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Food, Mobility, and Health in a 17th and 18th Century Arctic Mining Population in Silbojokk, Swedish Sápmi

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APPENDIX

INTERNAL LABORATORY STANDARDS

UC Davis

Cysteine: +34.2‰, %S = 26.4%
Taurine: −2.5‰, %S = 26.4%
Hair: no ‰, %S = 6.0%
Mahi-Mahi muscle: +19.5‰, %S = 1.0%
Whale Baleen: +17.5‰, %S = 3.2%

Iso-Analytical

IA-R061
IAEA-SO-5 (barium sulfate, +0.5‰)
IA-R068 (soy protein, +5.25‰)
IA-R069 (tuna protein, +18.91‰)

SIL

MSS-2 (BaSO4, +21.5‰)
MSS-3 (BaSO4, +3.35‰)
SSS-2 (BaSO4, +22.8‰)
SSS-3 (BaSO4, +3.8‰)
CDT (BaSO4, 0‰)

Carbon, nitrogen and sulphur isotopes: Internal standards (reindeer and seal), Archaeological Research Laboratory (ARL), Stockholm University

Internal standards – ARL	Carbon	Nitrogen
Reindeer mean value and SD (n = 43)	−20.5 ± 0.3‰	1.9 ± 0.4‰
Range measured standards (n = 43)	−21.2‰ to −19.9‰	1.1‰ to 2.7‰
Measured values for internal checkup (reindeer)	−20.3‰, −20.5‰, −19.9‰, −20.2‰, −21.2‰, 21.0‰.	1.8‰, 1.6‰, 1.3‰, 1.3‰, 1.1‰, 2.7‰
Seal mean and SD (n = 41)	−14.1 ± 0.3‰	15.2 ± 0.3‰
Range measured standards (n = 41)	−14.6‰ to −13.5‰	14.2‰ to 15.7‰
Measured values for internal checkup (seal)	−14.4‰, −14.3‰, −14.6‰, −14.5‰	15.2‰, 15.2‰, 15.2‰, 15.2‰

Internal standards – ARL	Sulphur
Reindeer mean value and SD (n = 14)	5.1 ± 0.7‰
Range measured standards (n = 14)	3.5‰ to 5.9‰
Measured values for internal checkup (reindeer)	3.9‰, 5.7‰, 5.7‰, 4.7‰, 3.5‰
Seal mean and SD (n = 16)	14.0 ± 0.8‰
Range measured standards (n = 16)	12.6‰ to 15.2‰
Measured values for internal checkup (seal)	13.7‰, 14.3‰, 14.3‰, 14.5‰, 13.0‰

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TABLE S1. Results from LA-MC-ICP-MS analysis of $^{87}Sr/^{86}Sr$ of human tooth enamel from Silbojokk. Samples were analysed at the Vegacenter at the Swedish Natural History Museum, Stockholm. The "Prop. 2 SE" column gives the propagated standard error using the external reproducibility (2 SD) obtained from the primary standard during the analytical session.

Line number	Grave	Element[a]	Line representation in year	Sampling time (sec)	$^{87}Sr/^{86}Sr$	2SE	Prop. 2 SE	$^{87}Rb/^{86}Sr$	2 SE	Total Sr-Beam (V)
1	I	M^1 dx	0.4	122.0	0.717354	0.000056	0.000090	0.003343	0.000062	2.51
2	I	M^1 dx	0.6	60.0	0.717160	0.000120	0.000192	0.003243	0.000081	2.29
3	I	M^1 dx	0.8	124.5	0.717057	0.000068	0.000109	0.003500	0.000084	2.15
4	I	M^1 dx	1.0	125.0	0.717274	0.000068	0.000109	0.003570	0.000052	2.14
5	I	M^1 dx	1.2	125.5	0.717406	0.000067	0.000107	0.003945	0.000076	2.07
6	I	M^1 dx	1.4	125.5	0.717330	0.000068	0.000109	0.003911	0.000066	2.21
7	I	M^1 dx	1.6	124.0	0.717463	0.000074	0.000119	0.003907	0.000062	2.19
8	I	M^1 dx	1.8	124.0	0.717193	0.000074	0.000119	0.003704	0.000092	2.23
9	I	M^1 dx	2.0	124.0	0.717115	0.000067	0.000107	0.003504	0.000037	2.24
10	I	M^1 dx	2.2	124.0	0.717228	0.000071	0.000114	0.003815	0.000077	2.03
11	I	M^1 dx	2.4	121.5	0.717367	0.000064	0.000103	0.003281	0.000037	2.13
`12	I	M^1 dx	2.5	123.0	0.717196	0.000067	0.000107	0.003517	0.000055	2.25
13	I	M^1 dx	2.7	123.0	0.717389	0.000070	0.000112	0.004318	0.000172	2.27
14	I	M^1 dx	2.9	123.5	0.717559	0.000078	0.000125	0.003712	0.000067	1.93
15	I	M^1 dx	3.1	123.0	0.717678	0.000080	0.000128	0.003881	0.000073	1.86
16	I	M^1 dx	3.3	121.0	0.718159	0.000081	0.000130	0.004310	0.000070	1.86
1	XXX	M_2 dx	2.3	180.5	0.716670	0.000130	0.000208	0.010629	0.000287	0.82
2	XXX	M_2 dx	2.8	165.5	0.717240	0.000150	0.000240	0.011585	0.000266	0.75
3	XXX	M_2 dx	3.2	163.5	0.717320	0.000150	0.000240	0.019589	0.001103	0.70
4	XXX	M_2 dx	3.7	166.0	0.717100	0.000140	0.000224	0.012371	0.000333	0.71
5	XXX	M_2 dx	4.2	165.5	0.717280	0.000160	0.000256	0.012395	0.000295	0.73
6	XXX	M_2 dx	4.6	165.5	0.716860	0.000120	0.000192	0.011422	0.000329	0.78
7	XXX	M_2 dx	5.1	164.0	0.717100	0.000120	0.000192	0.010001	0.000225	0.76
8	XXX	M_2 dx	5.6	166.5	0.717250	0.000120	0.000192	0.009412	0.000201	0.80
9	XXX	M_2 dx	6.0	167.0	0.717250	0.000130	0.000208	0.010056	0.000283	0.80
10	XXX	M_2 dx	6.5	166.0	0.717290	0.000100	0.000160	0.008784	0.000142	0.88
11	XXX	M_2 dx	7.0	166.5	0.717470	0.000150	0.000240	0.015228	0.000636	0.71
12	XXX	M_2 dx	7.4	165.5	0.717090	0.000120	0.000192	0.011095	0.000348	0.84
13	XXX	M_2 dx	7.9	139.0	0.717560	0.000140	0.000224	0.009017	0.000185	0.85
1	Lösfynd 2012	M_2 sin	2.3	126.0	0.716830	0.000200	0.000320	0.013748	0.000264	0.57
2	Lösfynd 2012	M_2 sin	2.6	96.9	0.716420	0.000220	0.000352	0.011779	0.000122	0.61
3	Lösfynd 2012	M_2 sin	3.0	137.6	0.716910	0.000180	0.000288	0.011883	0.000145	0.57
4	Lösfynd 2012	M_2 sin	3.4	154.0	0.717000	0.000180	0.000288	0.012095	0.000131	0.58
5	Lösfynd 2012	M_2 sin	3.8	121.2	0.716890	0.000190	0.000304	0.010982	0.000161	0.63
6	Lösfynd 2012	M_2 sin	4.1	87.9	0.717610	0.000240	0.000384	0.013363	0.000279	0.58
7	Lösfynd 2012	M_2 sin	4.5	153.0	0.718360	0.000190	0.000304	0.014029	0.000147	0.56
8	Lösfynd 2012	M_2 sin	4.9	153.0	0.718560	0.000200	0.000320	0.016600	0.000124	0.45
9	Lösfynd 2012	M_2 sin	5.3	153.0	0.716680	0.000220	0.000352	0.015849	0.000148	0.45
10	Lösfynd 2012	M_2 sin	5.6	153.0	0.717430	0.000250	0.000400	0.016563	0.000145	0.42
11	Lösfynd 2012	M_2 sin	6.0	149.0	0.717830	0.000250	0.000400	0.015603	0.000127	0.41
12	Lösfynd 2012	M_2 sin	6.4	152.5	0.717230	0.000230	0.000368	0.015146	0.000155	0.43
13	Lösfynd 2012	M_2 sin	6.8	150.5	0.717390	0.000240	0.000384	0.016233	0.000208	0.41
14	Lösfynd 2012	M_2 sin	7.2	147.0	0.718060	0.000190	0.000304	0.013372	0.000225	0.50
15	Lösfynd 2012	M_2 sin	7.5	149.5	0.718720	0.000200	0.000320	0.012412	0.000164	0.57
16	Lösfynd 2012	M_2 sin	7.9	142.0	0.719930	0.000230	0.000368	0.014590	0.000207	0.49
17	Lösfynd 2012	M_2 sin	8.3	143.5	0.717340	0.000150	0.000240	0.011297	0.000244	0.84
1	IV	M^2 dx	2.3	163.7	0.719720	0.000180	0.000288	0.002166	0.000097	0.66
2	IV	M^2 dx	2.8	168.3	0.720020	0.000170	0.000272	0.001960	0.000059	0.70
3	IV	M^2 dx	3.2	173.7	0.720100	0.000200	0.000320	0.002352	0.000277	0.62

TABLE S1. Results from LA-MC-ICP-MS analysis of $^{87}Sr/^{86}Sr$ of human tooth enamel from Silbojokk. Samples were analysed at the Vegacenter at the Swedish Natural History Museum, Stockholm. The "Prop. 2 SE" column gives the propagated standard error using the external reproducibility (2 SD) obtained from the primary standard during the analytical session – *continued*:

