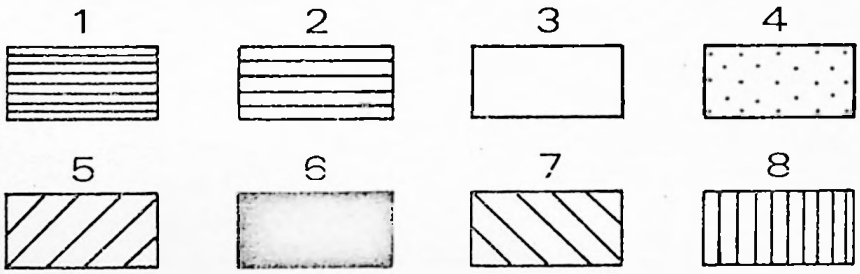
Sources: soil map: Atlas Československé Socialistické Republiky Republiky, Prague 1966.

distributions: TRB: Preuss 1966

Řivnáč/Jevišovice B: Pleslová-Štiková 1966.

Corded Ware: Buchvaldek 1968

Bell Beakers: Hájek 1966a



Key: 1. Chernozem

2. Brown soils

3. Podsolic soils and brown forest soils

4. Brown forest soils of mountains.

5. Podsols of mountains

6. Grey forest soils

7. Rendzina soils

8. Soils of flood plain

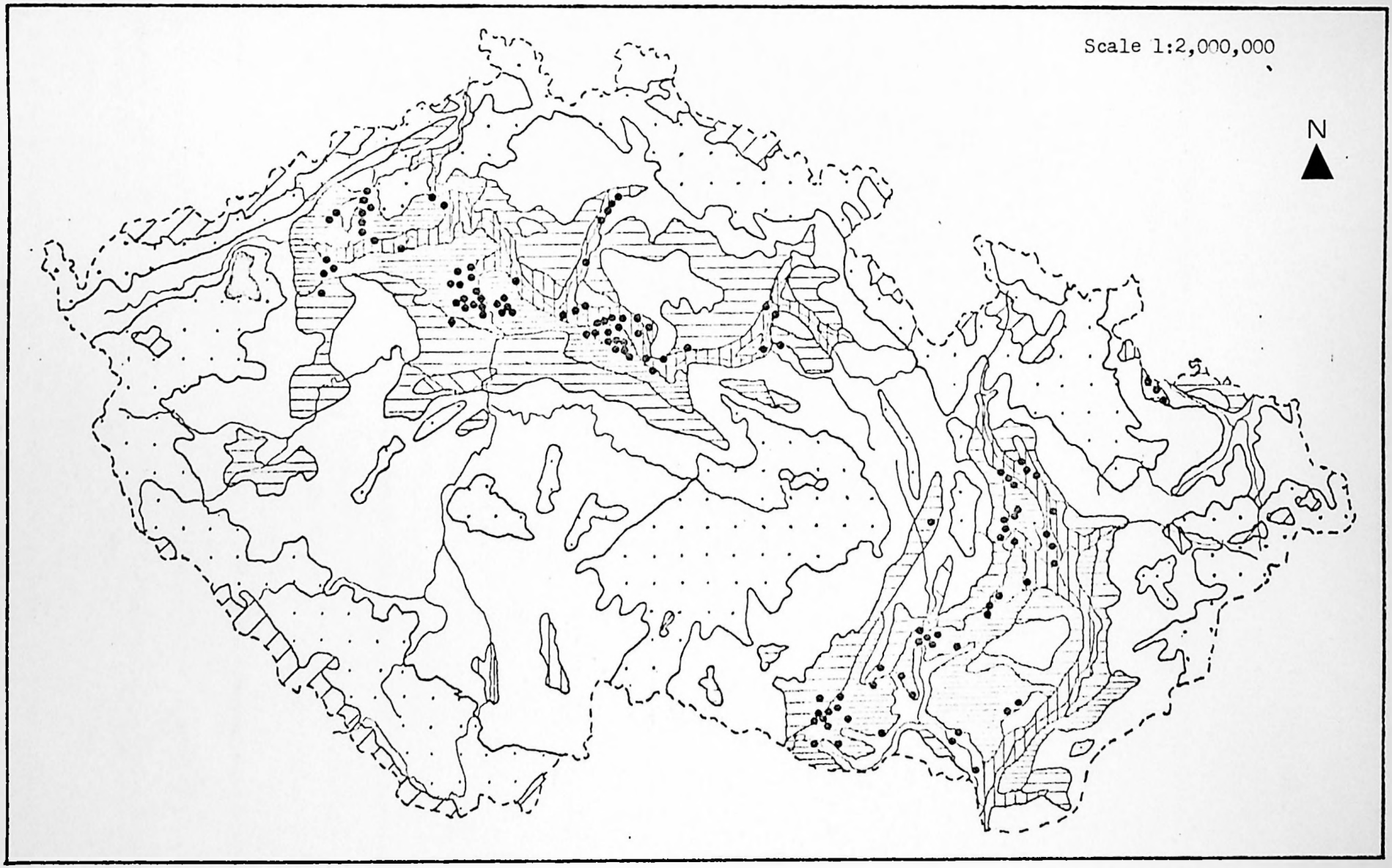
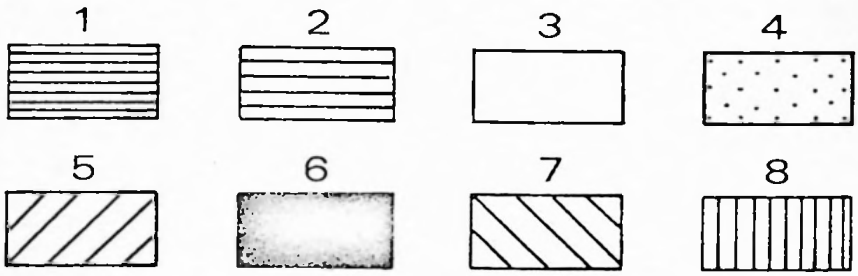


Figure 9.7a TRB culture



Key: 1. Chernozem
2. Brown soils
3. Podsolic soils and brown forest soils
4. Brown forest soils of mountains.
5. Podsols of mountains
6. Grey forest soils
7. Rendzina soils
8. Soils of flood plain

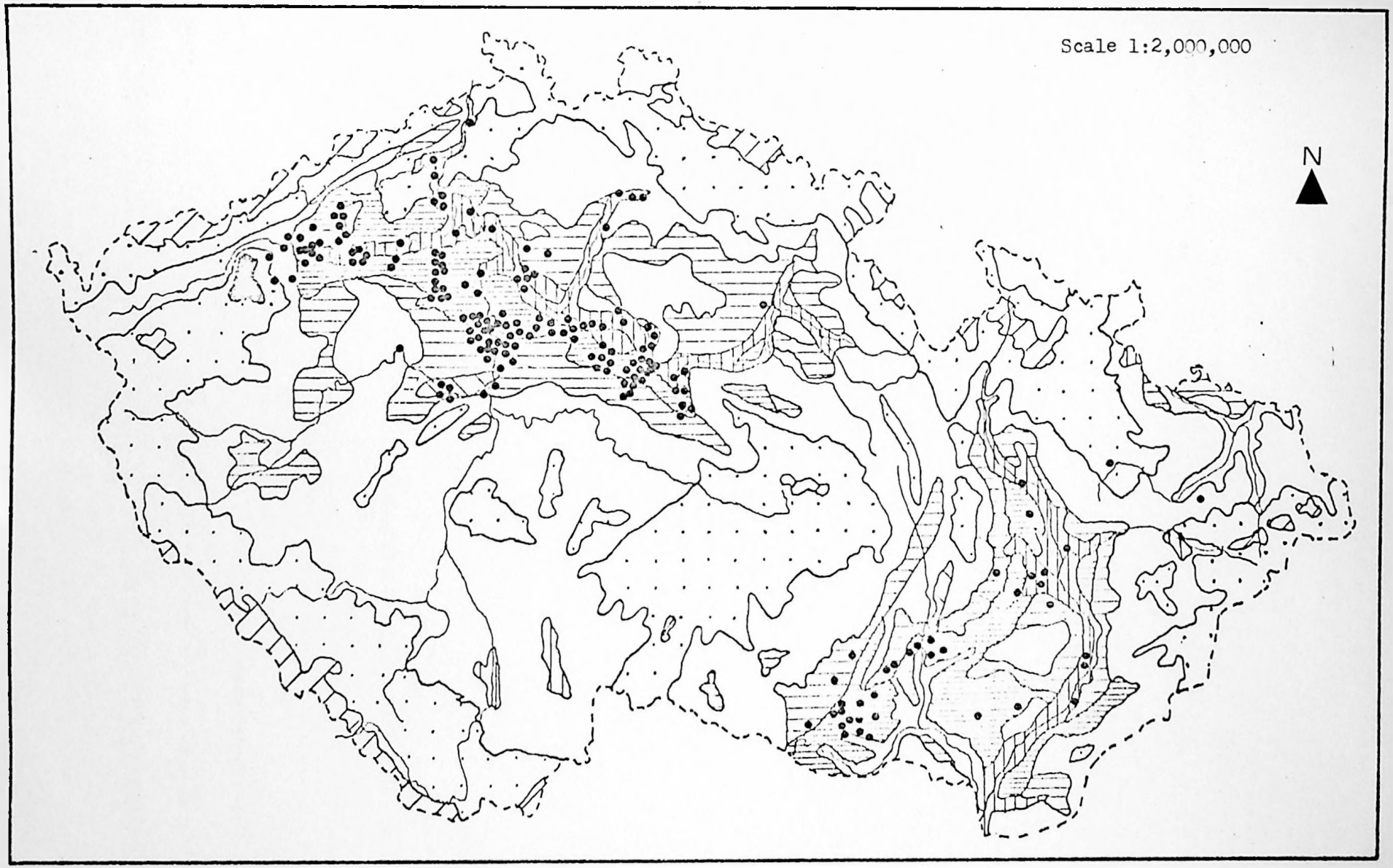
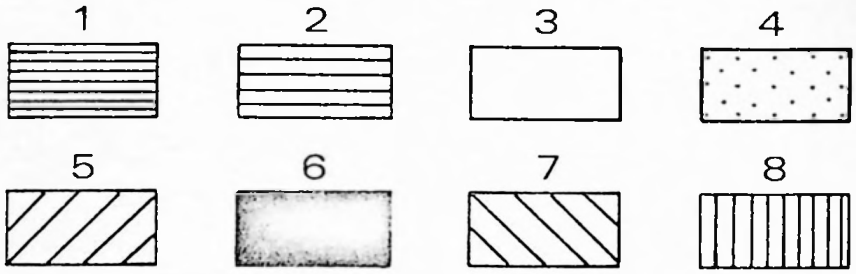


Figure 9.7b Řivnáč and Jevišovice B groups



Key: 1. Chernozem
2. Brown soils
3. Podsolic soils and brown forest soils
4. Brown forest soils of mountains.
5. Podsols of mountains
6. Grey forest soils
7. Rendzina soils
8. Soils of flood plain

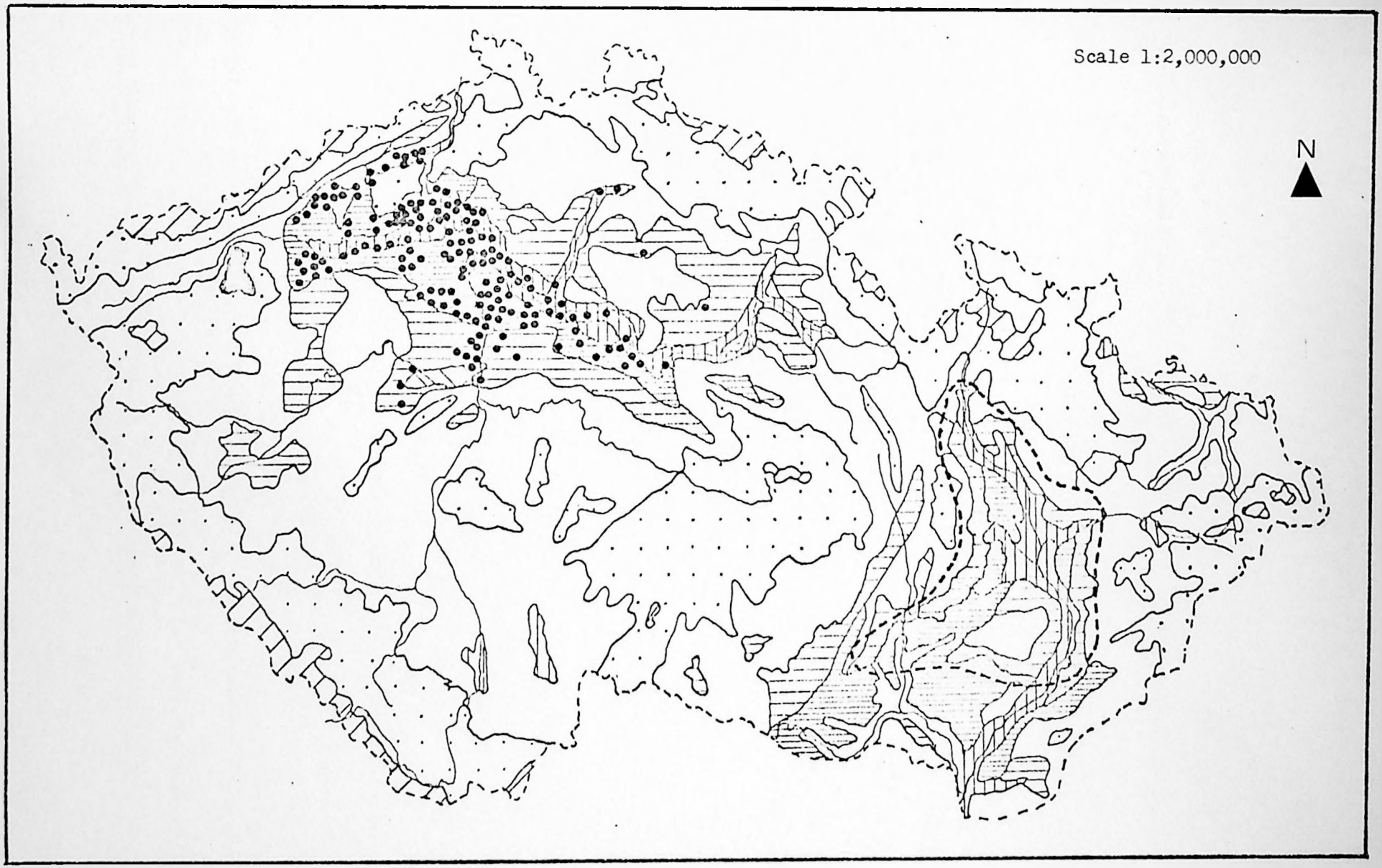
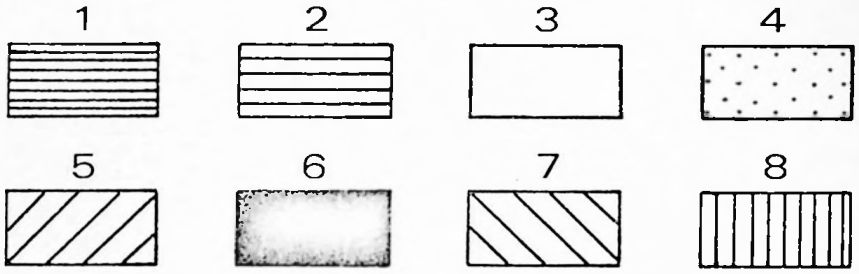


Figure 9.7c Corded Ware

Information on site locations unavailable for Moravia



Key: 1. Chernozem
2. Brown soils
3. Podsolic soils and brown forest soils
4. Brown forest soils of mountains.
5. Podsols of mountains
6. Grey forest soils
7. Rendzina soils
8. Soils of flood plain

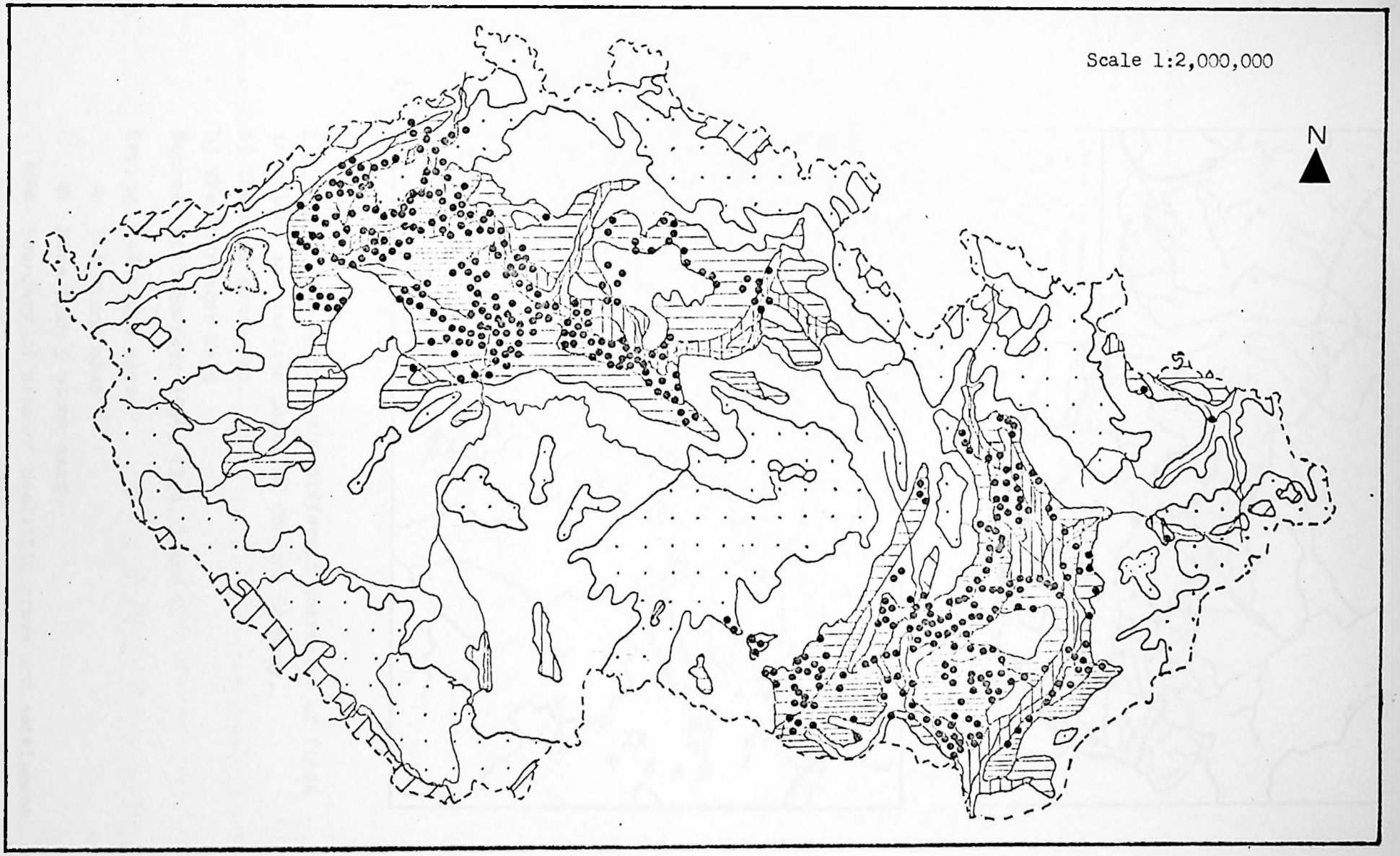
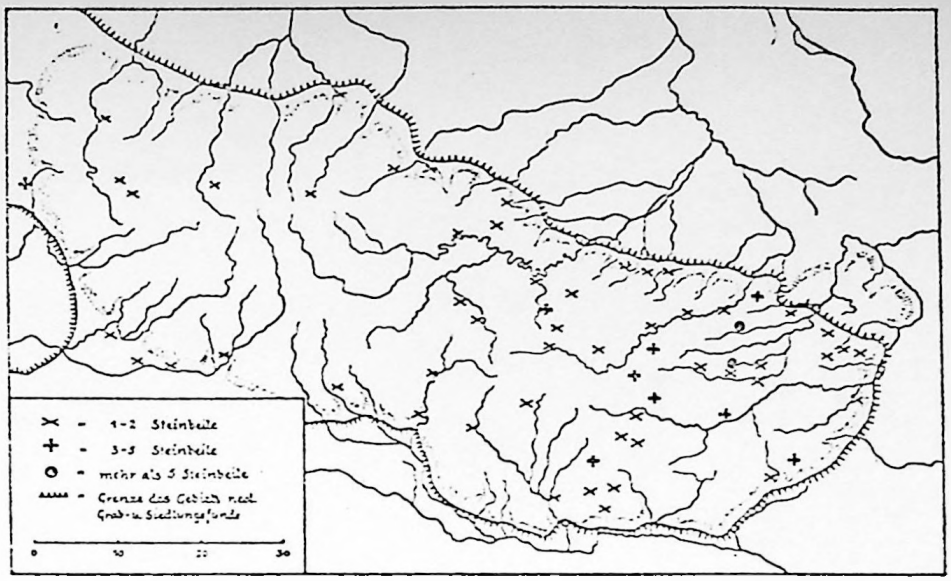


Figure 9.7d Bell Beaker

a



b

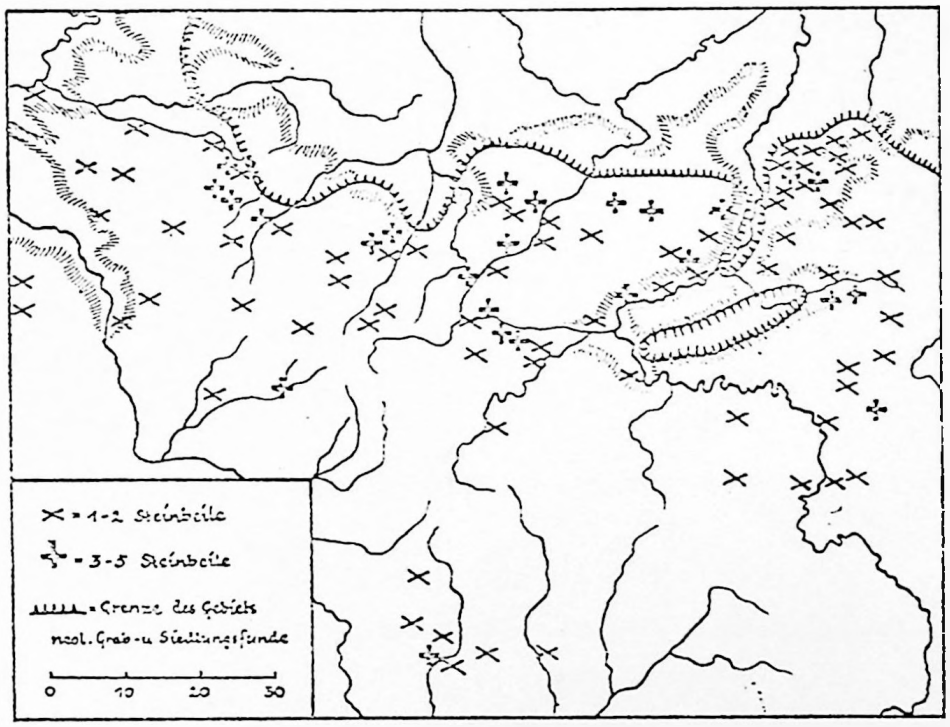


Figure 9.8 Map showing the different character of finds in upland and lowland parts of Central Germany.

a) The Harz mountains.

b) The Thüringer Wald

Source: Mildenberger 1959, figs. 1 and 2.

Key: × 1-2 stone axes

+ 3-5 stone axes

● More than 5 stone axes

Boundary of area of Neolithic grave and settlement finds.

Figure 9.9 Distribution of Neolithic sites on the lower Bode, Central Germany.
Source: Kaufmann 1967, Beilage 1.

Key

Loess

Degraded loess

Loess on shelly limestone

Loess on new red sandstone

Loess on sandy (ds) and marly (dm) glacial sediments

Chalky humus

Chalky humus on loess

Flood plain soils

Holocene limestone

Linearbandkeramik

Stichbandkeramik

Rössen

Gatersleben

Baalberg

Walternienburg-Bernburg

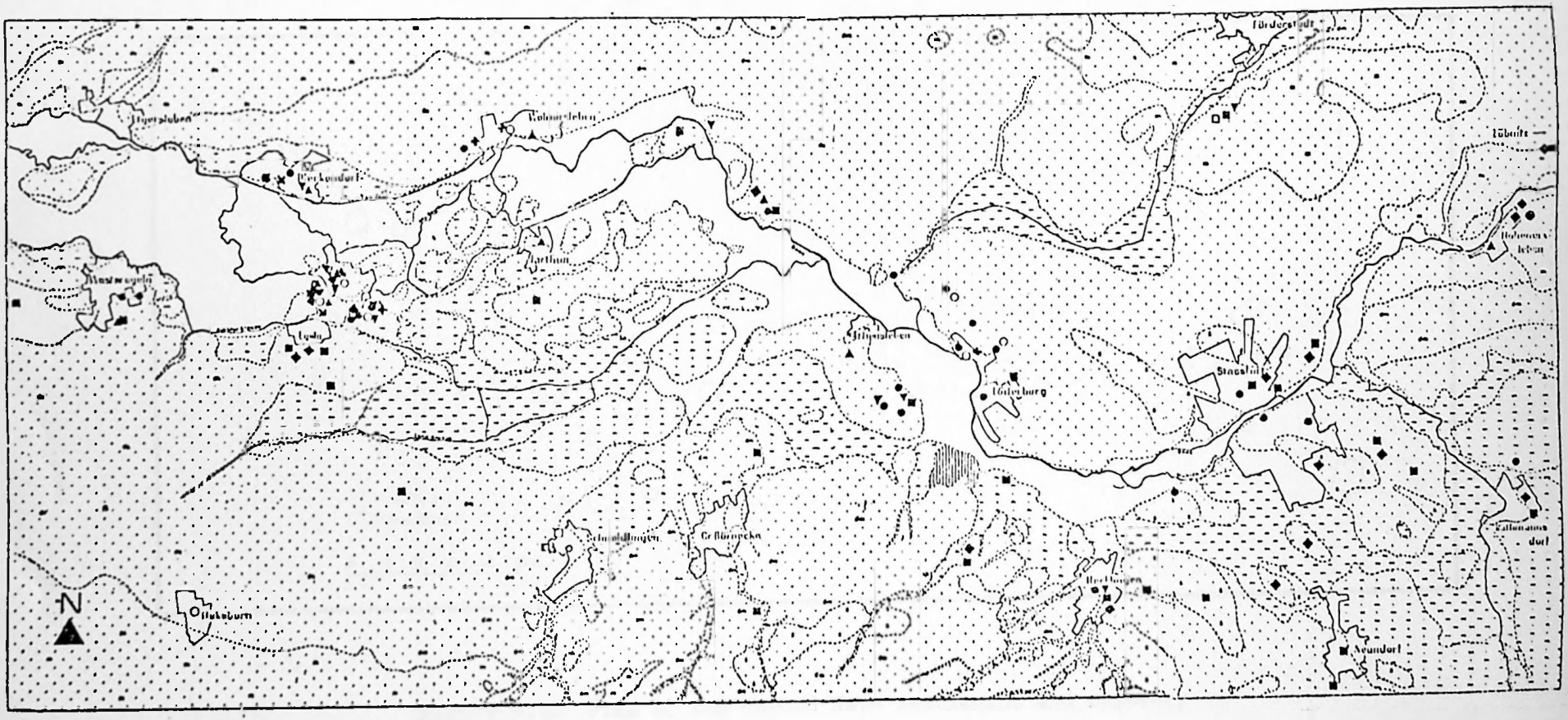
Corded Ware

Schönfeld-Ammensleben

Bell Beaker

Alttiefstichkeramik

Globular Amphora


Förderstedt
Löbejün
Hohenweiden
Ilgersleben
Bahrendorf
Bahrendorf
Bahrendorf
Westeregeln
Egeln
Gröningen
Förderburg
Staßfurt
Schwaldingen
Gr. Börnecke
Hecklingen
Neundorf
Hakeborn
N