Line number	Grave	Element[a]	Line representation in year	Sampling time (sec)	$^{87}Sr/^{86}Sr$	2SE	Prop. 2 SE	$^{87}Rb/^{86}Sr$	2 SE	Total Sr-Beam (V)
4	IV	M^2 dx	3.7	164.9	0.719530	0.000200	0.000320	0.002142	0.000064	0.60
5	IV	M^2 dx	4.1	155.7	0.720150	0.000200	0.000320	0.002066	0.000075	0.57
6	IV	M^2 dx	4.6	161.6	0.718460	0.000160	0.000256	0.001789	0.000052	0.69
7	IV	M^2 dx	5.0	172.5	0.719600	0.000140	0.000224	0.001867	0.000059	0.73
8	IV	M^2 dx	5.5	162.4	0.718970	0.000150	0.000240	0.001986	0.000069	0.84
9	IV	M^2 dx	6.0	146.9	0.719290	0.000150	0.000240	0.002052	0.000076	0.88
10	IV	M^2 dx	6.4	117.2	0.719660	0.000200	0.000320	0.002328	0.000083	0.91
11	IV	M^2 dx	6.9	165.8	0.720630	0.000140	0.000224	0.002284	0.000060	0.86
12	IV	M^2 dx	7.3	132.3	0.720340	0.000160	0.000256	0.002549	0.000097	0.87
13	IV	M^2 dx	7.8	173.5	0.720020	0.000150	0.000240	0.002730	0.000114	0.82
14	IV	M^2 dx	8.2	135.2	0.719370	0.000110	0.000176	0.002597	0.000071	1.34
1	XII	M^2	2.3	145.5	0.713120	0.000270	0.000432	0.009112	0.000254	0.45
2	XII	M^2	2.8	130.4	0.713340	0.000260	0.000416	0.010443	0.000194	0.39
3	XII	M^2	3.3	146.8	0.713290	0.000230	0.000368	0.009850	0.000255	0.44
4	XII	M^2	3.8	152.8	0.714080	0.000260	0.000416	0.010206	0.000176	0.39
5	XII	M^2	4.3	121.5	0.713200	0.000330	0.000529	0.010730	0.000198	0.35
6	XII	M^2	4.8	145.0	0.712960	0.000320	0.000513	0.011277	0.000230	0.34
7	XII	M^2	5.3	145.5	0.712690	0.000310	0.000497	0.011194	0.000306	0.34
8	XII	M^2	5.8	143.5	0.712840	0.000320	0.000513	0.011670	0.000229	0.32
9	XII	M^2	6.2	143.5	0.712730	0.000350	0.000561	0.013139	0.000346	0.31
10	XII	M^2	6.7	144.5	0.712070	0.000270	0.000432	0.011641	0.000409	0.37
11	XII	M^2	7.2	146.5	0.712920	0.000260	0.000416	0.012267	0.000205	0.39
12	XII	M^2	7.7	146.5	0.712650	0.000230	0.000368	0.010753	0.000173	0.49
13	XII	M^2	8.2	146.0	0.713520	0.000220	0.000352	0.011960	0.000181	0.48
1	XXIII	M_2	2.3	132.0	0.717640	0.000260	0.000416	0.005303	0.000105	0.42
2	XXIII	M_2	2.7	143.5	0.717960	0.000270	0.000432	0.005341	0.000134	0.42
3	XXIII	M_2	3.1	144.5	0.717680	0.000280	0.000448	0.006047	0.000134	0.39
4	XXIII	M_2	3.5	128.6	0.718300	0.000310	0.000497	0.006137	0.000141	0.35
5	XXIII	M_2	3.9	131.0	0.719670	0.000330	0.000529	0.007161	0.000158	0.34
6	XXIII	M_2	4.3	129.0	0.718480	0.000330	0.000529	0.007855	0.000132	0.34
7	XXIII	M_2	4.7	143.0	0.716600	0.000260	0.000416	0.006885	0.000159	0.40
8	XXIII	M_2	5.1	134.4	0.717080	0.000360	0.000577	0.007222	0.000237	0.39
9	XXIII	M_2	5.5	144.5	0.716480	0.000230	0.000368	0.005960	0.000149	0.50
10	XXIII	M_2	5.9	144.0	0.715760	0.000220	0.000352	0.007381	0.000180	0.50
11	XXIII	M_2	6.3	122.0	0.716040	0.000240	0.000384	0.008262	0.000246	0.43
12	XXIII	M_2	6.7	122.5	0.717330	0.000340	0.000545	0.008782	0.000357	0.40
13	XXIII	M_2	7.1	120.5	0.716910	0.000340	0.000545	0.009663	0.000381	0.37
14	XXIII	M_2	7.5	122.5	0.717670	0.000220	0.000352	0.009616	0.000211	0.54
15	XXIII	M_2	7.9	121.5	0.718630	0.000190	0.000304	0.008889	0.000181	0.58
16	XXIII	M_2	8.3	122.5	0.719040	0.000190	0.000304	0.009736	0.000166	0.71
1	Lösfynd	M_2	2.3	93.5	0.721490	0.000110	0.000176	0.009405	0.000126	1.75
2	Lösfynd	M_2	2.8	82.1	0.720550	0.000110	0.000176	0.008975	0.000121	1.87
3	Lösfynd	M_2	3.3	93.5	0.720239	0.000094	0.000151	0.007989	0.000074	2.13
4	Lösfynd	M_2	3.8	58.7	0.720250	0.000100	0.000160	0.008257	0.000066	2.42
5	Lösfynd	M_2	4.3	91.5	0.719922	0.000087	0.000139	0.009896	0.000125	2.25
6	Lösfynd	M_2	4.8	106.2	0.720523	0.000081	0.000130	0.009907	0.000053	2.08
7	Lösfynd	M_2	5.3	111.7	0.720800	0.000130	0.000208	0.008685	0.000089	2.11
8	Lösfynd	M_2	5.8	162.5	0.721230	0.000120	0.000192	0.010047	0.000179	1.86
9	Lösfynd	M_2	6.2	158.6	0.722033	0.000089	0.000143	0.010947	0.000128	1.84

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Line number	Grave	Element[a]	Line representation in year	Sampling time (sec)	$^{87}Sr/^{86}Sr$	2SE	Prop. 2 SE	$^{87}Rb/^{86}Sr$	2 SE	Total Sr-Beam (V)
10	Lösfynd	M_2	6.7	128.3	0.720778	0.000083	0.000133	0.012395	0.000430	2.12
11	Lösfynd	M_2	7.2	152.4	0.721127	0.000093	0.000149	0.010857	0.000235	2.18
12	Lösfynd	M_2	7.7	133.9	0.721686	0.000085	0.000136	0.011869	0.000230	2.14
13	Lösfynd	M_2	8.2	164.0	0.720883	0.000091	0.000146	0.013369	0.000365	2.46
1	lösfynd 2014	M^2 sin	2.3	130.7	0.714150	0.000110	0.000176	0.010670	0.000148	1.99
2	lösfynd 2014	M^2 sin	2.9	128.0	0.714068	0.000089	0.000143	0.010098	0.000128	2.16
3	lösfynd 2014	M^2 sin	3.5	125.0	0.714760	0.000100	0.000160	0.010231	0.000136	2.11
4	lösfynd 2014	M^2 sin	4.1	126.0	0.714422	0.000091	0.000146	0.009032	0.000155	2.59
5	lösfynd 2014	M^2 sin	4.7	130.0	0.714078	0.000074	0.000119	0.007948	0.000121	3.25
6	lösfynd 2014	M^2 sin	5.3	104.0	0.715820	0.000100	0.000160	0.013880	0.000165	1.98
7	lösfynd 2014	M^2 sin	5.8	95.7	0.716180	0.000120	0.000192	0.014271	0.000260	1.94
8	lösfynd 2014	M^2 sin	6.4	114.7	0.715860	0.000150	0.000240	0.013601	0.000276	1.95
9	lösfynd 2014	M^2 sin	7.0	125.5	0.717100	0.000120	0.000192	0.017347	0.000215	1.47
10	lösfynd 2014	M^2 sin	7.6	128.5	0.715641	0.000089	0.000143	0.014397	0.000160	1.92
11	lösfynd 2014	M^2 sin	8.2	127.0	0.716070	0.000095	0.000152	0.015159	0.000166	1.95
1	lösfynd c	M_2 sin	2.3	143.5	0.718750	0.000140	0.000224	0.009861	0.000100	1.44
2	lösfynd c	M_2 sin	2.7	108.1	0.719093	0.000099	0.000159	0.010312	0.000067	1.52
3	lösfynd c	M_2 sin	3.1	113.6	0.719300	0.000130	0.000208	0.012466	0.000099	1.37
4	lösfynd c	M_2 sin	3.5	103.5	0.719050	0.000150	0.000240	0.012654	0.000140	0.98
5	lösfynd c	M_2 sin	3.9	103.0	0.719220	0.000160	0.000256	0.012598	0.000079	0.89
6	lösfynd c	M_2 sin	4.3	107.3	0.717940	0.000130	0.000208	0.011392	0.000070	1.07
7	lösfynd c	M_2 sin	4.7	92.7	0.717400	0.000120	0.000192	0.009956	0.000071	1.11
8	lösfynd c	M_2 sin	5.1	135.5	0.717300	0.000140	0.000224	0.008123	0.000126	1.31
9	lösfynd c	M_2 sin	5.5	137.0	0.716637	0.000099	0.000159	0.006654	0.000085	1.50
10	lösfynd c	M_2 sin	5.9	134.5	0.716406	0.000094	0.000151	0.006119	0.000067	1.48
11	lösfynd c	M_2 sin	6.3	131.0	0.716570	0.000120	0.000192	0.006781	0.000128	1.34
12	lösfynd c	M_2 sin	6.7	135.0	0.716211	0.000089	0.000143	0.006189	0.000116	1.98
13	lösfynd c	M_2 sin	7.1	125.0	0.716580	0.000082	0.000131	0.006973	0.000081	2.11
14	lösfynd c	M_2 sin	7.5	122.0	0.717560	0.000110	0.000176	0.008248	0.000126	2.04
15	lösfynd c	M_2 sin	7.9	122.5	0.717710	0.000083	0.000133	0.008629	0.000191	2.17
16	lösfynd c	M_2 sin	8.3	117.0	0.718770	0.000120	0.000192	0.010505	0.000359	2.13
1	XXV	M2	2.3	92.1	0.716910	0.000130	0.000208	0.007144	0.000371	2.31
2	XXV	M2	2.6	93.0	0.716877	0.000086	0.000138	0.007194	0.000175	2.38
3	XXV	M2	3.0	92.5	0.716653	0.000095	0.000152	0.006733	0.000188	2.70
4	XXV	M2	3.4	92.0	0.716650	0.000100	0.000160	0.006302	0.000204	2.54
5	XXV	M2	3.8	87.2	0.716980	0.000120	0.000192	0.006325	0.000258	2.49
6	XXV	M2	4.1	88.4	0.717300	0.000120	0.000192	0.006000	0.000163	3.34
7	XXV	M2	4.5	59.6	0.717630	0.000120	0.000192	0.006225	0.000130	2.14
8	XXV	M2	4.9	66.0	0.718490	0.000150	0.000240	0.006492	0.000156	1.95
9	XXV	M2	5.3	66.6	0.718450	0.000150	0.000240	0.005853	0.000201	2.02
10	XXV	M2	5.6	64.8	0.718850	0.000140	0.000224	0.006254	0.000186	1.96
11	XXV	M2	6.0	63.3	0.719580	0.000140	0.000224	0.007535	0.000394	1.83
12	XXV	M2	6.4	85.4	0.719820	0.000190	0.000304	0.009138	0.000484	1.81
13	XXV	M2	6.8	43.6	0.719930	0.000210	0.000336	0.010049	0.000728	1.88
14	XXV	M2	7.2	89.4	0.720520	0.000230	0.000368	0.007922	0.000302	1.88
15	XXV	M2	7.5	75.9	0.720470	0.000190	0.000304	0.007805	0.000361	1.83
16	XXV	M2	7.9	76.2	0.720270	0.000170	0.000272	0.006589	0.000149	1.92
17	XXV	M2	8.3	76.2	0.720570	0.000150	0.000240	0.006408	0.000137	1.97
1	XV	M2	2.3	83.0	0.715330	0.000090	0.000144	0.007737	0.000118	2.02

TABLE S1. Results from LA-MC-ICP-MS analysis of $^{87}Sr/^{86}Sr$ of human tooth enamel from Silbojokk. Samples were analysed at the Vegacenter at the Swedish Natural History Museum, Stockholm. The "Prop. 2 SE" column gives the propagated standard error using the external reproducibility (2 SD) obtained from the primary standard during the analytical session – *continued*:

Line number	Grave	Element[a]	Line representation in year	Sampling time (sec)	$^{87}Sr/^{86}Sr$	2SE	Prop. 2 SE	$^{87}Rb/^{86}Sr$	2 SE	Total Sr-Beam (V)
2	XV	M2	2.7	88.5	0.715520	0.000120	0.000192	0.008288	0.000126	1.77
3	XV	M2	3.1	90.5	0.715440	0.000120	0.000192	0.008231	0.000158	1.61
4	XV	M2	3.5	67.7	0.715220	0.000130	0.000208	0.008929	0.000072	1.54
5	XV	M2	3.9	92.0	0.715480	0.000110	0.000176	0.009619	0.000113	1.50
6	XV	M2	4.3	92.5	0.715490	0.000130	0.000208	0.009839	0.000113	1.69
7	XV	M2	4.7	92.0	0.715540	0.000100	0.000160	0.010390	0.000064	1.48
8	XV	M2	5.1	93.0	0.715790	0.000120	0.000192	0.010447	0.000198	1.55
9	XV	M2	5.5	92.5	0.716050	0.000120	0.000192	0.010050	0.000147	1.35
10	XV	M2	5.9	92.0	0.715980	0.000110	0.000176	0.010060	0.000137	1.47
11	XV	M2	6.3	67.5	0.716040	0.000120	0.000192	0.010070	0.000133	1.46
12	XV	M2	6.7	91.0	0.716160	0.000097	0.000155	0.010080	0.000337	1.73
13	XV	M2	7.1	91.0	0.715432	0.000095	0.000152	0.010090	0.000278	1.96
14	XV	M2	7.5	84.1	0.715071	0.000084	0.000135	0.010100	0.000184	2.07
15	XV	M2	7.9	87.7	0.715100	0.000100	0.000160	0.010110	0.000176	1.96
16	XV	M2	8.3	91.0	0.714970	0.000100	0.000160	0.010120	0.000249	1.89

[a] sin = sinistra (left) and dx = dextra (right).