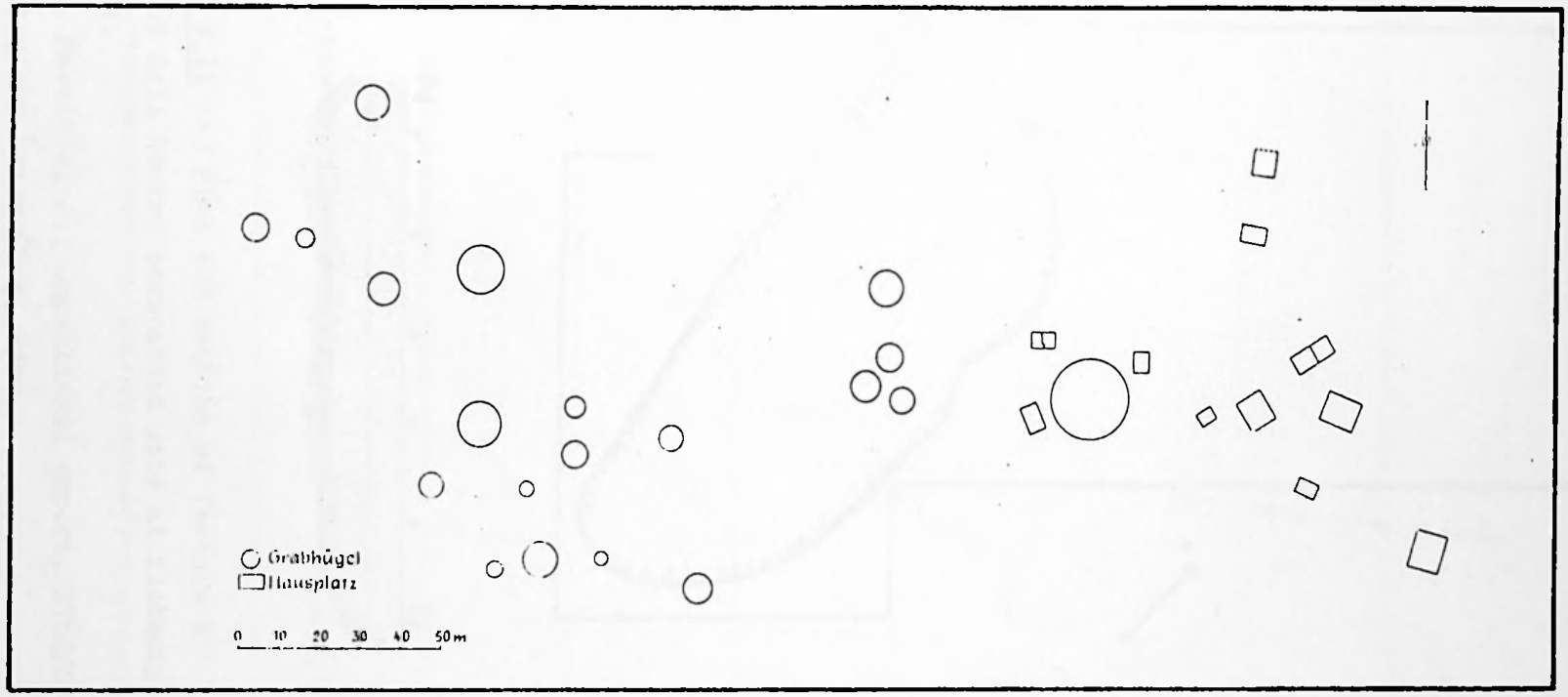


Figure 9.10 Plan of the Corded Ware settlement and cemetery in the Lucka Forest, Kr. Altenburg, Central Germany.
Source: Behrens 1973, fig. 82.

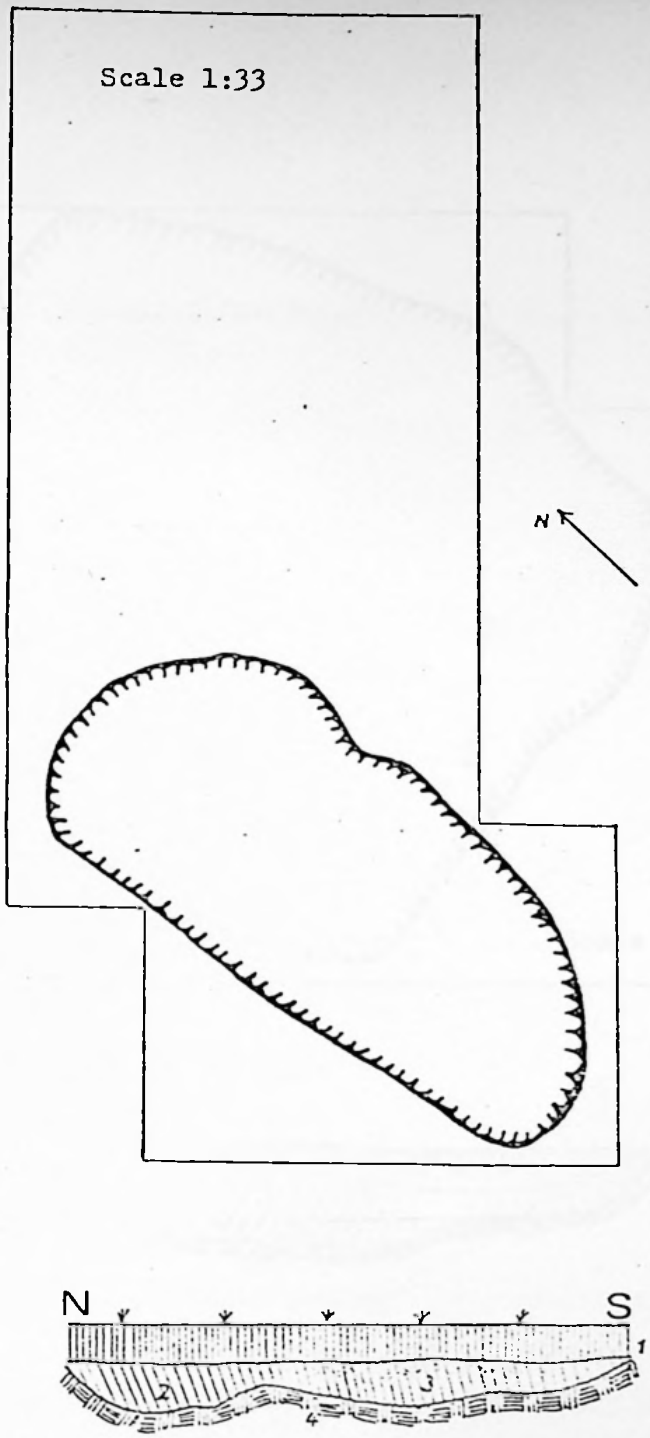
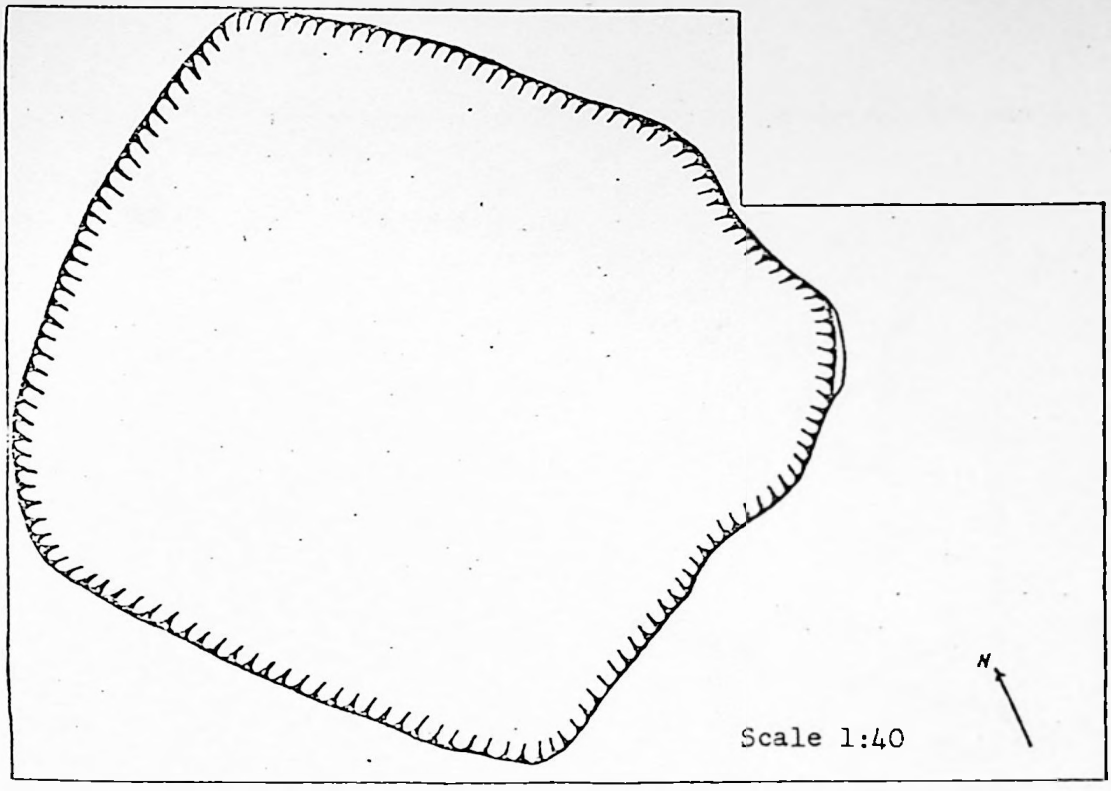


Figure 9.11 a) Plan and section of feature 4 from the Bell Beaker occupation site at Klobouky, Moravia.

Source: Pavelčík, J., unpublished report, 1762/68, Archeologický Ústav ČSAV, Brno.

Key: 1. Humus
2. Black fill
3. Clayey fill
4. Natural



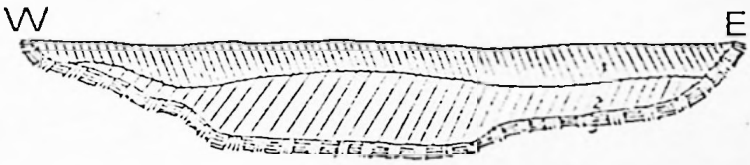


Figure 9.11 b) Plan and section of feature 6 from the Bell Beaker occupation site at Klobouky, Moravia.

Source: Pavelčík J., report number 1762/68, Archeologický Ústav ČSAV, Brno.

Key: 1. Black layer
2. Grey layer
3. Natural

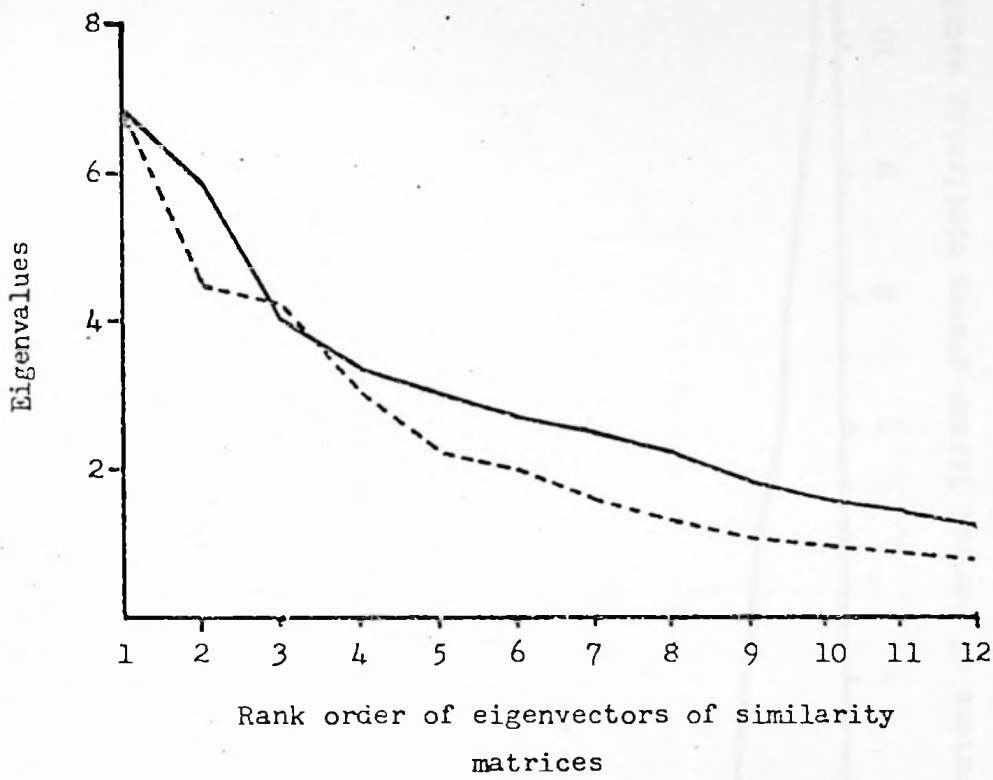


Figure 10.1 Graph of eigenvectors against their corresponding eigenvalues, from principal coordinates analyses of the Vikletice and Bohemian Corded Ware similarity matrices.