TABLE S2. Mean $^{84}Sr/^{86}Sr$ ratio for each tooth analysed.

Grave	Element[a]	Mean $^{84}Sr/^{86}Sr$	Internal precision 2 SD	External precision 2 SD
I	M^1 dx	0.0560	0.0001	0.0003
XXX	M_2 dx	0.0563	0.0004	0.0010
Lösfynd 2012	M_2 sin	0.0556	0.0006	0.0018
IV	M^2 dx	0.0562	0.0004	0.0010
XII	M^2	0.0567	0.0008	0.0022
XXIII	M_2	0.0559	0.0007	0.0012
Lösfynd	M_2	0.0572	0.0002	0.0006
lösfynd 2014	M^2 sin	0.0570	0.0002	0.0006
lösfynd c	M_2 sin	0.0571	0.0002	0.0008
XXV	M2	0.0569	0.0002	0.0006
XV	M2	0.0572	0.0002	0.0007

[a] sin = sinistra (left) and dx = dextra (right).

TABLE S3. $^{87}Sr/^{86}Sr$ and $^{84}Sr/^{86}Sr$ average measurements for the lab standard, a rodent *Otomys* 26-r52.

Standard	Method	n	$^{87}Sr/^{86}Sr$ average	2 $SE_{average}$	External precision 2 SD	$^{84}Sr/^{86}Sr_{average}$	2 $SE_{average}$	External precision 2 SD	Total Sr (V)$_{average}$
Rodent *Otomys 26-r52*	LA-ICP-MS	83	0.720580	0.000200	0.000320	0.056430	0.000380	0.000850	1.700000
Rodent *Otomys 26-r52*	TIMS	–	0.720525	–	0.000090	0.056492	–	0.000054	–

TABLE S4. The $^{87}Sr/^{86}Sr$ ratios for soil and water in Silbojokk were measured by TIMS at the Swedish Museum of Natural History, Stockholm. The $^{87}Sr/^{86}Sr$ ratios for the faunal skeletal material were measured by TIMS at the Faculty of Geographical and Geological Sciences, Poznan University, Poland.

Sample #	Type	Context	$^{87}Sr/^{86}Sr$
SÄD 1	Water	Water from Sädvajaure, Roparudden, SE side of the lake	0.7209
SÄD 2	Water	Water from Sädvajaure, at shores of Silbojokk	0.7184
SÄD 3	Water	Water from Sädvajaure, at the mouth of the Silbojokk	0.7190
SÄD 4	Water	Water from Sädvajaure, near the smeltery site over the slag in the water	0.7232
J1	Soil	Grave XXX, outside of the coffin	0.7501
J3	Soil	Grave XXX, inside of the coffin	0.7394
J10	Soil	Outside of the excavation area, c. 0–10 cm depth	0.7430
J11	Soil	Outside of the excavation area, under leached soil	0.7297
Fern	Plant	Silbojokk, by the cemetery	0.7165
Salmon	Fauna	Tooth, Silbjokk, waste heap	0.7225
Rodent	Fauna	Tooth, Silbjokk, waste heap	0.7170
Otter	Fauna	Tooth, Silbjokk, waste heap	0.7214

TABLE S5. Results of elemental analysis of human and animal skeletal remains measured by ICP-MS at the RIAIDT facility, Universidade de Santiago de Compostela, Spain. Results of elemental analysis of soil, slag, and a lead lump measured by pXRF at the Archaeological Research Laboratory, Stockholm. All elemental data are expressed in mg/kg.

Grave #	Sex	Age	Context	Sample weight (g)	Mg	Al	P	S	K	Ca	Ti	Cr	Mn
lösfynd a	–	–	Unknown	1.5	1212.1	75.8	159786.9	552.4	37.3	270089.4	19.1	0.2	155.2
lösfynd c	–	17–25	Unknown	1.0	836.9	246.7	156307.2	586.5	45.1	243809.9	19.7	0.6	1925.2
lösfynd	F?	17–25	Unknown	0.8	845.1	509.7	184968.9	739.7	227.9	297778.2	33.4	0.7	1529.9
lösfynd 2012	–	–	Unknown	1.5	941.1	417.9	145878.3	443.5	142.7	255662.2	43.6	0.6	75.9
lösfynd 2014	–	25–40	Unknown	1.3	982.5	252.6	197076.1	882.7	72.2	317924.7	25.2	0.5	673.8
Individual 2a	–	>20	Churchyard	1.0	1341.8	152.1	202161.8	869.1	63.7	341410.5	22.0	0.6	3291.2
Individual 2b	–	>20	Churchyard	1.4	660.0	415.1	176209.1	773.8	107.5	246162.7	19.3	0.6	3012.6
I	–	–	Churchyard	1.0	1234.3	153.2	194422.7	670.6	63.2	328242.7	22.9	0.5	578.7
III	–	>20	Church 1A	0.9	693.2	558.8	157286.9	766.8	61.4	251979.4	22.3	0.9	362.0
IV	M?	20–50	Churchyard	1.3	1192.6	80.2	191881.3	884.5	71.5	307152.0	20.4	0.2	642.4
VI	–	20–35	Churchyard	1.2	916.7	1774.1	198015.2	1277.4	256.8	305682.7	57.2	2.4	517.3
VII:I	–	>20	Churchyard	0.9	632.2	8785.9	161790.8	1281.5	208.7	225438.6	87.1	3.1	358.9
VII:II	F?	20–35	Churchyard	0.8	717.5	436.4	153612.6	734.1	83.8	254444.8	19.3	1.1	636.9
X	M?	>20	Church 1A	1.4	759.9	353.0	179663.7	886.7	55.8	276970.2	22.0	0.9	478.0
XII	M	50+	Church 1B	1.3	671.8	266.9	144746.4	541.3	33.4	226322.1	18.4	0.3	598.8
XIII	–	>20	Church 1A	0.9	498.2	2580.4	109411.0	2439.5	83.2	218753.2	24.3	3.4	174.7
XIV	–	>20	Church 1A	1.1	853.3	59.5	192042.6	1191.1	73.4	276901.7	20.3	0.4	569.0
XV	–	12–17	Church 1A	1.0	1149.4	51.0	198676.7	994.5	60.6	331857.1	20.4	0.2	123.6
XVII	–	–	Church 1A	1.1	807.9	1359.2	172149.8	1366.3	84.2	274618.0	29.0	1.8	359.3
XX	–	>20	Church 1B	0.7	722.8	366.5	148262.5	563.9	42.3	243866.2	24.1	0.6	241.6
XXI	–	>20	Church 1B	1.7	847.8	281.6	158009.8	739.5	63.2	265653.7	22.2	1.0	184.0
XXIII	F	25–50	Church 1B	1.1	752.8	2047.3	184304.0	5620.4	226.5	312356.1	42.3	15.9	330.5
XXV	–	12–15	Church 1A	1.2	624.7	1136.3	151639.2	1113.0	72.4	240588.8	27.4	1.3	167.5
XXVI	M?	50+	Churchyard	1.1	1055.8	575.8	181636.1	845.6	62.3	305891.7	22.7	0.4	260.1
XXVII:I	F?	>20	Churchyard	0.9	937.5	512.0	144806.9	491.7	145.0	250937.4	37.6	0.9	110.2
XXVII:II	F?	50+	Churchyard	1.0	1170.0	123.9	182857.1	875.4	44.8	317893.2	20.9	0.6	41.4
XXVII:II	F?	50+	Churchyard	1.0	876.4	1731.5	172547.3	1436.8	295.5	311899.7	53.9	1.5	183.3
XXVIII	M?	>20	Churchyard	1.3	982.2	3317.0	193830.9	1507.4	709.8	305424.5	135.9	3.0	48.5
XXX	F?	20–35	Church 1A	1.0	878.0	58.4	157529.3	605.1	37.9	268818.0	19.5	0.3	167.4
XXXI	F?	20–35	Church 1A	1.3	826.8	826.8	199630.4	1296.2	87.6	310195.0	27.6	0.9	256.8
XXXII	M?	20–35	Churchyard	0.8	1013.2	2973.2	166029.1	840.6	755.8	277506.0	110.6	3.6	119.1
XXXIII	M?	35–50	Churchyard	1.3	960.0	740.9	200131.0	1643.0	142.7	329164.4	37.1	1.6	135.7
XXXV	F?	>20	Churchyard	4.2	682.3	943.5	178644.5	941.4	172.9	276437.0	26.0	1.4	251.9
XXXVI	–	35–50	Churchyard	1.7	812.6	685.5	191668.4	1436.4	94.9	303212.3	25.1	1.3	646.7
XXXVII	M	50+	Churchyard	2.0	1145.6	3846.9	142004.0	599.2	1194.5	228231.8	147.6	4.0	187.4
XLI	F	50+	Churchyard	1.1	1019.2	310.6	200653.7	1077.9	75.9	330728.6	23.8	0.4	259.8
Squirrel	–	–	Waste heap	1.0	982.5	743.2	189679.4	818.7	70.3	286696.4	24.5	0.4	708.4
Hare	–	–	Waste heap	1.3	854.0	175.5	164978.2	642.0	58.2	263408.4	19.8	0.2	2160.6
Cattle	–	–	Waste heap	1.2	918.0	345.9	154040.4	773.4	136.7	258097.7	27.4	0.5	3180.4
Dog	–	–	Waste heap	1.0	1076.9	457.7	175883.2	782.6	177.5	298053.4	37.4	0.6	1580.5
Salmon	–	–	Waste heap	1.3	727.4	183.7	168251.9	1489.9	55.8	290608.9	26.0	0.7	2140.5
Great grouse	–	–	Waste heap	0.9	920.0	224.6	166092.5	805.3	58.0	268791.2	19.7	0.2	541.9
Ptarmigan	–	–	Waste heap	1.4	834.7	549.6	158789.2	680.5	203.6	221549.1	35.9	1.0	4987.2
Otter	–	–	Waste heap	1.3	858.2	438.8	155563.7	732.2	131.6	236134.9	25.5	0.4	3655.7
Pike	–	–	Waste heap	1.1	541.8	412.5	154503.4	1002.3	74.2	234520.6	23.9	0.8	2702.2
Sheep	–	–	Waste heap	2.1	891.2	311.4	175586.9	844.0	161.6	270205.5	26.0	0.4	3782.8

TABLE S5. Results of elemental analysis of human and animal skeletal remains measured by ICP-MS at the RIAIDT facility, Universidade de Santiago de Compostela, Spain. Results of elemental analysis of soil, slag, and a lead lump measured by pXRF at the Archaeological Research Laboratory, Stockholm. All elemental data are expressed in mg/kg. *– continued:*