Key: —— Bohemian Corded Ware

---- Vikletice

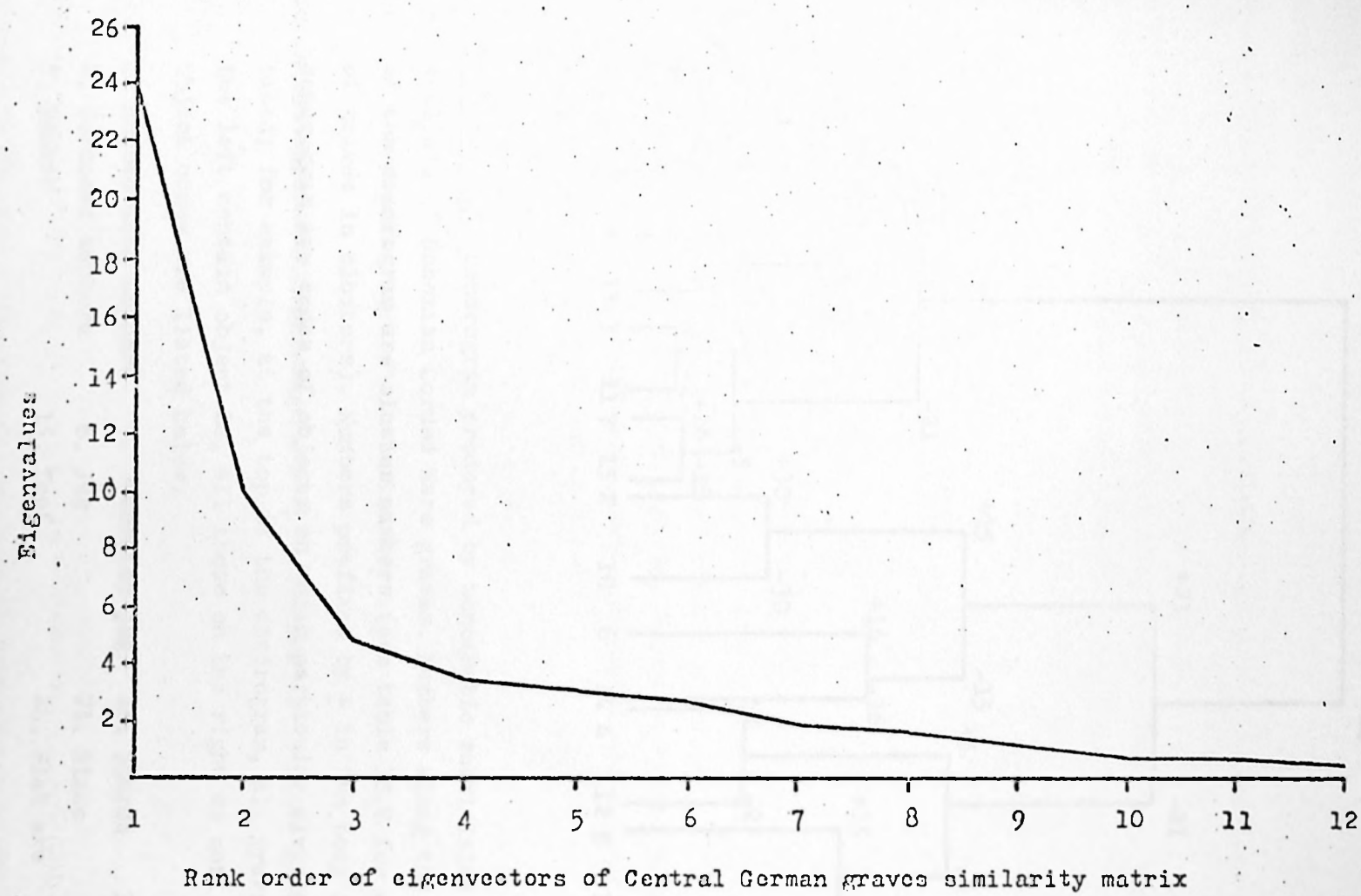


Figure 10.2 Graph of eigenvectors against their corresponding eigenvalues

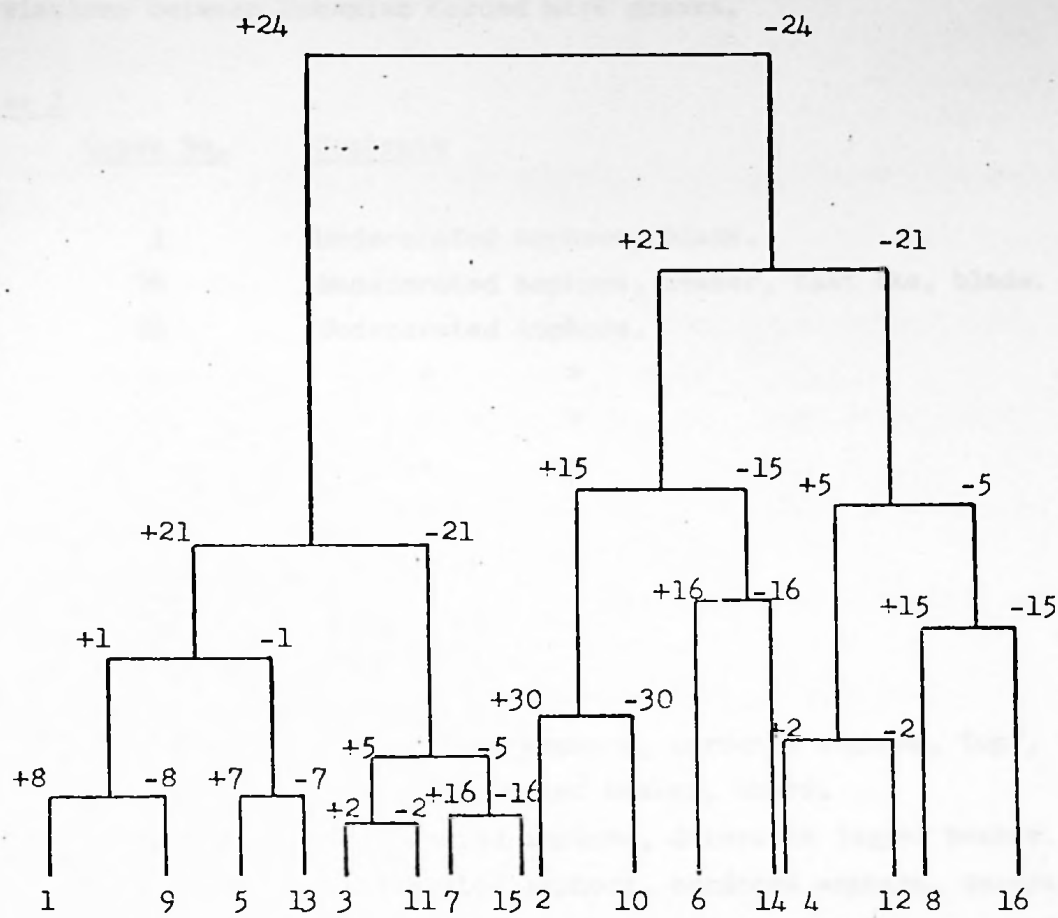


Figure 10.3 Dendrogram produced by monothetic subdivisive cluster analysis of Bohemian Corded Ware graves. Numbers along the bottom of the dendrogram are cluster numbers (see table 10.V for details of graves in clusters). Numbers prefixed by ± in the body of the dendrogram are codes of objects on which particular divisions are based; for example, at the top of the dendrogram, all graves on the left contain object 24, all those on the right do not. Object codes are listed below:

1. Undecorated amphora	7. Decorated jug	16. Sherds	30. Copper
2. Cordoned amphora	8. Jug	21. Blade	
5. Beaker	15. Topf	24. Flat axe	

Figure 10.4 Dendrogram produced by average-link cluster analysis of the relations between Bohemian Corded Ware graves.

Cluster 1

Side lying	Grave No.	Contents
RHS	1	Undecorated amphora, blade.
RHS	76	Undecorated amphora, beaker, flat axe, blade.
RHS	26	Undecorated amphora.
LHS	31	" "
LHS	62	" "
LHS	93	" "
LHS	100	" "

Cluster 2

Side lying	Grave No.	Contents
-	18	Undecorated amphora, cordoned amphora, Topf, decorated lugged beaker, sherd.
-	34	Undecorated amphora, decorated lugged beaker.
RHS	51	Undecorated amphora, cordoned amphora, decorated lugged beaker.

Cluster 3

Side lying	Grave No.	Contents
LHS	19	Undecorated amphora, jug, perforated teeth, copper, blade.
-	67	Incised amphora, undecorated amphora, amphora, 3 jugs, perforated shell, perforated teeth, copper, blade.
LHS	27	Undecorated amphora, 2 jugs, cylindrical vessel, blade, animal bones.
LHS	35	Undecorated amphora, decorated amphora, jug, Topf, blade.
LHS	70	Undecorated amphora, 2 jugs, Topf, blade.
LHS	95	Undecorated amphora, cordoned amphora, ribbed jug, blade.
RHS	21	Undecorated amphora, jug, decorated lugged beaker, mace head, flat axe, blade.

Fig. 10.4 (continued)

Cluster 3 (continued)

Side lying	Grave No.	Contents
-	48	Undecorated amphora, jug, decorated lugged beaker, undecorated lugged beaker, flat axe, blade, spindle whorl.
LHS	104	Undecorated amphora, jug, undecorated lugged beaker, flat axe, blade.
RHS	64	Undecorated amphora, jug, undecorated lugged beaker.
LHS	40	Undecorated amphora, Topf, small handled Topf, grindstone, blade.
RHS	46	Undecorated amphora, Topf, lugged beaker, sherd, blade.
RHS	84	Undecorated amphora, Topf, sherd, blade.

Cluster 4

Side lying	Grave No.	Contents
RHS	22	Undecorated amphora, jug, Topf, small 2-lugged Topf, copper.
LHS	101	Cordoned amphora, jug, Topf, cylindrical vessel, small 2-lugged Topf, copper.
RHS	105	Cordoned amphora, 3 small 2-lugged Töpfe, undecorated amphora, decorated jug, 2 jugs, 2 Töpfe, cylindrical vessel, decorated shell, copper, blade.
-	99	2 jugs, Topf, decorated shell, copper, blade.
LHS	39	Cordoned amphora, jug, Topf, undecorated handled beaker, small handled Topf, clay disc, blade.

Other

Side lying	Grave No.	Contents
-	20	Topf.
LHS	69	Undecorated amphora, decorated jug, Topf, animal bones.

Fig. 10.4 (continued)

Cluster 5

Side lying	Grave No.	Contents
LHS	73	Cordoned amphora, Topf, undecorated lugged beaker, decorated shell, perforated shell, perforated teeth.
-	74	Cordoned amphora, Topf, undecorated lugged beaker, cylindrical vessel, decorated shell.
LHS	79	Cordoned amphora, amphora, beaker, Topf, sherd.
-	97	Cordoned amphora, beaker, Topf, copper.

Cluster 6

Side lying	Grave No.	Contents
-	41	Undecorated amphora, cylindrical vessel.
-	53	Cylindrical vessel.
RHS	42	Small lugged Topf, cylindrical vessel, polypod bowl.
-	44	Decorated amphora, Topf, cylindrical vessel,blade.
LHS	57	Amphora, beaker, cylindrical vessel, decorated shell, blade.

Cluster 7

Side lying	Grave No.	Contents
-	2	Beaker, decorated jug.
RHS	16	Cordoned amphora, beaker, decorated jug.
LHS	72	Cordoned amphora, decorated jug.
-	94	2 cordoned amphorae, decorated jug, blade.

Other

Side lying	Grave No.	Contents
LHS	3	Decorated jug, lugged bowl, 2 basins, grindstone, bone point, blade.

Fig. 10.4 (continued)

Cluster 8

Side lying	Grave No.	Contents
RHS	6	2 flat axes, bone chisel.
RHS	7	4 flat axes, bone disc, blade.
LHS	8	Flat axe, blade.
RHS	45	Amphora, beaker, undecorated lugged beaker, flat axe, blade.
-	78	Lugged beaker, flat axe, blade.
RHS	75	Undecorated amphora, undecorated lugged beaker, hammer axe, flat axe, blade.
RHS	23	Cordoned amphora, 2 flat axes.
RHS	103	Cordoned amphora, beaker, mace head, flat axe, blade.
RHS	10	Decorated jug, decorated lugged beaker, cylindrical vessel, 2 flat axes, blade.
-	47	Undecorated amphora, decorated jug, decorated lugged beaker, flat axe, blade.
RHS	88	Undecorated amphora, decorated jug, decorated lugged beaker, hammer-axe, flat axe, blade.

Cluster 9

Side lying	Grave No.	Contents
-	9	Jug, hammer-axe, blade.
RHS	55	Jug, hammer-axe, blade, animal bones.
RHS	96	Hammer-axe, blade.
-	33	Hammer-axe.

Cluster 10

Side lying	Grave No.	Contents
-	11	Beaker, hammer-axe, flat axe.
-	43	Cordoned amphora, beaker, hammer-axe, flat axe.
RHS	92	Cordoned amphora, beaker, flat axe.

Fig. 10.4 (continued)

Cluster 10 (continued)

Side lying	Grave No.	Contents
RHS	66	Cordoned amphora, beaker, undecorated lugged beaker, hammer-axe, flat axe, grindstone.
LHS	15	Cordoned amphora, beaker, hammer-axe.
-	68	2 cordoned amphorae, 2 beakers, hammer-axe, blade.
-	98	Cordoned amphora, beaker, sherd, hammer-axe, blade.
RHS	65	Cordoned amphora, undecorated lugged beaker, hammer-axe.
RHS	52	Undecorated amphora, beaker, hammer-axe, mace head.
RHS	13	Sherds, hammer-axe, flat axe.
RHS	24	Undecorated amphora, 2 flat axes.
RHS	29	Cordoned amphora, undecorated jug, hammer-axe, flat axe.
RHS	28	Amphora, beaker, 2 decorated jugs, hammer-axe, flat axe.

Cluster 11

Side lying	Grave No.	Contents
RHS	17	Sherds, blade.
-	59	" "
LHS	36	Sherds, blade, animal bones.
RHS	56	Sherds, blade, mace head.
LHS	77	Cordoned amphora, sherds, blade.
LHS	102	Jug, small 2-lugged Topf, sherds, blade.
RHS	49	Bone pin, blade.
-	108	Blade.
-	82	Sherds, lugged beaker.

Cluster 12

Side lying	Grave No.	Contents
LHS	25	Beaker, perforated shell disc, perforated teeth, blade.

Fig. 10.4 (continued)

Cluster 12 (continued)

Side lying	Grave No.	Contents
LHS	38	Perforated shell disc, perforated teeth, blade.
LHS	63	Cylindrical vessel, perforated shell, perforated teeth, blade.
LHS	50	Perforated teeth, blade.
LHS	60	Undecorated amphora, perforated shell, perforated teeth.

Cluster 13

Side lying	Grave No.	Contents
RHS	80	Amphora, undecorated handled beaker, blade.
LHS	89	Amphora, beaker, decorated shell, perforated shell, blade.
-	90	Amphora, beaker, copper, blade.
RHS	91	Amphora.
-	107	Amphora, perforated shell.

Cluster 14

Side lying	Grave No.	Contents
-	83	Amphora, decorated jug, sherds, flat axe, blade.
RHS	86	Amphora, cylindrical vessel, sherds, flat axe.
LHS	87	Amphora, cylindrical vessel, sherds, perforated shell, perforated teeth.

Cluster 15

Side lying	Grave No.	Contents
RHS	4	Decorated amphora, beaker.
RHS	54	Decorated amphora, beaker, decorated jug.
-	14	Beaker.
-	81	"
-	85	Beaker, jug.
-	106	Beaker, decorated shell.
LHS	61	Beaker, lugged beaker, lugged bowl.

Fig. 10.4 (continued)

Cluster 16

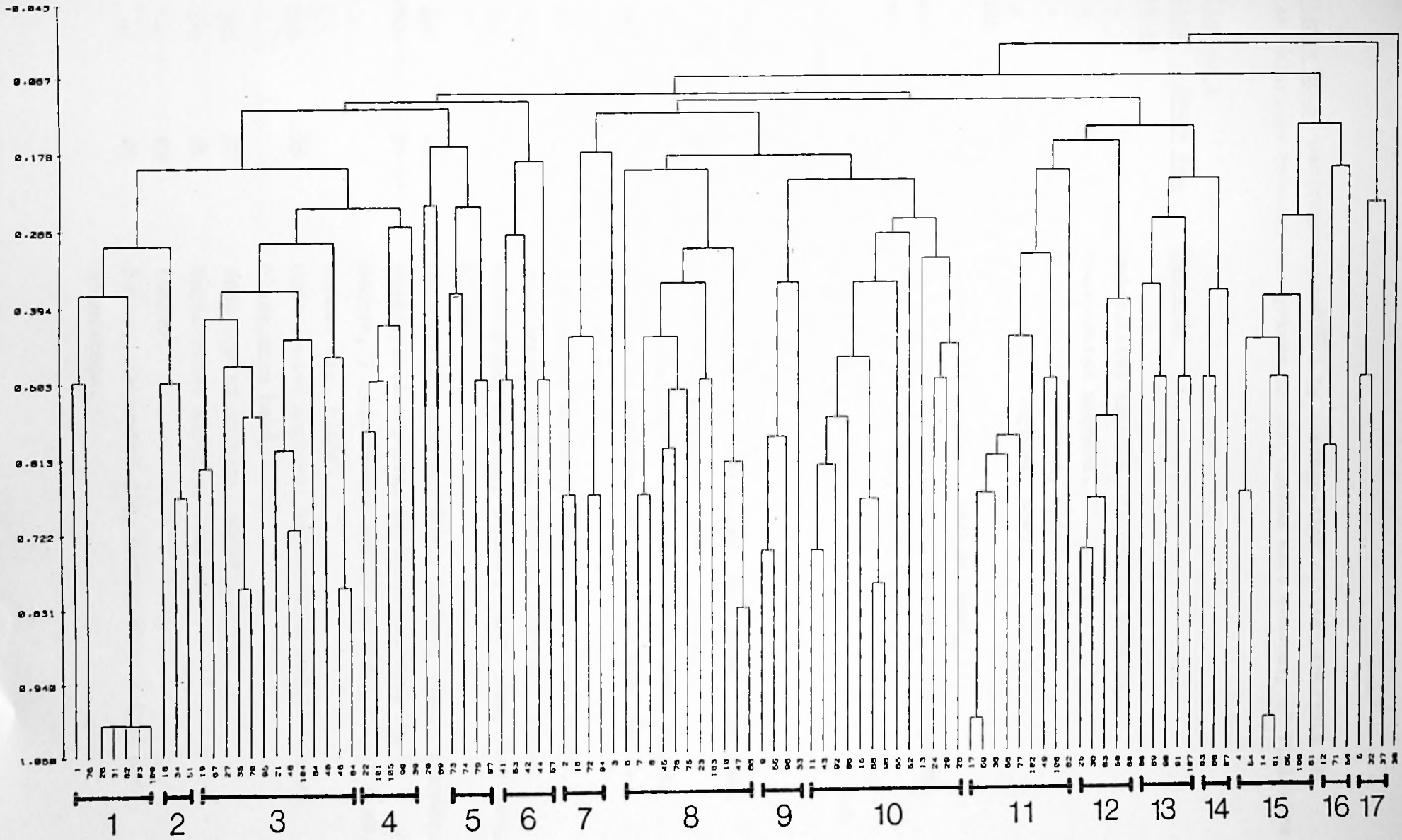
Side lying	Grave No.	Contents
-	12	Beaker, decorated jug, sherds, mace head.
-	71	Decorated jug, jug, sherds, mace head.
RHS	58	Jug, animal bones.

Cluster 17

Side lying	Grave No.	Contents
LHS	5	Decorated amphora, decorated lugged beaker.
-	32	Decorated lugged beaker.
RHS	37	Decorated amphora.

Other

Side lying	Grave No.	Contents
LHS	30	Small 2-lugged Topf.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2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17

Figure 10.5 Dendrogram produced by average-link cluster analysis of the relations between the graves in the Corded Ware cemetery of Vikletice.

Cluster 1

Side lying	Grave No.	Contents
-	1	Undecorated amphora, decorated amphora.
-	11	Undecorated amphora.
-	22	Undecorated amphora, flint point.
-	47	Undecorated amphora, bowl.
LHS	85	" " "
-	75	Undecorated amphora, beaker, bowl.
RHS	55	Undecorated amphora, bowl, beaker, flint point.
RHS	90	Undecorated amphora, bowl, beaker.

Cluster 2

Side lying	Grave No.	Contents
-	14	Beaker, blade, hammer-axe, mace head, flat axe.
-	20	Undecorated amphora, beaker, blade.
-	31	Undecorated amphora, beaker, mace head, blade.
RHS	30	Undecorated amphora, beaker, flat axe, blade, grindstone.
RHS	79	Undecorated amphora, beaker, flat axe, blade.
RHS	84	Undecorated amphora, beaker, flat axe, blade.
RHS	78	Undecorated amphora, beaker, hammer-axe, flat axe, blade.
RHS	48	Undecorated amphora, bowl, beaker, blade, grindstone.
-	77	Undecorated amphora, cordoned amphora, Topf, beaker, 2 undecorated lugged beakers, 2 flat axes, hammer axe, blade.
RHS	65	Undecorated amphora, undecorated lugged beaker, blade, mace head.
LHS	37	Undecorated amphora, beaker, Topf.
RHS	86	Undecorated amphora, beaker.
-	87	Beaker.
-	26	Beaker, decorated jug, hammer axe, 2 flat axes, grindstone.

Fig. 10.5 (continued)

Cluster 3

Side lying	Grave No.	Contents
LHS	6	Topf, jug, small 2-lugged Topf.
LHS	59	Undecorated amphora, jug, Topf, vessel.
LHS	80	2 undecorated amphorae, jug, Topf, blade.
-	17	Undecorated amphora, Topf, undecorated lugged beaker.
LHS	83	" " " " " "
LHS	24	2 undecorated amphorae, 2 Töpfe, small 2 lugged Topf, undecorated lugged beaker.
LHS	52	Undecorated amphora, decorated amphora, Topf, small 2-lugged Topf.
LHS	36	Undecorated amphora, decorated amphora, Topf, 2 blades, 3 flakes, flint point, perforated teeth.
LHS	51	Undecorated amphora, small handled Topf, Topf, blade, flake.
LHS	53	Undecorated amphora, small handled Topf, Topf,blade.

Cluster 4

Side lying	Grave No.	Contents
-	18	2 polypod bowls, jugs, decorated jug, decorated lugged beaker, beaker, 5 undecorated amphorae, decorated amphora, 2 small 2-lugged Töpfe, 3 Töpfe, hammer-axe, mace head, 2 blades, flake.
RHS	19	Undecorated lugged beaker, 2 decorated lugged beakers, Topf, small 2-lugged Topf, undecorated amphora, mace head, 2 blades, flint point, 3 arrowheads, flake.
-	60	2 Töpfe, small 2-lugged Topf, 3 undecorated amphorae, 2 undecorated lugged beakers, beaker, jug, blade, copper, bone tool, bone awl.

Fig. 10.5 (continued)

Cluster 5

Side lying	Grave No.	Contents
RHS	25	Decorated lugged beaker, undecorated amphora, hammer-axe.
RHS	34	Undecorated amphora, decoratedlugged beaker, cordoned amphora, hammer-axe, blade.
RHS	74	Undecorated amphora, decorated lugged beaker, blade.
-	33	Undecorated amphora, decorated lugged beaker, Topf, cylindrical vessel.
-	45	Undecorated amphora, decorated lugged beaker, Topf, lugged Topf, flint point.
LHS	57	Undecorated amphora, Topf, cylindrical vessel, basin, polypod bowl.

Cluster 6

Side lying	Grave No.	Contents
-	9	Decorated lugged beaker, flat axe, 2 flakes.
-	13	Decorated lugged beaker, flat axe, sherd, mace head, blade.
-	16	Undecorated amphora, decorated jug, sherds, 2 flat axes, blade, mace head, grindstone.
RHS	58	Sherds, flat axe,blade, flake.

Cluster 7

Side lying	Grave No.	Contents
-	8	Amphora, flat axe,blade, animal bones, bone point, grindstone.
LHS	67	2 amphorae, Topf, small 2 lugged Topf, animal bones, grindstone, copper.
LHS	66	Amphora, Topf, 2 cylindrical vessels, blade, bone point, copper, clay ball, shell necklace.

Fig. 10.5 (continued)

Cluster 8

Side lying	Grave No.	Contents
LHS	10	2 small 2-lugged Töpfe, undecorated amphora, Topf, decorated jug, flake, grindstone.
LHS	27	Cordoned amphora, 2 lugged amphorae, Topf, decorated jug, flint point, flake.
-	21	Cordoned amphora, lugged amphora, jug, flake,blade, grindstone, perforated dog teeth, perforated shell disc.

Cluster 9

Side lying	Grave No.	Contents
-	12	Cordoned amphora, small 2-lugged Topf, decorated jug, Topf, cylindrical vessel, blade, copper.
-	76	Cordoned amphora, small 2-lugged Topf, Topf, undecorated lugged beaker, 3 blades.
LHS	54	Cordoned amphora, Topf, stone disc, blade.
LHS	81	Cordoned amphora, Topf, small handled Topf, basin, blade.
LHS	38	Cordoned amphora, undecorated amphora, blade.
RHS	46	Cordoned amphora, decorated jug, blade, flat axe.

Other

Side lying	Grave No.	Contents
LHS	41	Cordoned amphora, undecorated lugged beaker, bowl.
LHS	62	Cordoned amphora, decorated shell.
RHS	68	Cylindrical vessel.
LHS	71	Undecorated amphora, cylindrical vessel.

Fig. 10.5(continued)

Cluster 10

Side lying	Grave No.	Contents
LHS	2	Beaker, sherds, 2 blades.
-	40	Beaker, blade, decorated amphora.
-	61	Decorated amphora, 2 blades, bone awl, antler fragments.
-	69	Decorated amphora, beaker, blade.
RHS	82	" " " "
-	39	Undecorated amphora, decorated amphora, cylindrical vessel, undecorated lugged beaker, bowl, flint blade.
LHS	49	Decorated amphora, cylindrical vessel, decorated lugged beaker, bowl, blade.

Cluster 11

Side lying	Grave No.	Contents
-	23	Decorated jug, decorated amphora, Topf.
-	73	Cordoned amphora, 2 decorated amphorae, beaker, Topf, copper, hammer-axe.
LHS	70	Decorated amphora, Topf, basin.

Cluster 12

Side	Grave No.	Contents
-	43	Decorated amphora.
-	50	" "
LHS	88	Decorated amphora, decorated lugged beaker.

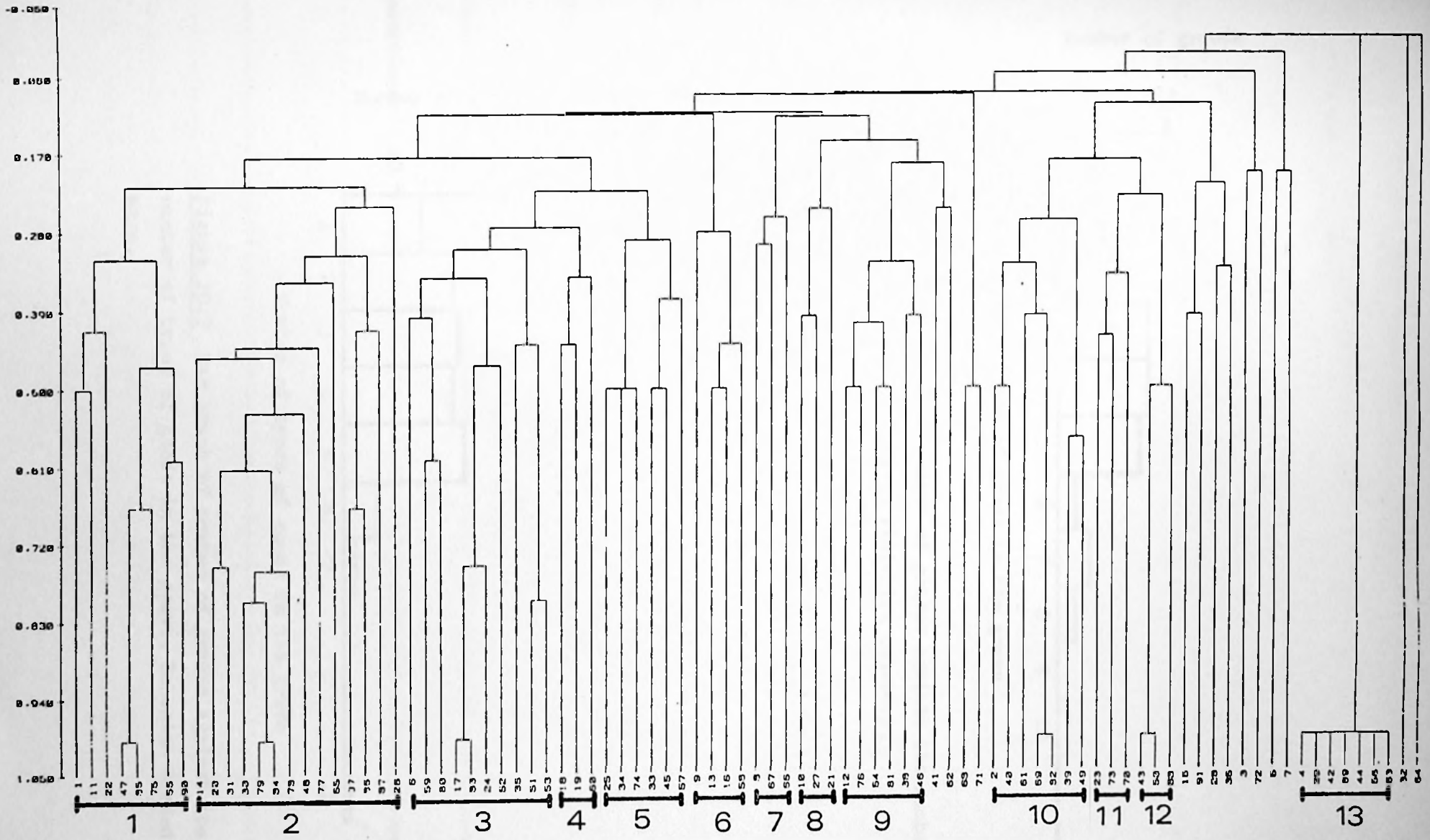
Fig. 10.5 (continued)

Other Side lying	Grave No.	Contents
-	15	Jug, decorated lugged beaker.
LHS	91	Decorated amphora, cordoned amphora, beaker, jug, decorated lugged beaker.
-	28	Jug, small handled Topf, copper,blade.
-	35	Jug, beaker, copper.
LHS	3	Cordoned amphora, beaker, small handled Topf, small lugged Topf.
LHS	72	Undecorated lugged beaker, small handled Topf.
LHS	5	Cordoned amphora, sherds, flint point, perforated teeth, bone bead.
LHS	7	Sherds.