Grave #	Sex	Age	Context	Sample weight (g)	Fe	Cu	Zn	As	Sr	Zr	Cd	Pb	U
lösfynd a	–	–	Unknown	1.5	3559.0	1.1	173.2	0.1	162.8	0.3	0.3	22.3	0.0
lösfynd c	–	17–25	Unknown	1.0	22262.3	3.4	472.8	0.4	583.1	1.3	1.6	13.2	1.4
lösfynd	F?	17–25	Unknown	0.8	12127.4	3.1	942.1	0.3	719.8	0.7	2.5	59.0	1.3
lösfynd 2012	–	–	Unknown	1.5	1398.5	1.6	124.9	0.1	547.1	0.5	1.0	27.6	0.5
lösfynd 2014	–	25–40	Unknown	1.3	14729.0	2.5	170.6	0.2	466.4	0.9	0.3	11.5	0.2
Individual 2a	–	>20	Churchyard	1.0	10144.9	5.2	468.1	0.4	638.8	0.9	1.9	7.9	4.0
Individual 2b	–	>20	Churchyard	1.4	35630.2	6.0	1436.0	0.4	1042.9	2.2	5.3	9.5	0.4
I	–	–	Churchyard	1.0	4649.0	4.5	222.8	0.6	824.0	0.5	0.4	56.4	3.5
III	–	>20	Church 1A	0.9	18287.6	3.9	870.6	1.1	388.2	1.4	6.7	22.2	0.3
IV	M?	20–50	Churchyard	1.3	5749.4	2.3	206.8	0.1	461.0	1.3	0.3	113.7	0.0
VI	–	20–35	Churchyard	1.2	15292.9	11.7	2004.1	0.8	361.1	6.1	20.0	76.8	0.6
VII:I	–	>20	Churchyard	0.9	27118.3	18.0	939.6	8.5	420.3	8.2	8.4	827.0	4.2
VII:II	F?	20–35	Churchyard	0.8	13660.1	4.9	150.1	0.2	522.1	2.2	1.0	23.9	0.2
X	M?	>20	Church 1A	1.4	24210.8	2.8	368.1	0.3	372.6	1.2	1.7	30.3	0.1
XII	M	50+	Church 1B	1.3	18129.2	6.1	1142.2	0.7	587.9	0.7	8.5	20.7	0.1
XIII	–	>20	Church 1A	0.9	4586.8	12.5	291.7	3.0	249.6	10.9	4.6	46.7	57.6
XIV	–	>20	Church 1A	1.1	47191.0	2.7	6548.5	0.3	995.5	0.5	57.1	18.7	0.0
XV	–	12–17	Church 1A	1.0	6712.2	0.9	852.7	0.1	463.9	0.2	1.5	13.9	0.0
XVII	–	–	Church 1A	1.1	14812.6	8.8	5940.0	0.7	476.6	3.2	72.1	124.1	0.3
XX	–	>20	Church 1B	0.7	10245.8	2.3	745.3	0.6	384.7	0.6	6.1	45.5	0.1
XXI	–	>20	Church 1B	1.7	3678.7	3.4	1101.6	0.5	472.8	1.9	7.0	10.9	0.5
XXIII	F	25–50	Church 1B	1.1	7737.9	15.8	257.7	1.3	298.6	8.2	2.9	34.0	37.4
XXV	–	12–15	Church 1A	1.2	14070.0	13.6	1706.0	0.9	426.9	3.7	19.7	32.5	0.5
XXVI	M?	50+	Churchyard	1.1	4481.7	14.8	772.9	0.7	634.3	0.5	5.0	25.5	0.8
XXVII:I	F?	>20	Churchyard	0.9	1325.8	2.3	536.6	0.1	451.4	0.5	5.8	26.0	3.7
XXVII:II	F?	50+	Churchyard	1.0	441.5	1.6	503.7	0.2	723.7	1.2	6.1	34.6	0.9
XXVII:II	F?	50+	Churchyard	1.0	3392.8	9.3	2880.0	1.5	502.2	2.5	32.0	341.6	3.3
XXVIII	M?	>20	Churchyard	1.3	9347.9	10.8	864.1	0.5	437.6	2.5	20.3	161.4	24.8
XXX	F?	20–35	Church 1A	1.0	2885.5	2.4	900.1	0.1	482.8	0.3	4.1	9.2	0.0
XXXI	F?	20–35	Church 1A	1.3	13270.4	15.2	9288.3	0.7	638.7	1.8	119.8	80.5	0.4
XXXII	M?	20–35	Churchyard	0.8	9971.6	8.1	281.8	0.5	437.2	6.5	3.0	50.4	1.1
XXXIII	M?	35–50	Churchyard	1.3	6498.7	7.6	309.6	0.2	574.3	3.3	2.9	83.1	0.4
XXXV	F?	>20	Churchyard	4.2	7045.2	5.6	435.7	0.5	769.1	2.7	4.5	31.4	2.4
XXXVI	–	35–50	Churchyard	1.7	10050.6	7.9	3631.3	1.4	626.6	1.0	36.0	70.3	0.3
XXXVII	M	50+	Churchyard	2.0	16817.4	6.5	626.7	0.8	525.1	2.6	3.4	42.4	9.2
XLI	F	50+	Churchyard	1.1	5490.3	2.5	205.4	0.1	674.8	1.6	0.7	11.4	0.9
Squirrel	–	–	Waste heap	1.0	438.0	236.8	45966.7	7.6	731.9	0.5	260.1	388.9	1.5
Hare	–	–	Waste heap	1.3	416.2	32.3	38756.7	6.3	783.0	0.3	310.0	909.9	1.7
Cattle	–	–	Waste heap	1.2	970.1	34.0	12953.0	2.2	635.8	1.1	59.9	660.6	0.9
Dog	–	–	Waste heap	1.0	1182.7	26.6	9538.5	4.4	450.8	0.9	58.6	856.5	0.8
Salmon	–	–	Waste heap	1.3	302.0	74.9	12015.9	6.8	897.6	1.3	27.0	122.8	5.8
Great grouse	–	–	Waste heap	0.9	196.5	45.8	33800.4	6.0	774.9	0.5	146.1	356.3	1.1
Ptarmigan	–	–	Waste heap	1.4	990.2	83.8	66816.3	5.4	900.8	0.8	862.4	4638.4	4.8
Otter	–	–	Waste heap	1.3	397.9	79.0	48910.2	6.2	658.0	0.7	192.4	609.6	1.7
Pike	–	–	Waste heap	1.1	402.5	74.9	43789.5	11.5	1139.5	1.5	104.3	707.1	0.8
Sheep	–	–	Waste heap	2.1	541.1	46.8	21586.0	2.7	883.8	1.6	68.1	436.4	2.0

TABLE S5. Results of elemental analysis of human and animal skeletal remains measured by ICP-MS at the RIAIDT facility, Universidade de Santiago de Compostela, Spain. Results of elemental analysis of soil, slag, and a lead lump measured by pXRF at the Archaeological Research Laboratory, Stockholm. All elemental data are expressed in mg/kg. *– continued:*

Sample #	Sample type	ID #	Context	Sample weight (g)	Mg	Al	P	S	K	Ca	Ti	Cr	Mn
J1	soil	1P459	Grave XXX, outside the coffin	1.0	22500	88167	–	–	34370	6458	4430	–	714
J2	soil	1P1017	Grave XXXI, inside the coffin	1.0	17800	82800	3800	–	29100	13352	6350	–	611
J3	soil	1P1018	Grave XXX, inside the coffin	1.0	20400	78033	4700	–	27020	19735	4720	–	800
J4	soil	1P1241	Grave XXXIII, outside the coffin	1.1	17950	81533	–	–	29540	9458	4660	–	726
J5	soil	1P1193	Grave XXXIII, inside the coffin	1.0	–	76433	1900	–	25830	10055	4610	–	446
J6	soil	1PF434	Grave XXXVII, inside the coffin	0.9	–	69800	1500	–	23680	10290	4490	–	650
J7	soil	1PF435	Grave XXXVIII, outside the coffin	1.0	18000	60500	1400	–	20270	11020	4390	–	860
J8	soil	1PF750	Grave XLI, outside the coffin	1.0	15000	68167	900	–	25120	10480	4250	–	690
J9	soil	1PF751	Grave XLI, inside the coffin	0.9	18000	58400	2200	–	24360	11930	4630	–	890
J10	soil	1PF765	Outside the excavation area, c. 0–10 cm	1.1	–	72433	–	–	30920	–	6180	–	370
J11	soil	1PF848	Outside the excavation area, under leached soil	1.0	18000	84467	–	–	31710	3580	5280	–	560
L1	slag	–	Slag 1	–	12000	44000	1800	49350	23520	14860	1490	–	1560
L2	slag	–	Slag 2	–	13000	2300	1200	52020	7940	4580	590	–	1110
L3	lead lump	–	Lead lump	–	11000	18000	1100	15790	7146	–	–	–	nd
			Mean Human		895.9	1083.6	173063.1	1097.6	168.2	281389.0	37.5	1.6	546.0
			SD Human		200.4	1645.0	22380.7	874.5	238.3	35497.2	32.1	2.7	747.0
			Min Human		498.2	51.0	109411.0	443.5	33.3	218753.2	18.4	0.2	41.4
			Max Human		1341.8	8785.9	202161.8	5620.4	1194.5	341410.5	147.6	15.9	3291.2
			Mean human and animal		888.2	931.6	171600.9	1045.3	156.2	277349.4	35.1	1.4	980.3
			SD human and animal		188.9	1481.9	20589.5	785.3	212.9	34227.0	28.8	2.4	1234.3
			Min human and animal		498.2	51.0	109411.0	443.5	33.3	218753.2	18.4	0.2	41.4
			Max human and animal		1341.8	8785.9	202161.8	5620.4	1194.5	341410.5	147.6	15.9	4987.2

Sample #	Sample type	ID #	Context	Sample weight (g)	Fe	Cu	Zn	As	Sr	Zr	Cd	Pb	U
J1	soil	1P459	Grave XXX, outside the coffin	1.0	52970	–	111	–	240	195	–	20	–
J2	soil	1P1017	Grave XXXI, inside the coffin	1.0	49070	–	400	–	300	260	–	100	–
J3	soil	1P1018	Grave XXX, inside the coffin	1.0	56330	–	600	–	300	210	–	260	–
J4	soil	1P1241	Grave XXXIII, outside the coffin	1.1	52270	–	100	–	200	270	–	40	–
J5	soil	1P1193	Grave XXXIII, inside the coffin	1.0	46120	–	100	10	300	280	–	20	–
J6	soil	1PF434	Grave XXXVII, inside the coffin	0.9	43731	–	100	–	300	240	–	52	–
J7	soil	1PF435	Grave XXXVIII, outside the coffin	1.0	39775	–	100	–	300	260	–	24	–
J8	soil	1PF750	Grave XLI, outside the coffin	1.0	39463	–	100	–	200	220	–	24	–
J9	soil	1PF751	Grave XLI, inside the coffin	0.9	52133	–	100	–	300	270	–	60	–
J10	soil	1PF765	Outside the excavation area, c. 0–10 cm	1.1	13576	–	20	–	200	420	–	19	–
J11	soil	1PF848	Outside the excavation area, under leached soil	1.0	53166	–	100	–	200	270	–	68	–
L1	slag	–	Slag 1	–	176800	–	112900	–	100	50	190	129700	–
L2	slag	–	Slag 2	–	136600	–	88900	–	–	20	440	125900	–
L3	lead lump	–	Lead lump	–	15400	–	3600	14 900	–	–	5580	425600	–
			Mean Human		11583.4	6.4	1343.7	0.8	534.9	2.3	13.2	72.7	4.5
			SD Human		9912.9	4.8	2004.7	1.4	187.0	2.5	24.2	142.9	11.7
			Min Human		441.5	0.8	124.9	0.1	162.8	0.2	0.3	7.9	0.0
			Max Human		47191.0	18.0	9288.3	8.5	1042.9	10.8	119.7	827.0	57.6
			Mean human and animal		9192.2	21.0	8315.3	1.9	589.4	2.0	55.7	367.5	4.0
			SD human and animal		9873.9	39.4	15934.3	2.7	212.4	2.3	139.3	706.8	10.4
			Min human and animal		196.5	0.8	124.9	0.1	162.8	0.2	0.3	7.9	0.0
			Max human and animal		47191.0	236.8	66816.3	11.5	1139.5	10.8	862.4	4638.4	57.6

TABLE S6. Factor loading of the elements in the five extracted principal components.