Cluster 13

Side lying	Grave No.	Contents
-	4	No goods.
RHS	29	" "
-	42	" "
LHS	89	" "
-	44	" "
-	56	" "
-	63	" "

Other Side lying	Grave No.	Contents
LHS	32	Flint scraper.
-	64	Worked bone.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0.280
0.390
0.500
0.610
0.720
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0.940
1.050
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4
5
6
7
8
9
10
11
12
13

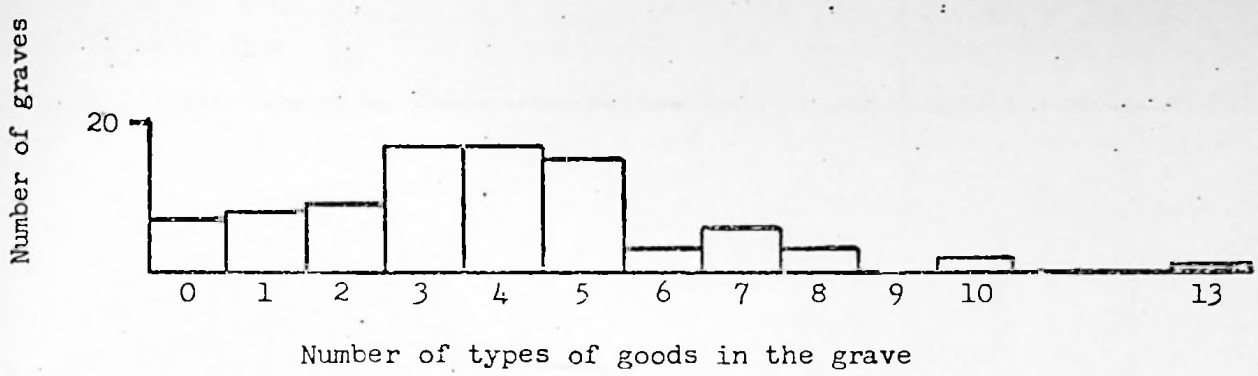


Figure 10.6 Bar graph of number of graves against the number of types of goods in the grave. Vikletice cemetery.

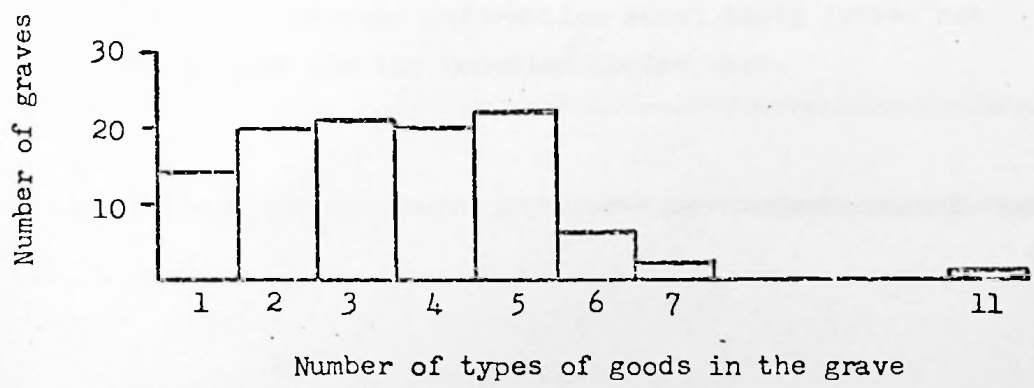


Figure 10.7 Bar graph of number of graves against the number of types of goods in the grave. Bohemian Corded Ware.

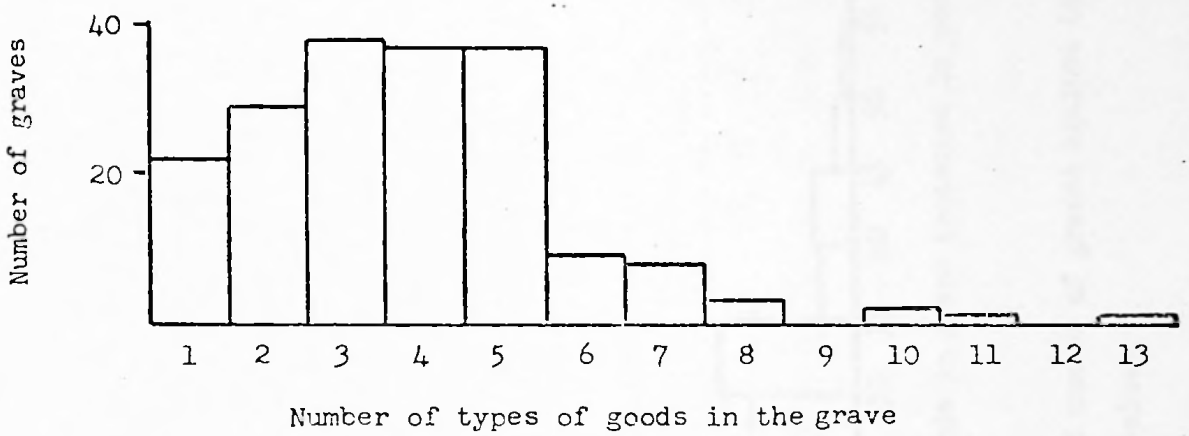


Figure 10.8 Bar graph of number of graves against the number of types of goods in the grave. Figures 10.6 and 10.7 combined. Graves from Vikletice with no goods excluded because information about empty graves not available for the Bohemian Corded Ware.

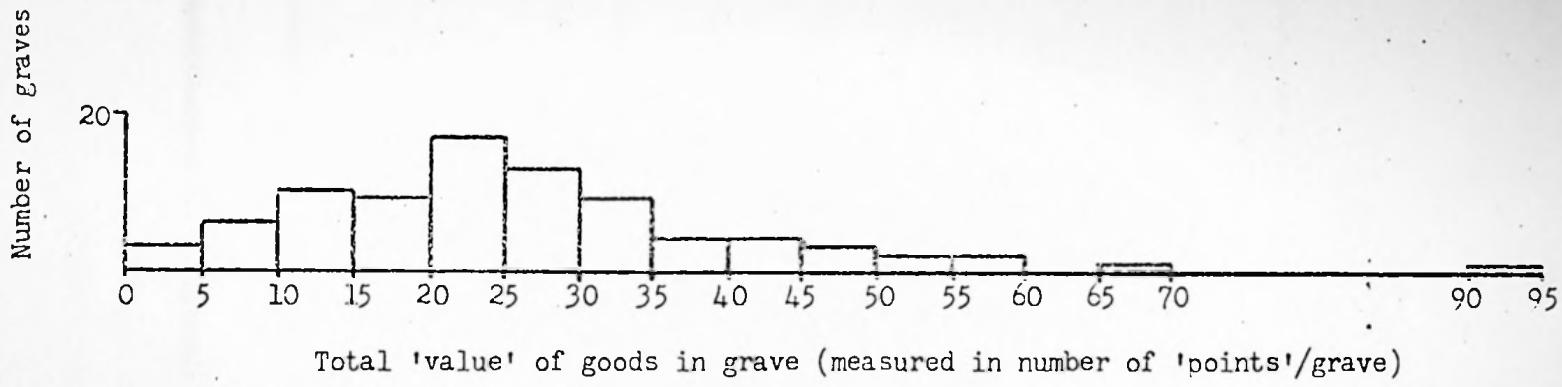


Figure 10.9 Bar graph of number of graves against total 'value' of goods in grave. See text for meaning of 'value'.

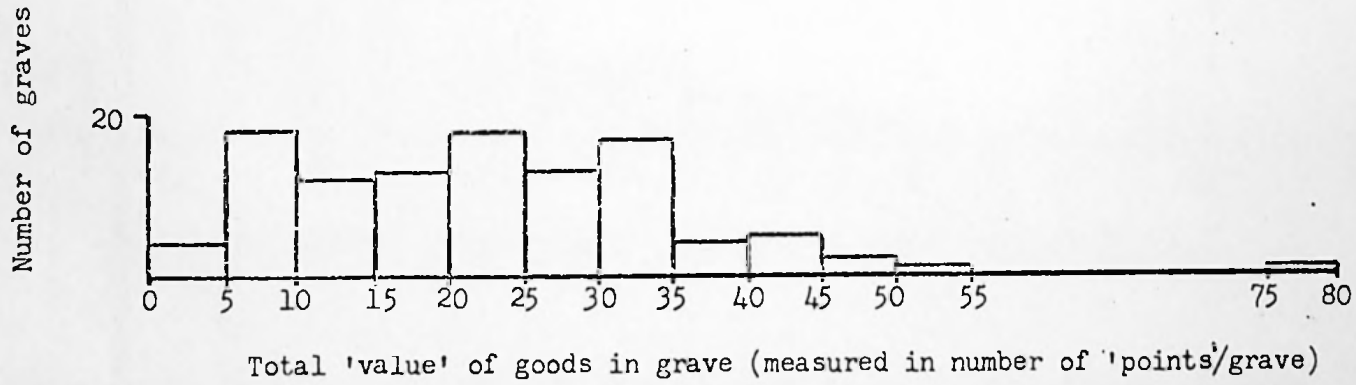


Figure 10.10 Bar graph of number of graves against total 'value' of goods in grave. See text for meaning of 'value'.

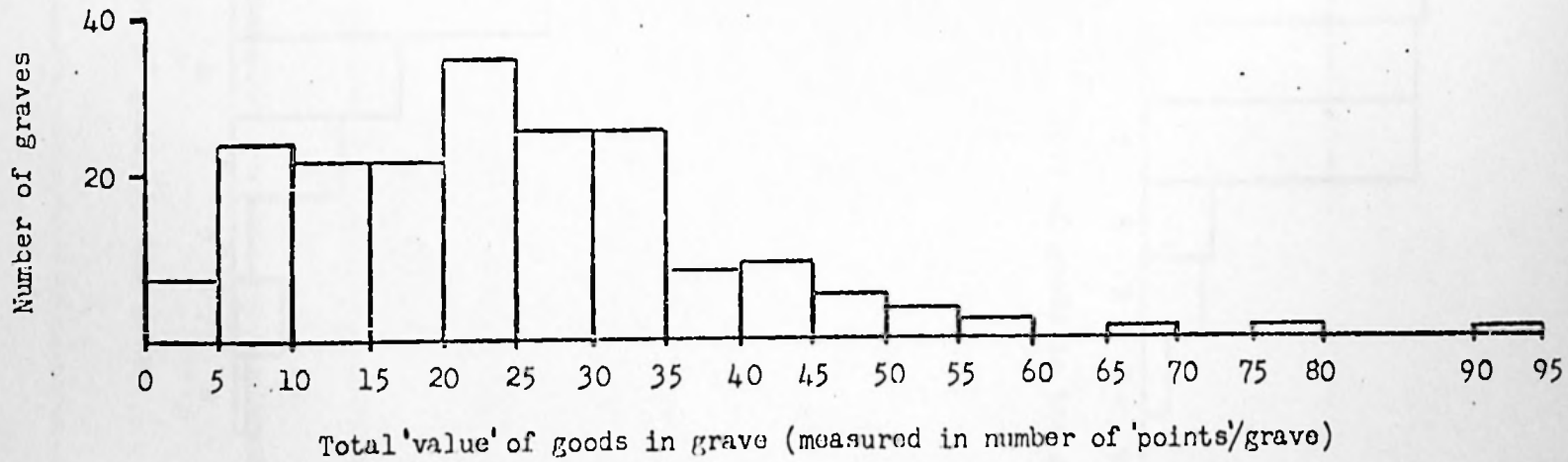
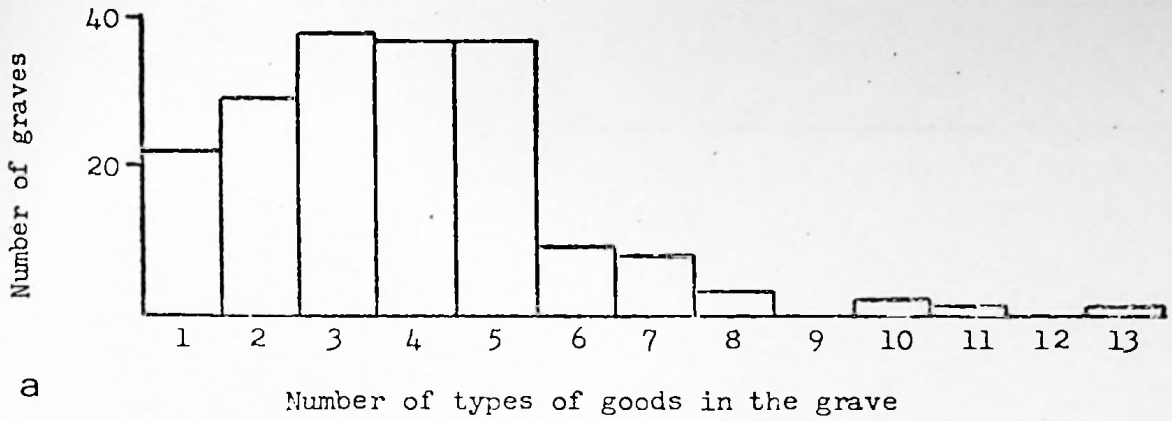


Figure 10.11 Bar graph of number of graves against total 'value' of goods in grave. Combination of figures 10.9 and 10.10. See text for meaning of 'value'.



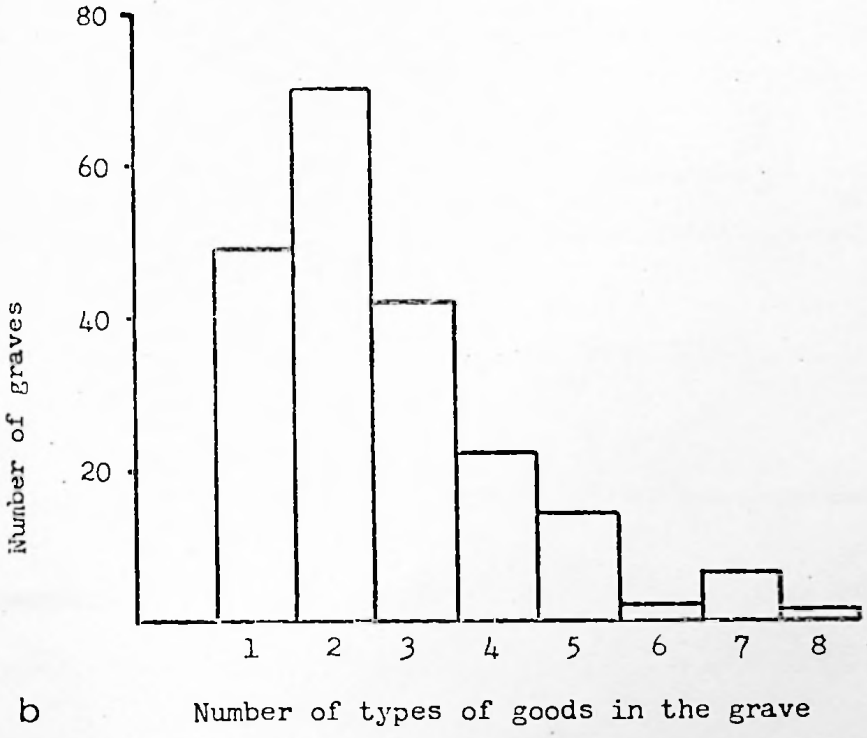


Figure 10.12 Bar graph of number of graves against the number of types of goods in the grave. Comparison of Bohemian Corded Ware and Bohemian Bell Beakers.

a) Corded Ware

b) Bell Beakers

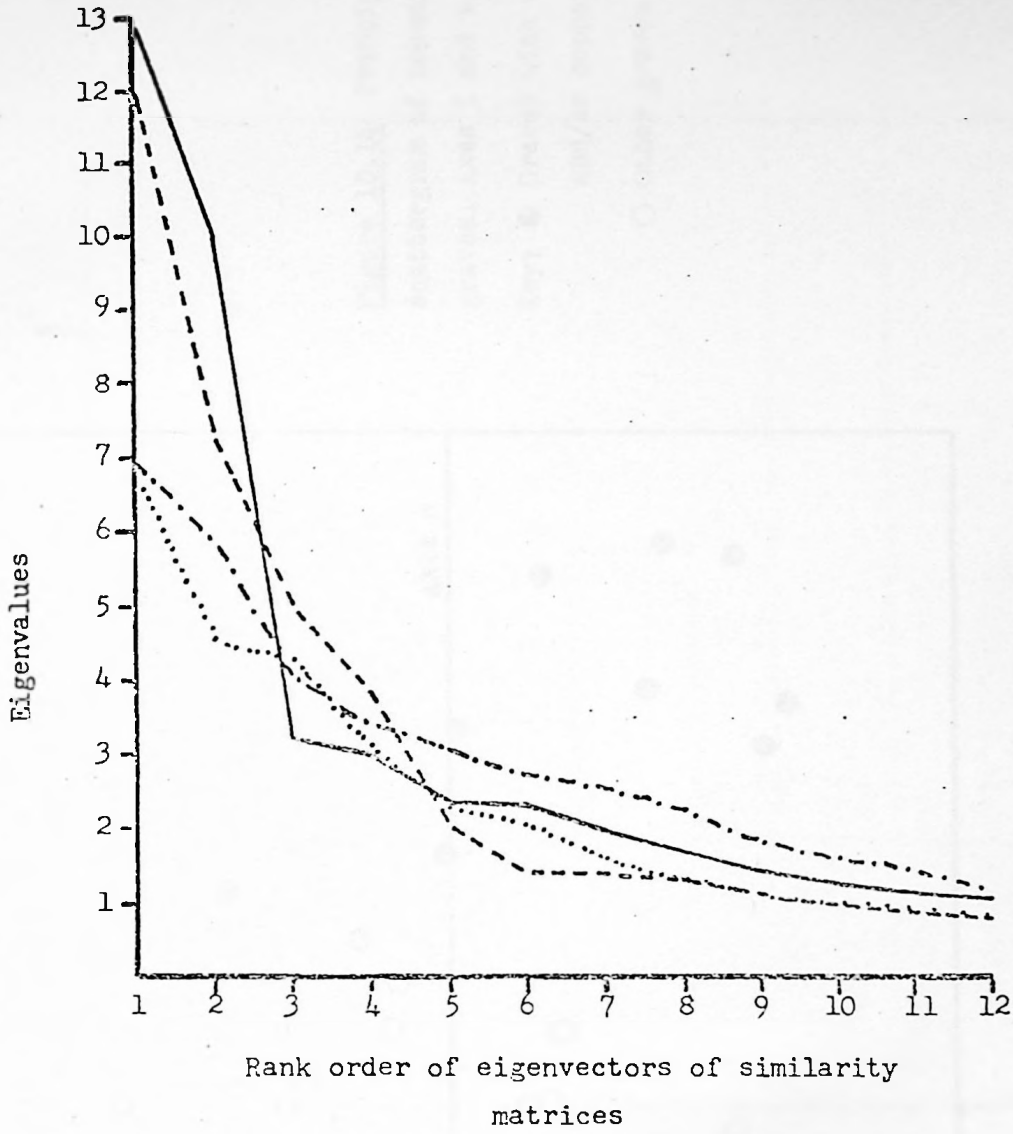


Figure 10.13 Graph of eigenvectors against their corresponding eigenvalues, from principal coordinates analyses of the Vikletice, Bohemian Corded Ware, Bohemian Bell Beaker and Moravian Bell Beaker similarity matrices.

Key: ——— Bohemian Bell Beakers
- - - - Moravian Bell Beakers
-·-·- Bohemian Corded Ware
····· Vikletice Corded Ware

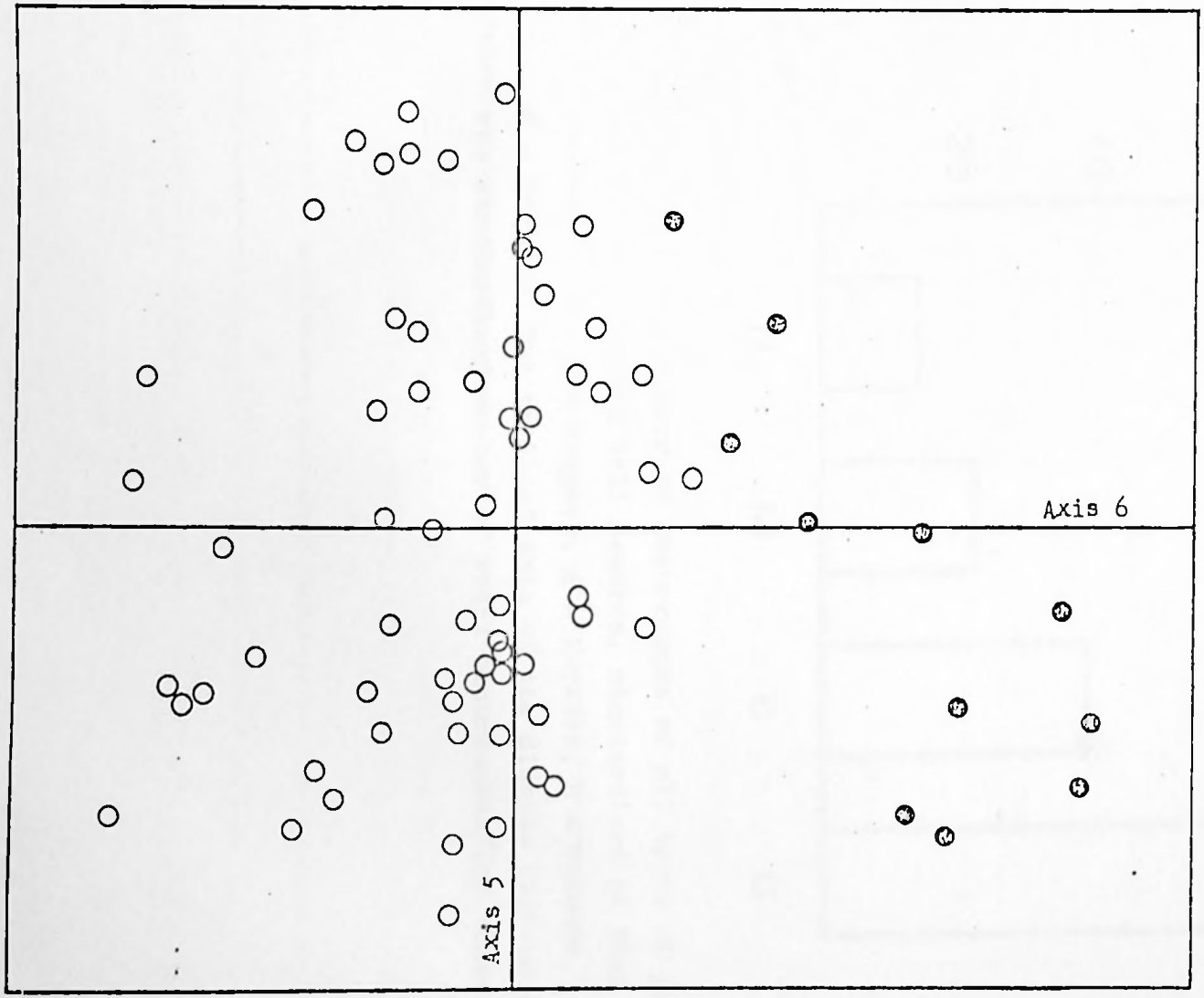


Figure 10.14 Principal Coordinates scattergram of Bohemian Bell Beaker graves. Axes 5 and 6.

Key: ● Graves with wrist-guards and/or copper daggers.

○ Other graves

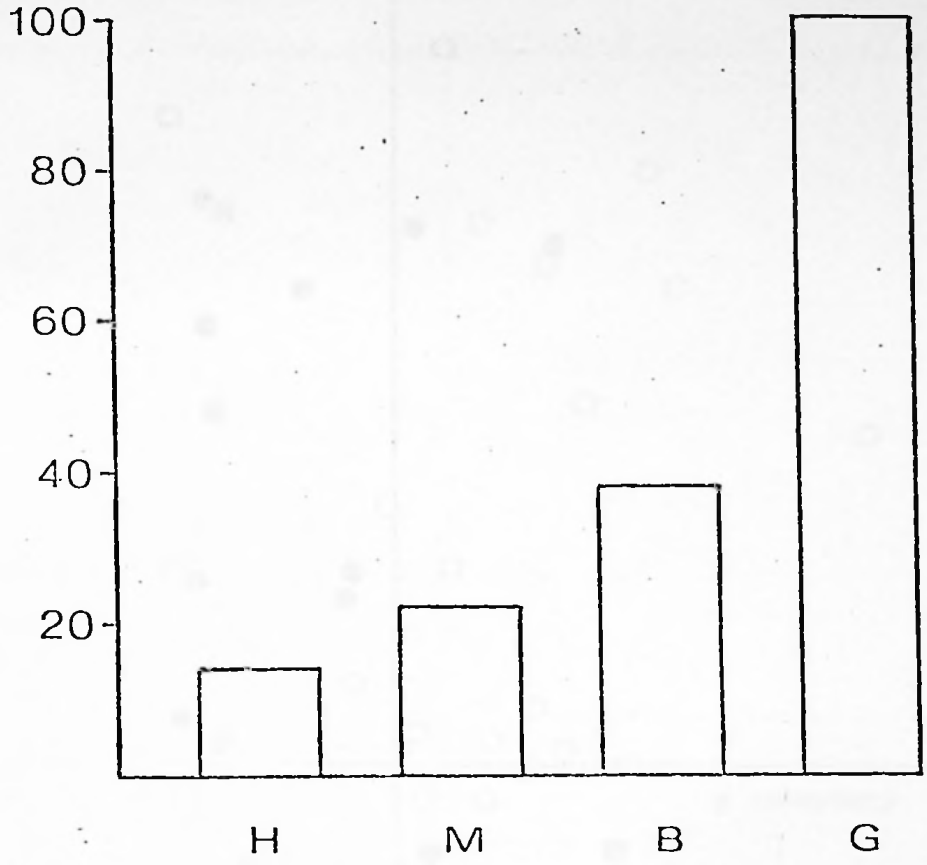


Figure 11.1 The number of occurrences of all types of panel motif/100 decorated Bell Beakers, standardised so that Germany = 100. H = Hungary, M = Moravia, B = Bohemia, G = Germany. The vertical axis of the diagram represents the standardised number of motif occurrences/100 vessels.

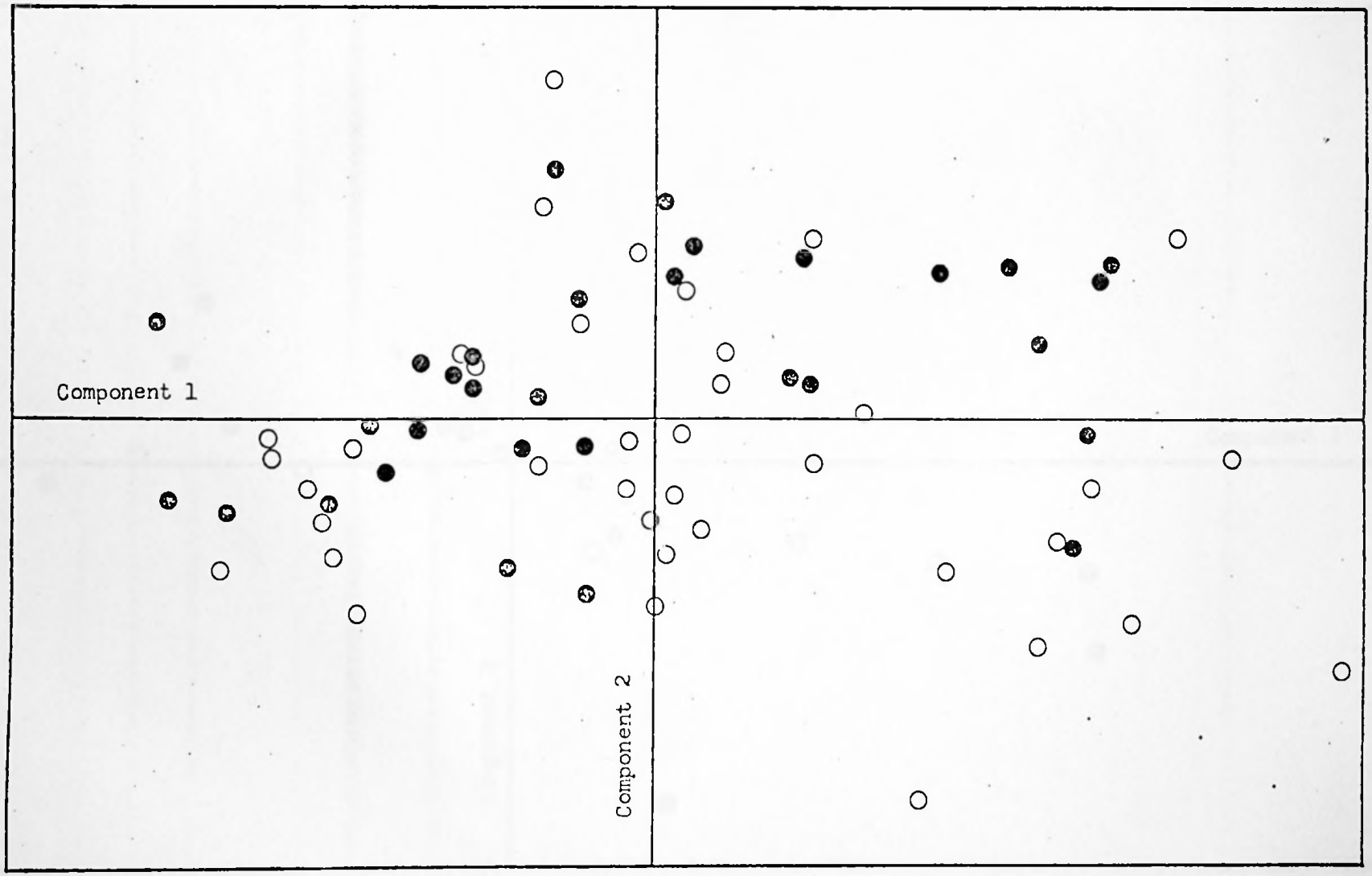


Figure 11.2 Principal components scattergram of Bohemian Corded Ware and Bell Beaker jugs. Axes are components 1 and 2.