	PC1	PC2	PC3	PC4	PC5
Ca	0.96	0.01	0.13	0.18	0.01
P	0.95	−0.03	0.14	0.25	0.02
Mg	0.91	0.02	0.29	0.16	0.03
Sr	0.77	−0.19	0.14	0.35	−0.17
S	0.72	0.23	−0.43	−0.24	0.02
Al	−0.83	0.33	0.15	−0.3	0.13
As	−0.61	−0.02	−0.52	0.08	0.17
Zn	0.06	−0.94	−0.2	0.13	0.0
Cd	−0.29	−0.88	−0.25	−0.23	−0.03
Zr	−0.37	0.61	−0.28	−0.25	0.0
Cr	−0.44	0.49	0.05	−0.57	−0.23
Ur	−0.43	0.46	0.05	−0.44	−0.29
Ti	0.19	0.19	0.87	−0.16	0.21
K	−0.13	0.25	0.86	−0.21	0.0
Cu	−0.45	0.14	−0.57	0.03	0.01
Mn	0.33	0.08	−0.18	0.82	−0.24
Fe	0.05	−0.08	−0.16	0.85	−0.08
Pb	−0.12	−0.02	0.09	−0.16	0.94

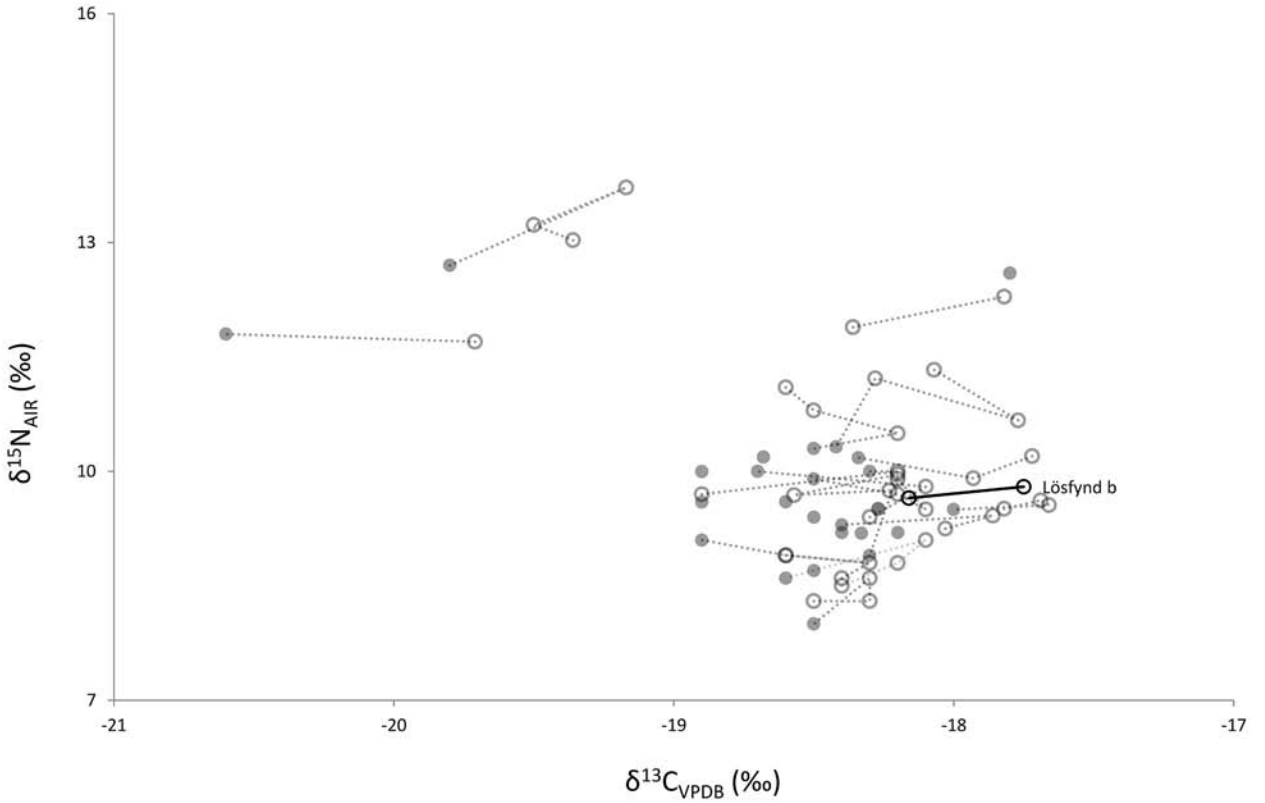

FIG. S1. Intra-individual changes of carbon and nitrogen isotope values for individual *Lösfynd* b from Silbojokk highlighted. Filled circles: bone; empty circles: tooth.

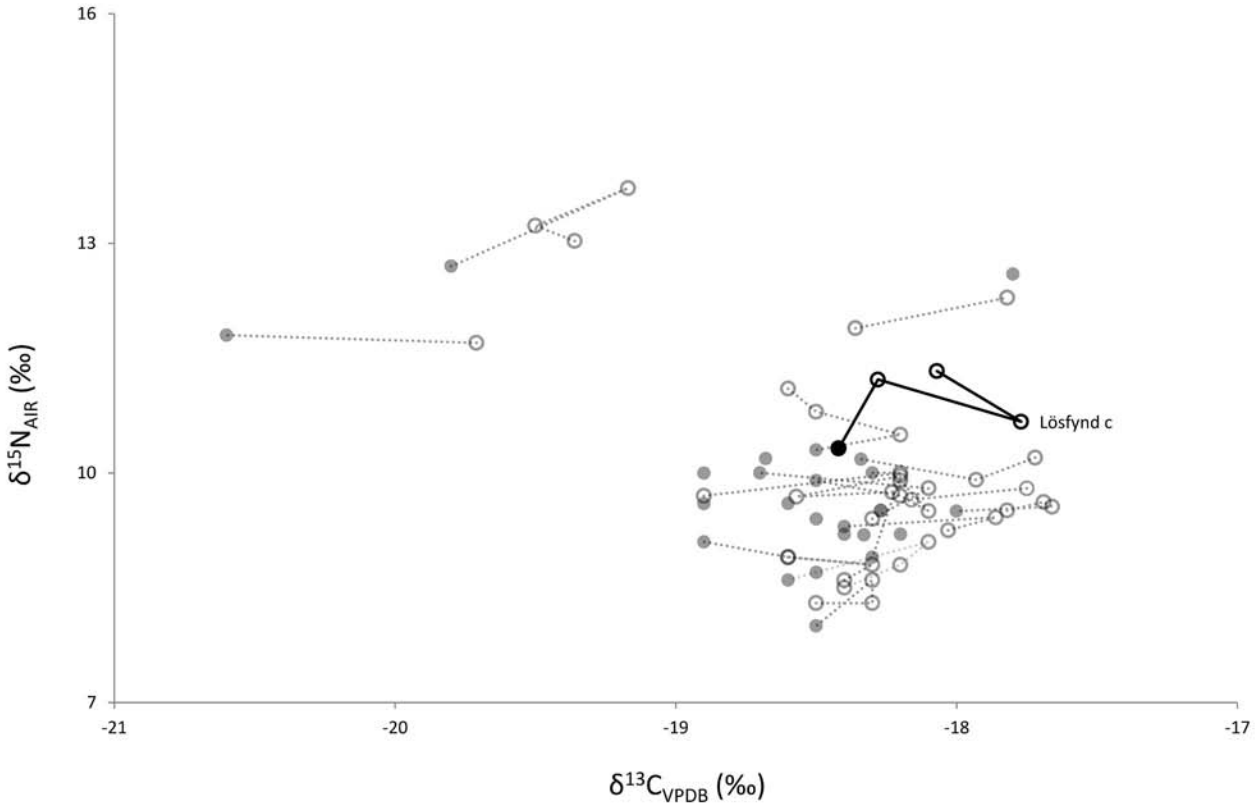

FIG. S2. Intra-individual changes of carbon and nitrogen isotope values for individual *Lösfynd* c from Silbojokk highlighted. Filled circles: bone; empty circles: tooth.

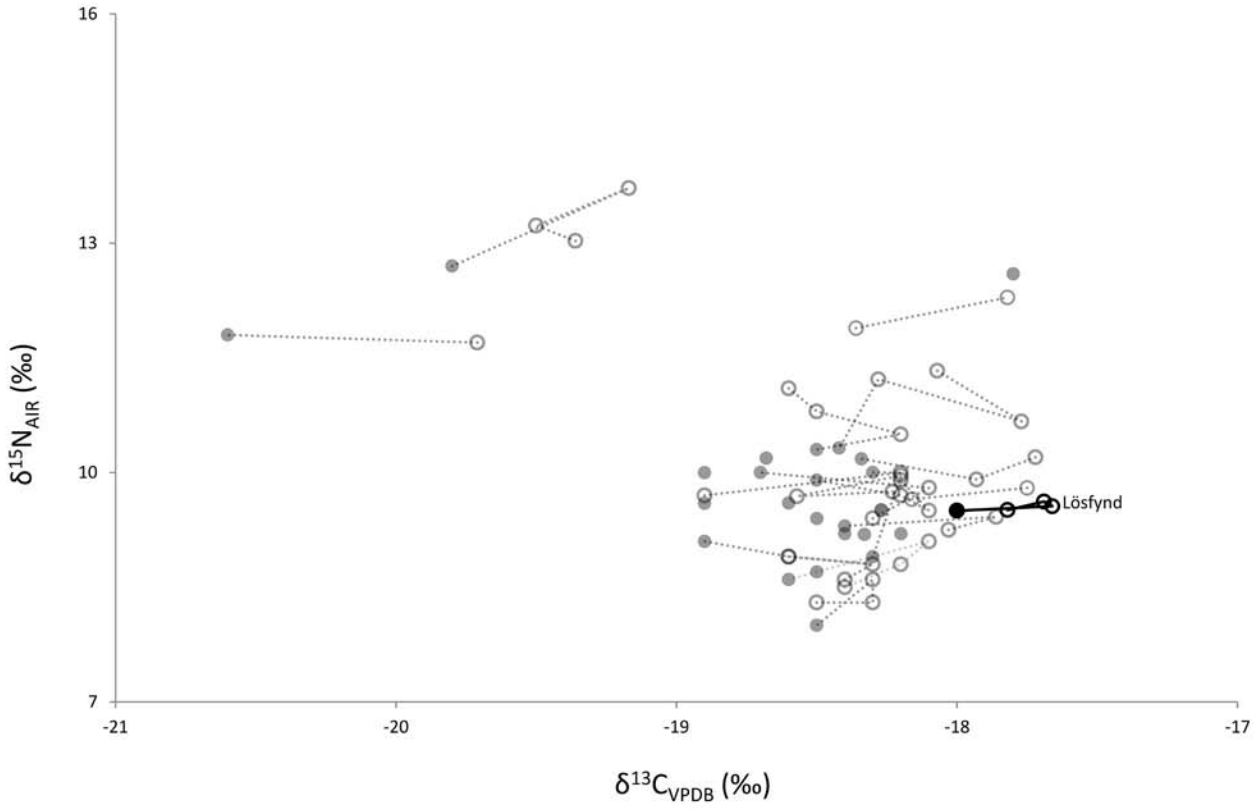

FIG. S3. Intra-individual changes of carbon and nitrogen isotope values for individual *Lösfynd* from Silbojokk highlighted. Filled circles: bone; empty circles: tooth.

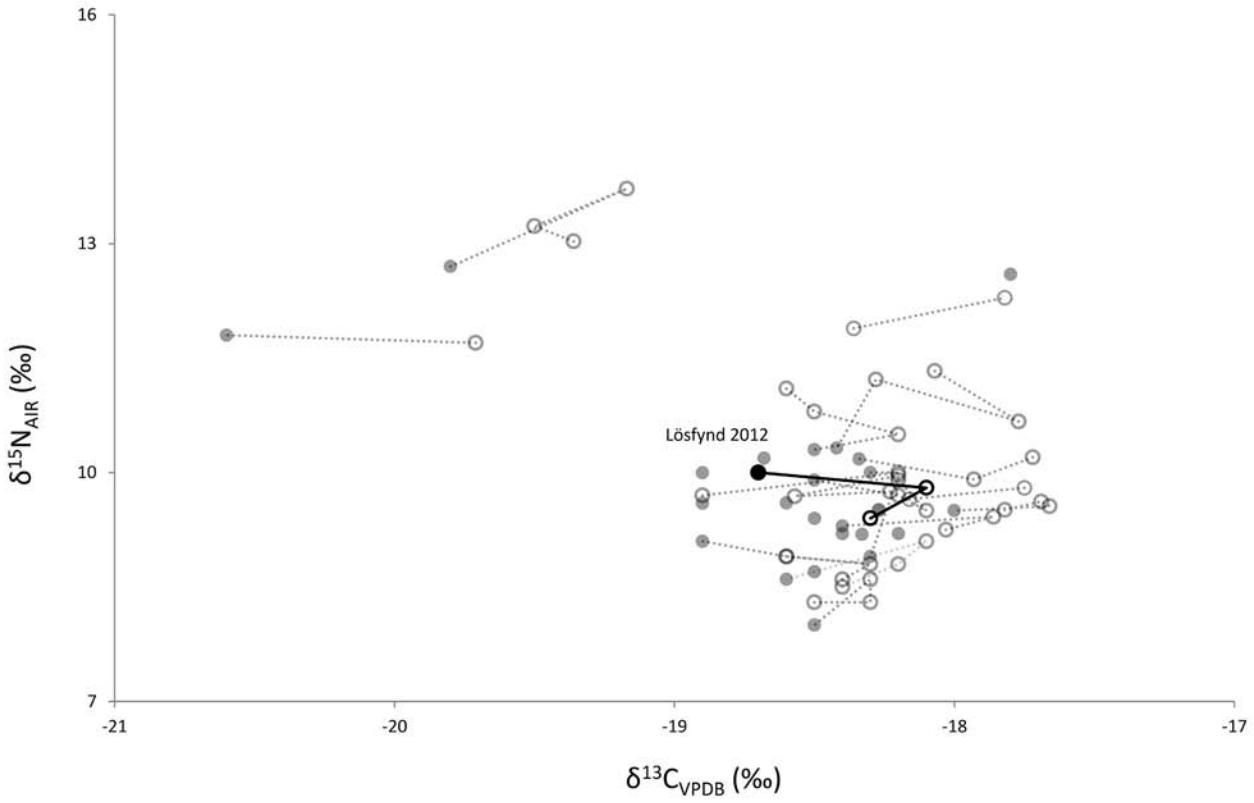

FIG. S4. Intra-individual changes of carbon and nitrogen isotope values for individual *Lösfynd* 2012 from Silbojokk highlighted. Filled circles: bone; empty circles: tooth.

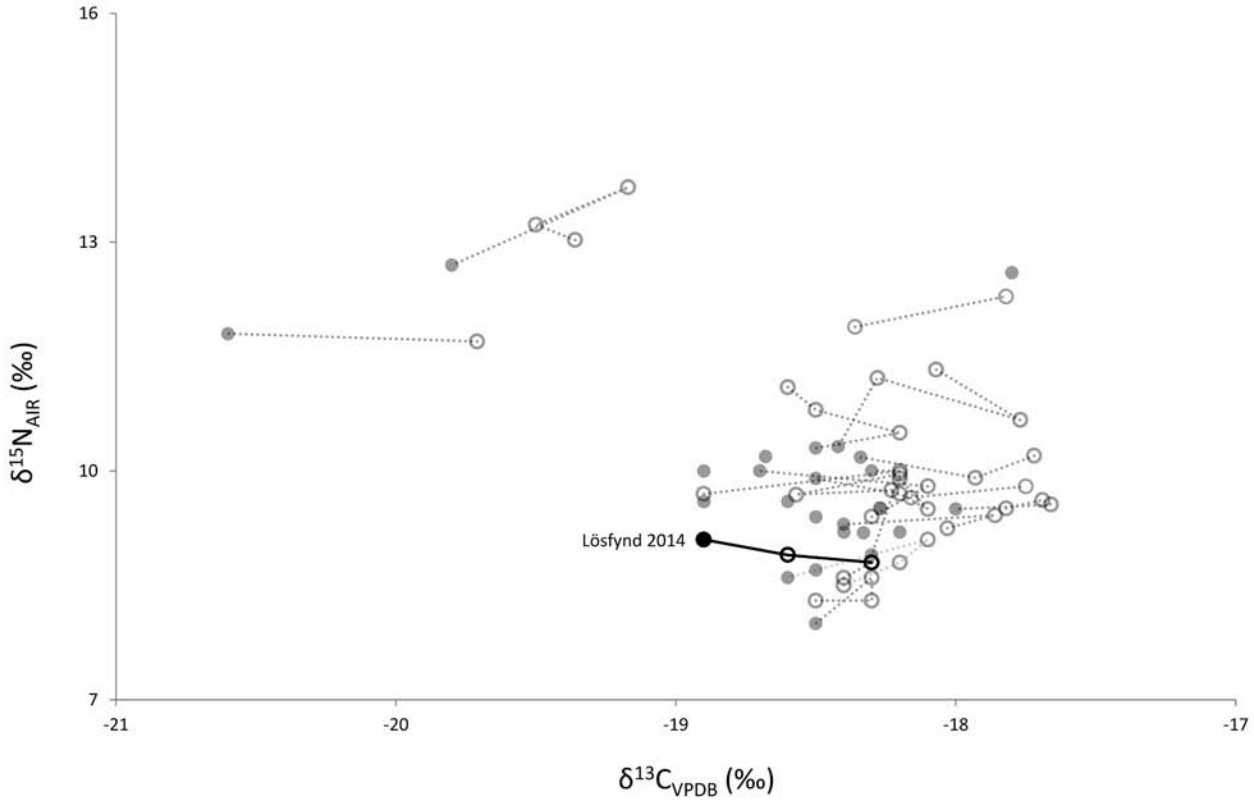

FIG. S5. Intra-individual changes of carbon and nitrogen isotope values for individual *Lösfynd* 2014 from Silbojokk highlighted. Filled circles: bone; empty circles: tooth.

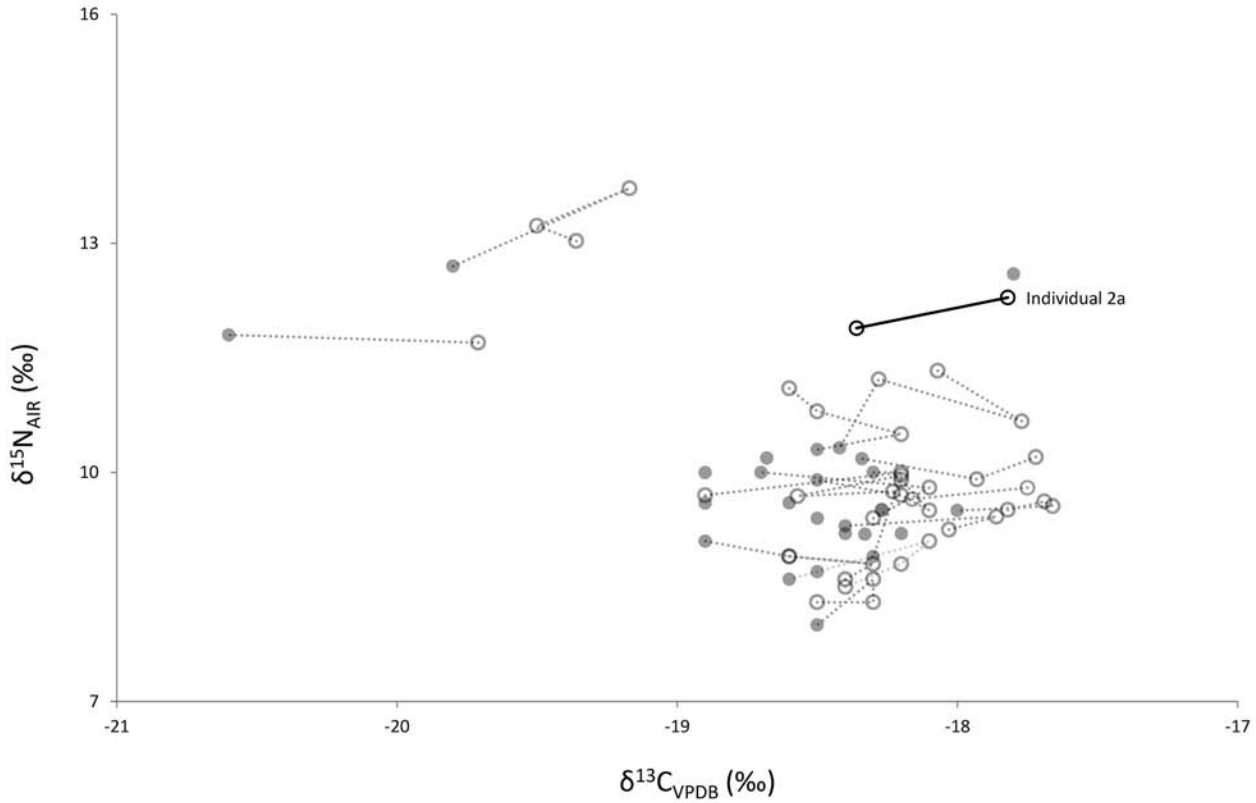

FIG. S6. Intra-individual changes of carbon and nitrogen isotope values for individual 2a from Silbojokk highlighted. Filled circles: bone; empty circles: tooth.

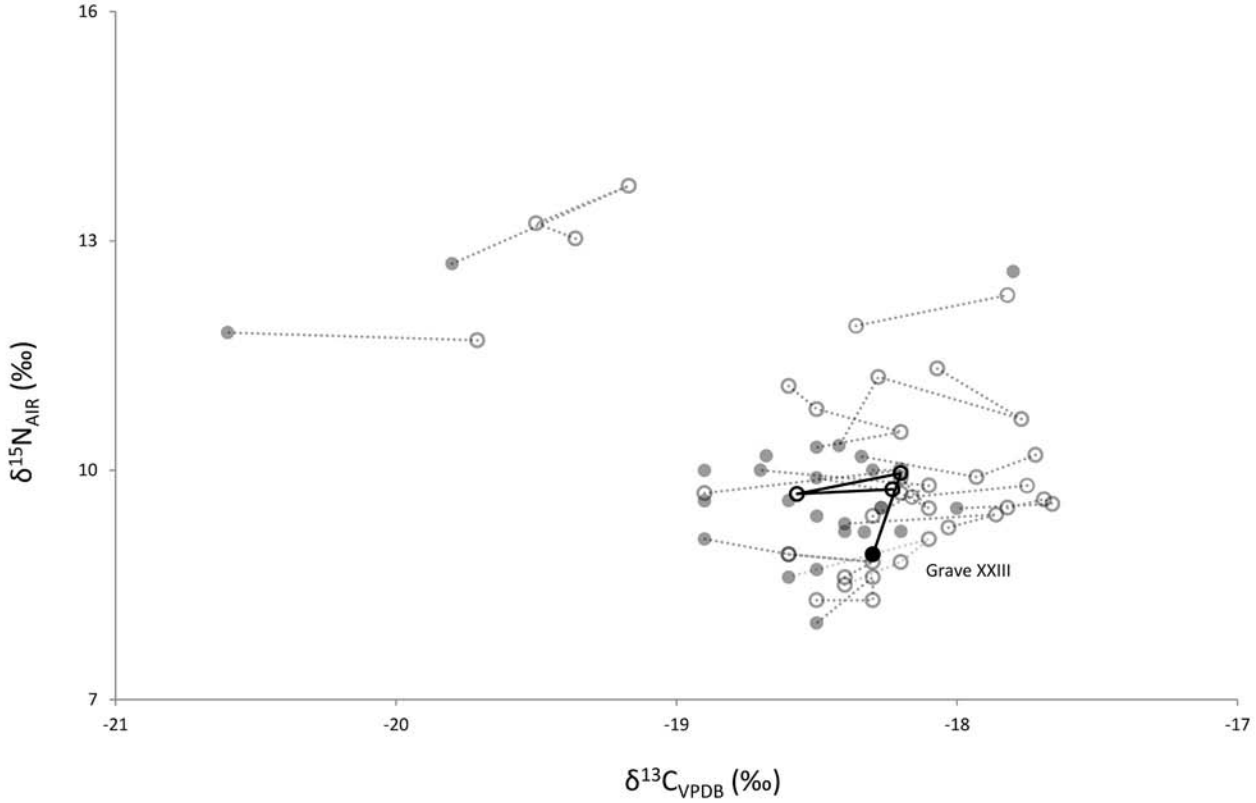

FIG. S7. Intra-individual changes of carbon and nitrogen isotope values for individual Grave XXIII from Silbojokk highlighted. Filled circles: bone; empty circles: tooth.