Key: ● Bell Beaker jugs
○ Corded Ware jugs

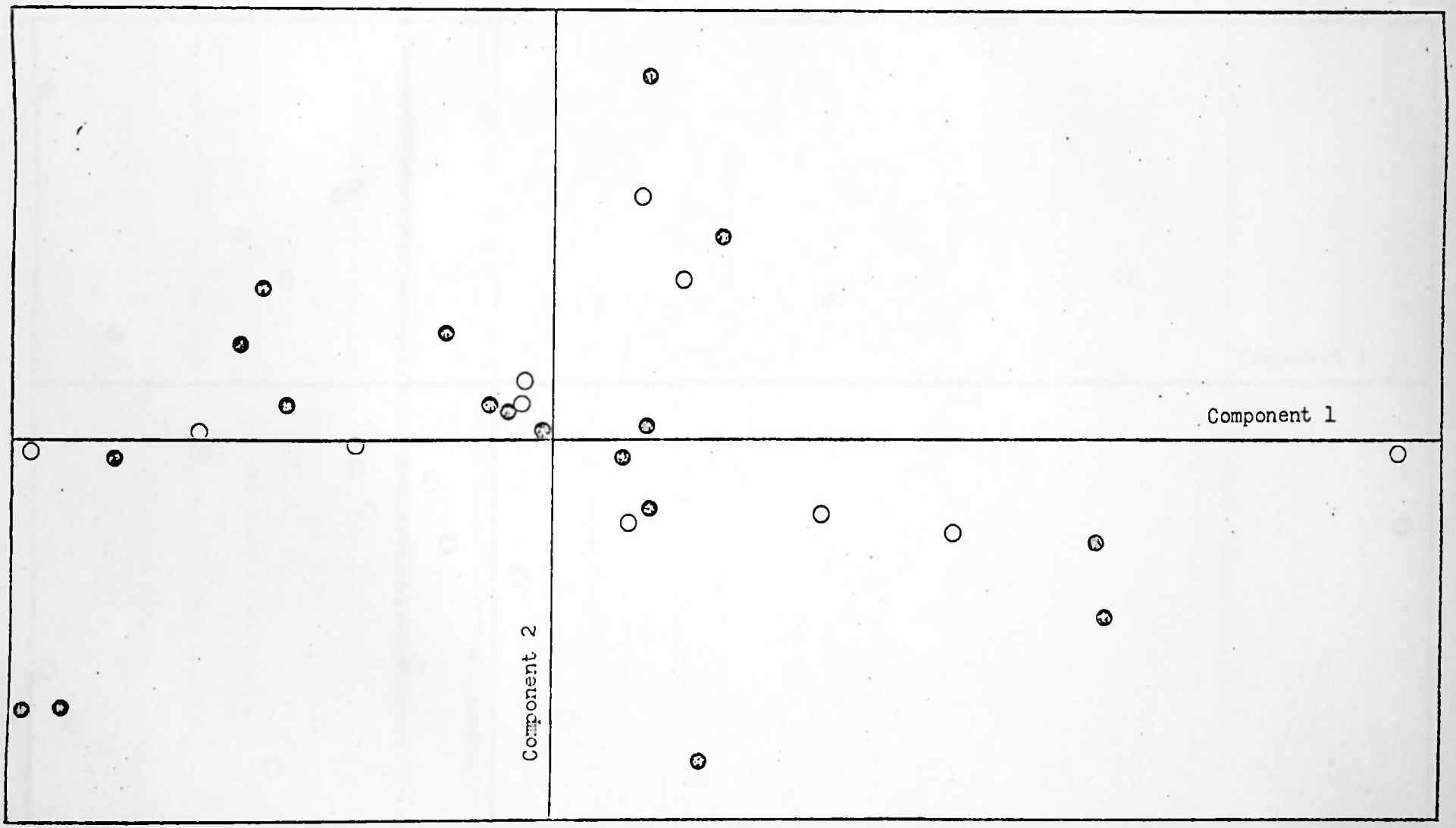


Figure 11.3 Principal components scattergram of Bohemian Corded Ware and Bell Beaker bowls. Axes are components 1 and 2.

Key: ● Bell Beaker bowls
○ Corded Ware bowls

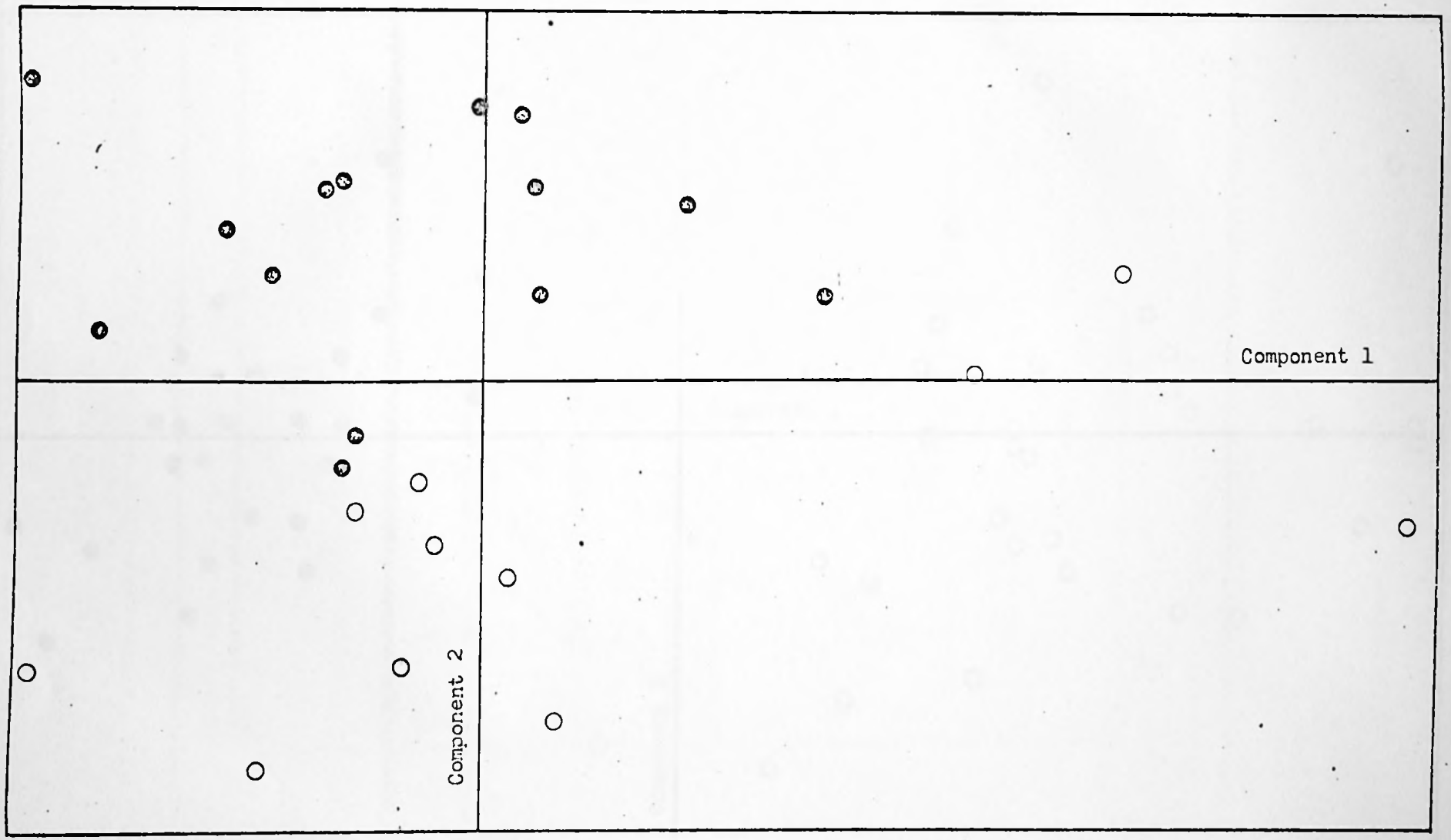


Figure 11.4 Principal components scattergram of Bohemian Corded Ware and Bell Beaker 'Töpfe'. Axes are components 1 and 2.

Key: ● Bell Beaker 'Töpfe'
○ Corded Ware 'Töpfe'

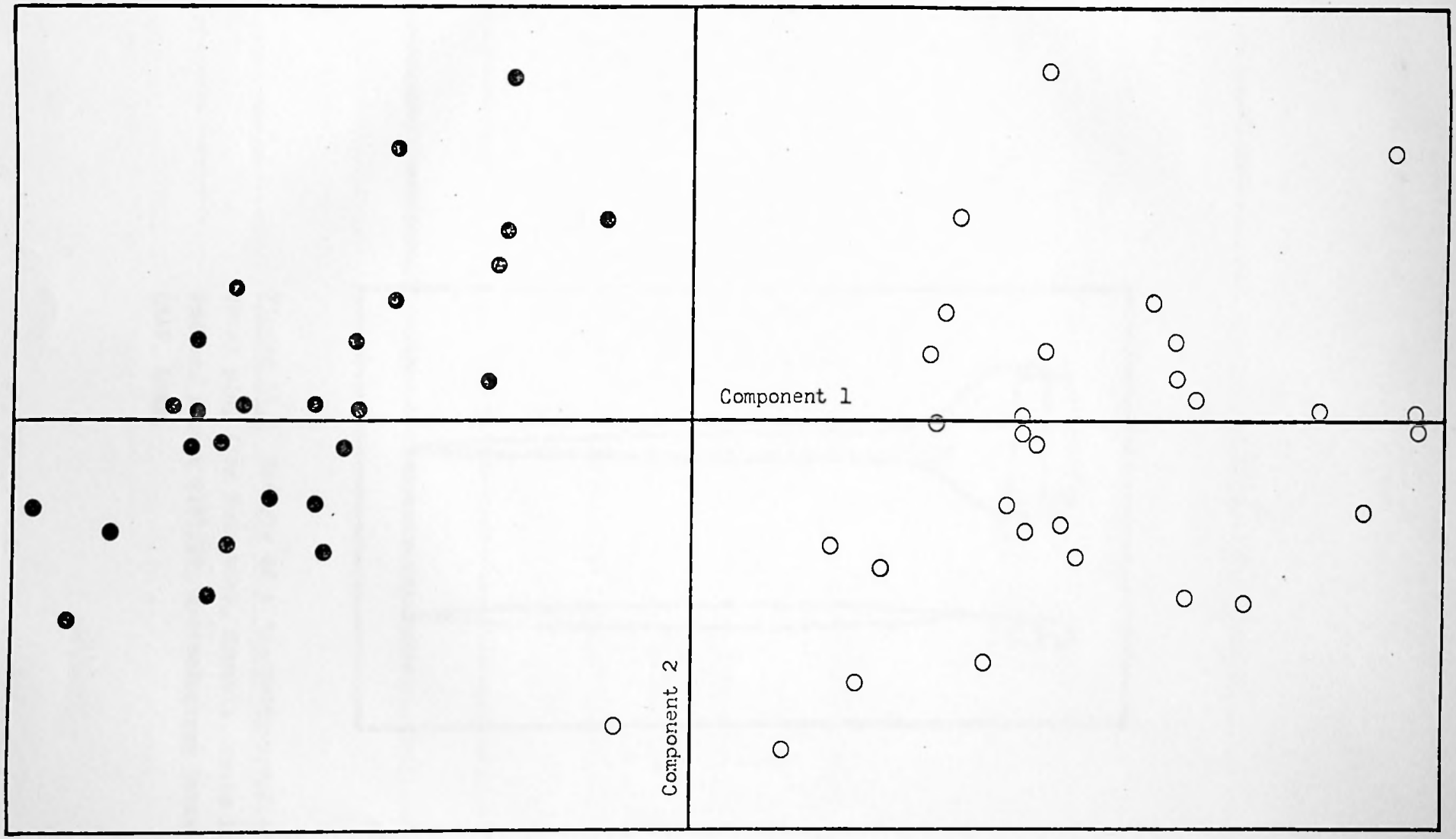


Figure 11.5 Principal components scattergram of Bohemian Corded Ware and Bell Beaker decorated beakers. Axes are components 1 and 2.

Key: ● Decorated Bell Beakers
○ Corded Ware decorated beakers

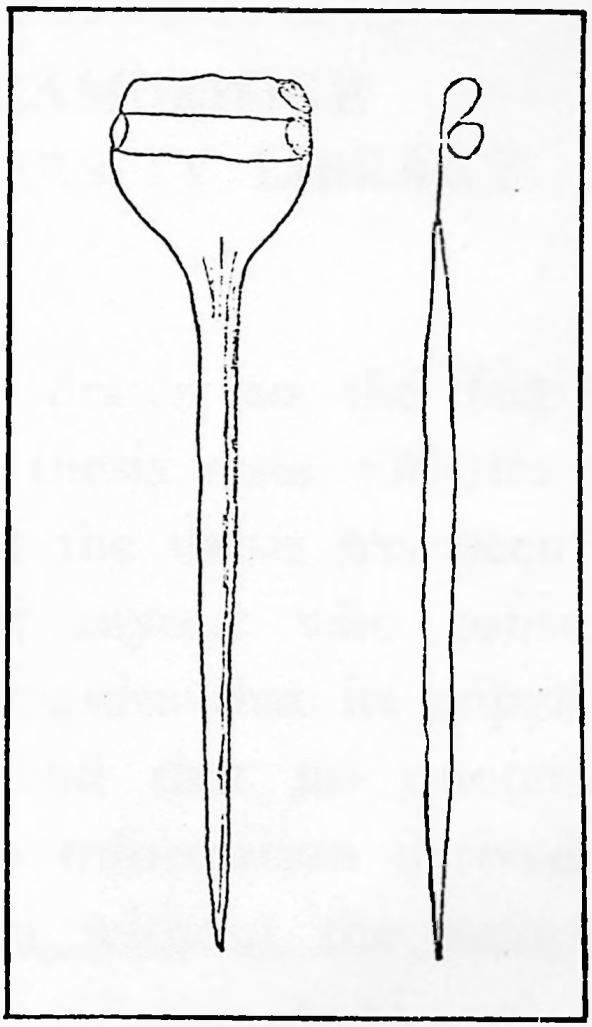


Figure 11.6 Example of a 'doppeltgekröpfte' metal pin, from Budkovice, Moravia. Scale 1:1 Source: report 4167/59, Archeologický Ústav ČSAV, Brno.