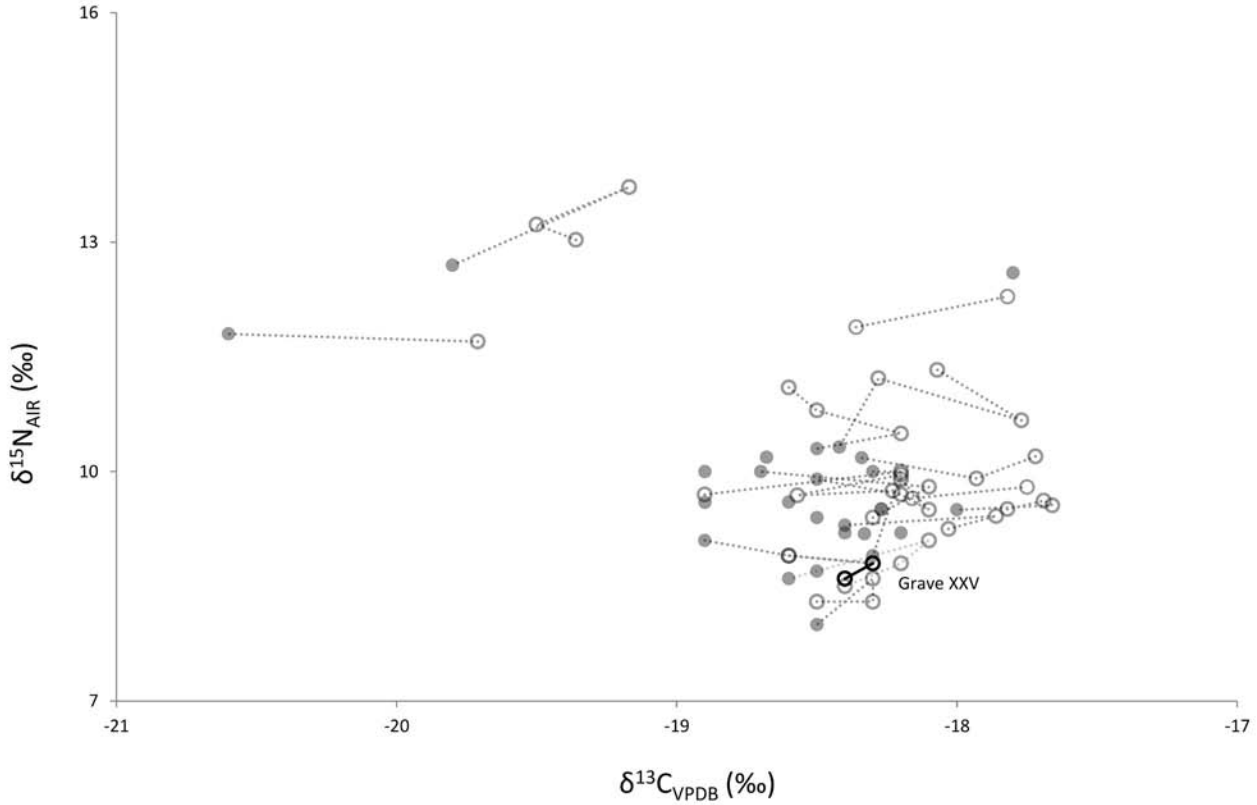

FIG. S8. Intra-individual changes of carbon and nitrogen isotope values for individual Grave XXV from Silbojokk, highlighted. Filled circles: bone; empty circles: tooth.

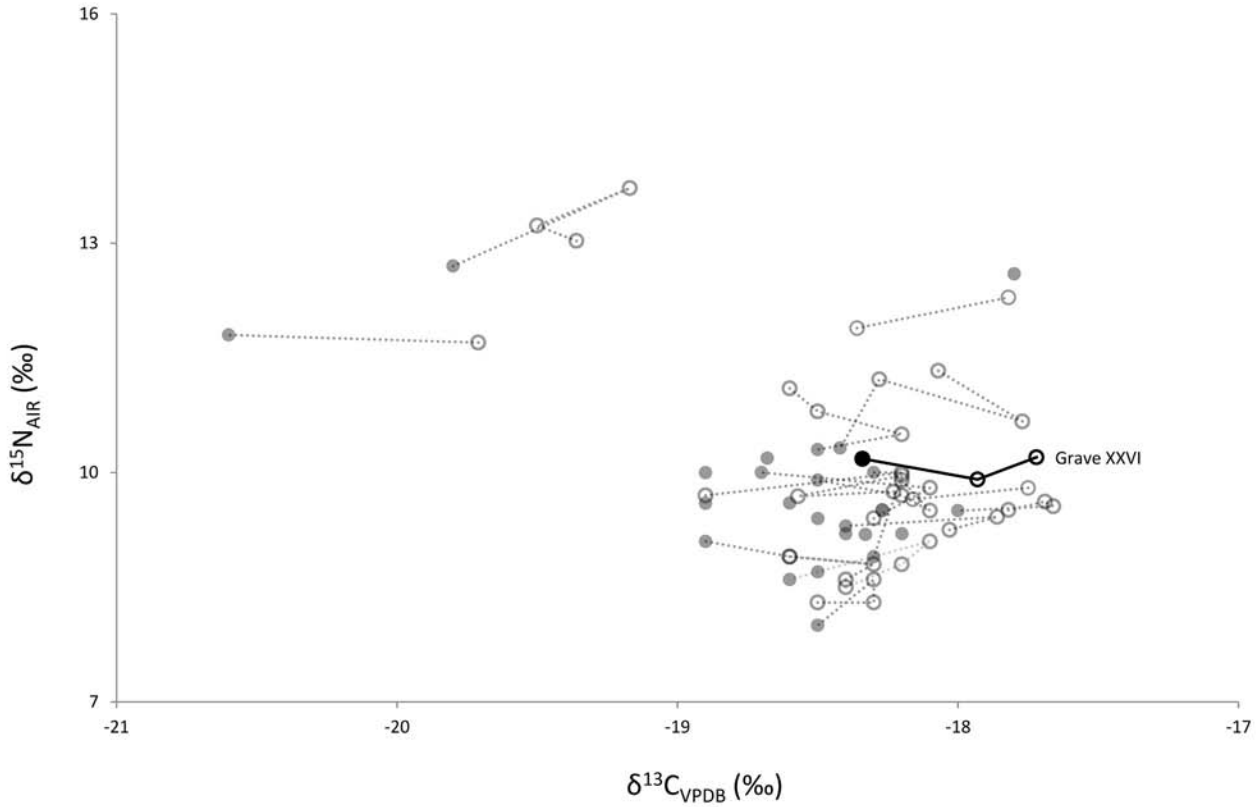

FIG. S9. Intra-individual changes of carbon and nitrogen isotope values for individual Grave XXVI from Silbojokk highlighted. Filled circles: bone; empty circles: tooth.

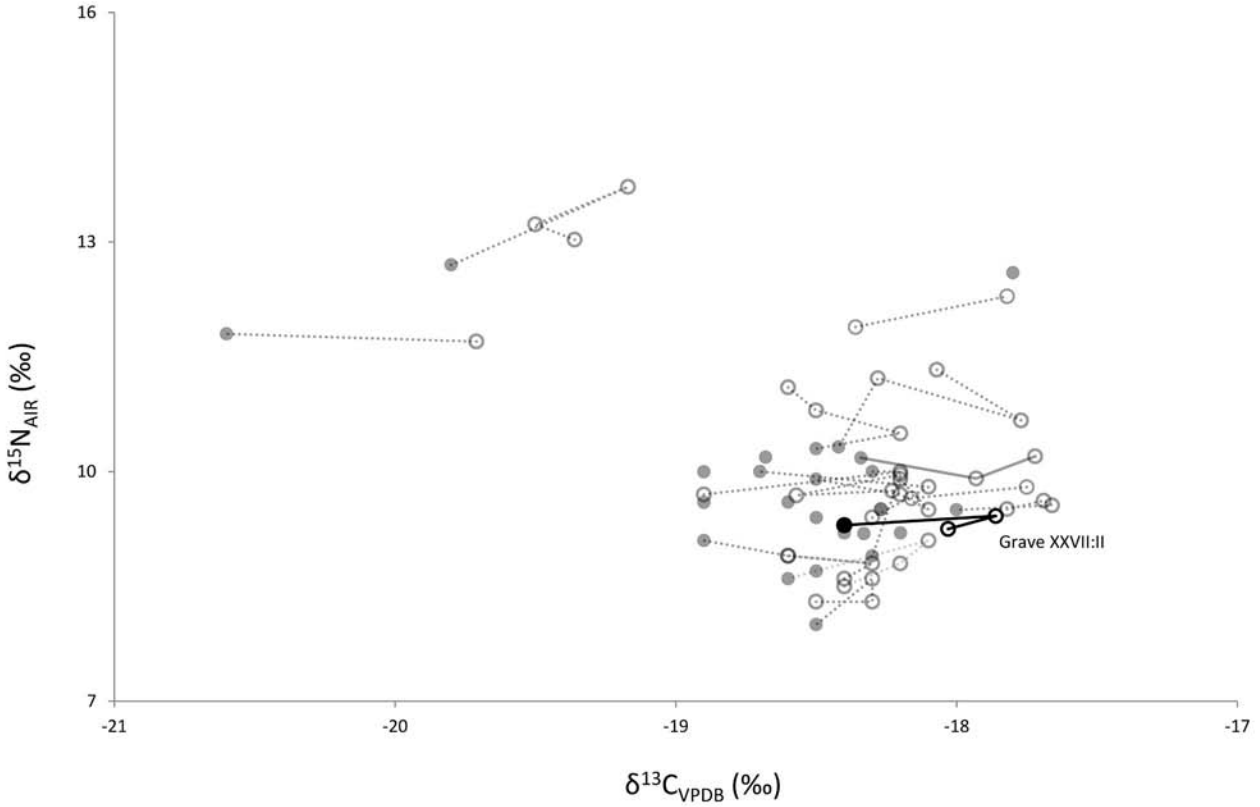

FIG. S10. Intra-individual changes of carbon and nitrogen isotope values for individual Grave XXVII:II from Silbojokk highlighted. Filled circles: bone; empty circles: tooth.

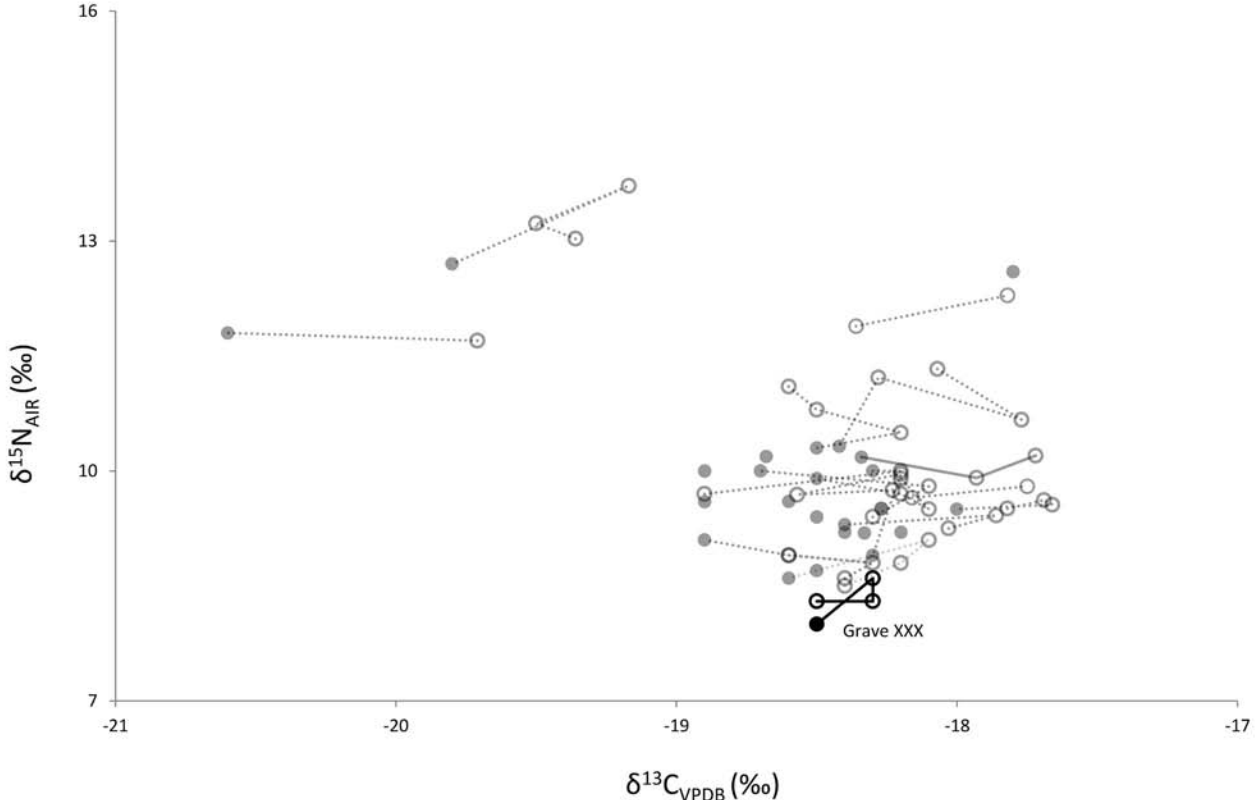

FIG. S11. Intra-individual changes of carbon and nitrogen isotope values for individual Grave XXX from Silbojokk highlighted. Filled circles: bone; empty circles: tooth.

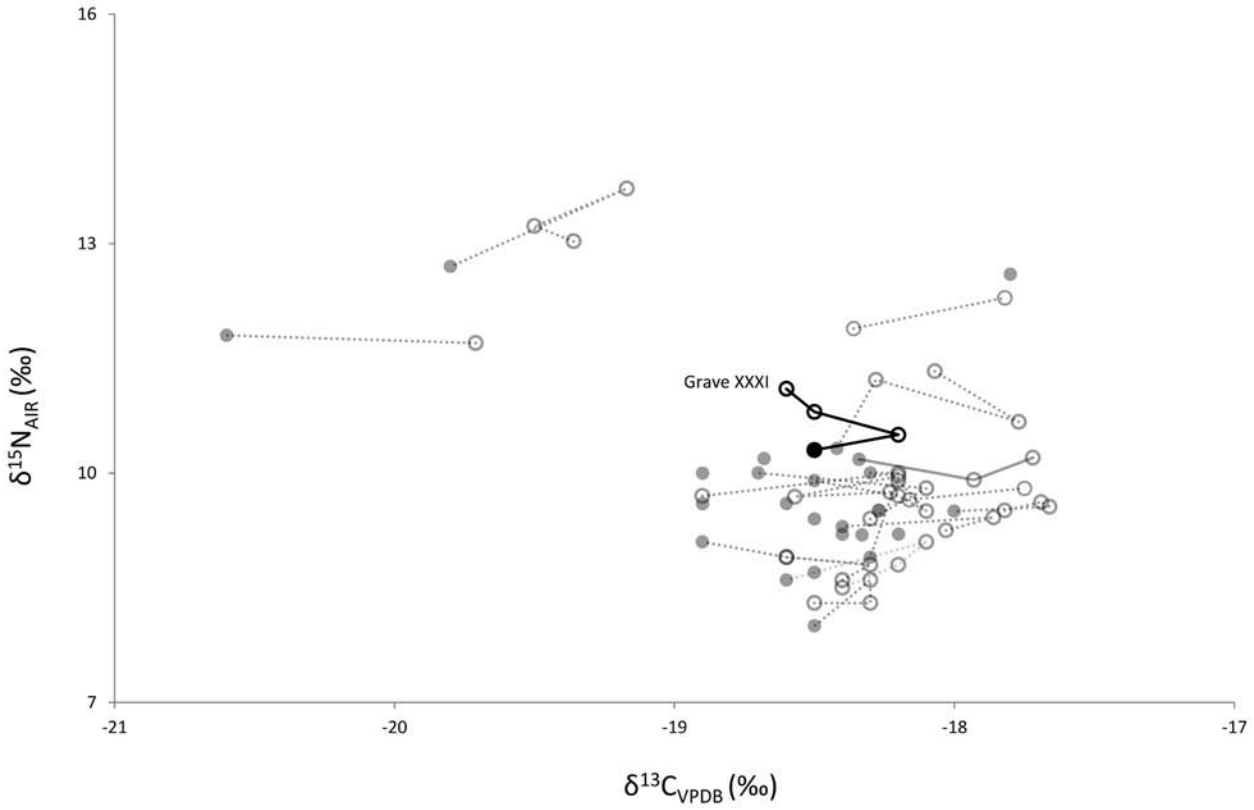

FIG. S12. Intra-individual changes of carbon and nitrogen isotope values for individual Grave XXXI from Silbojokk highlighted. Filled circles: bone; empty circles: tooth.

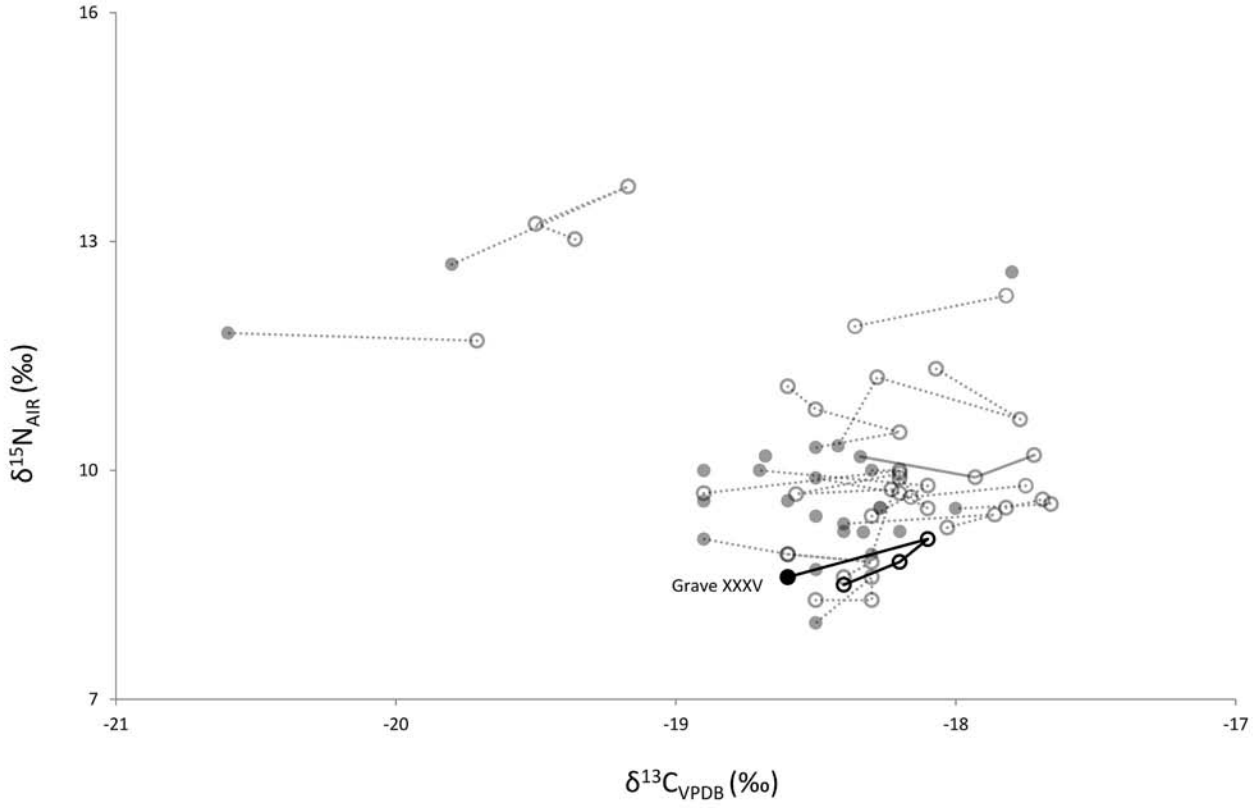

FIG. S13. Intra-individual changes of carbon and nitrogen isotope values for individual Grave XXXV from Silbojokk highlighted. Filled circles: bone; empty circles: tooth.

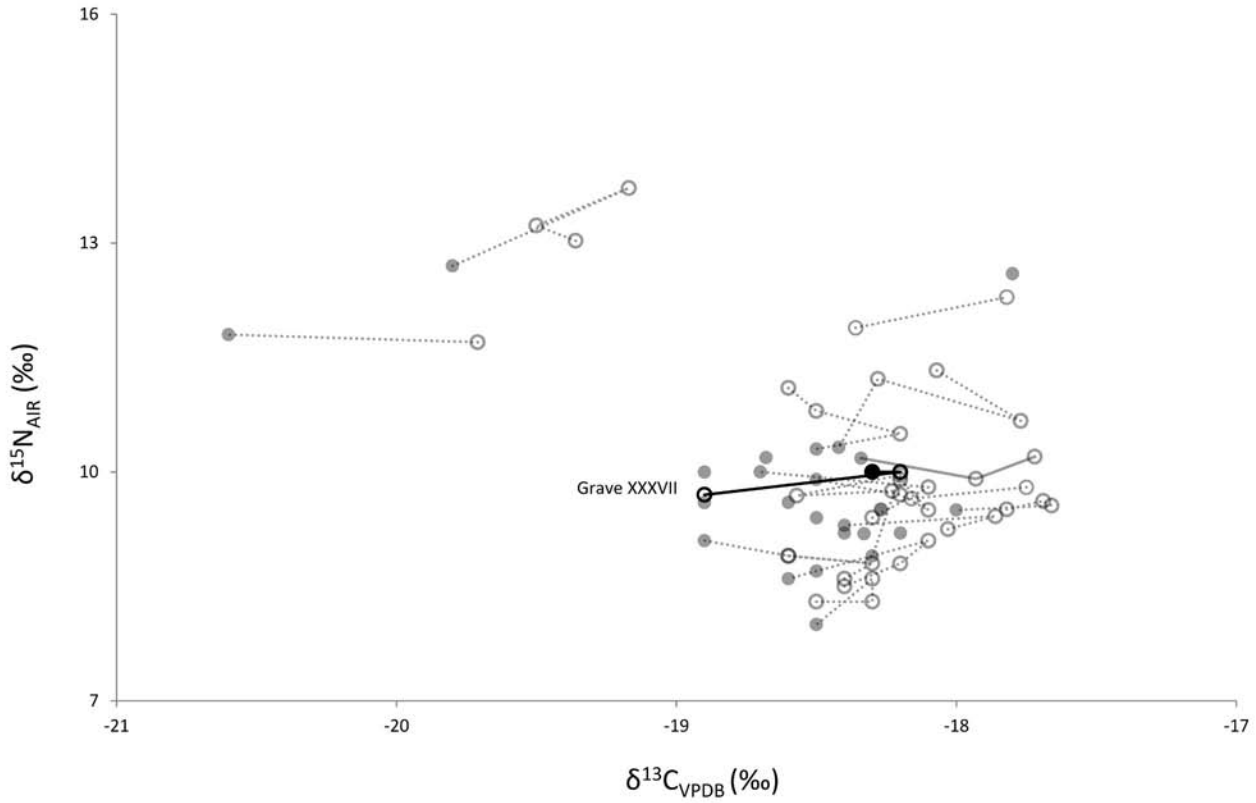

FIG. S14. Intra-individual changes of carbon and nitrogen isotope values for individual Grave XXXVII from Silbojokk highlighted. Filled circles: bone; empty circles: tooth.

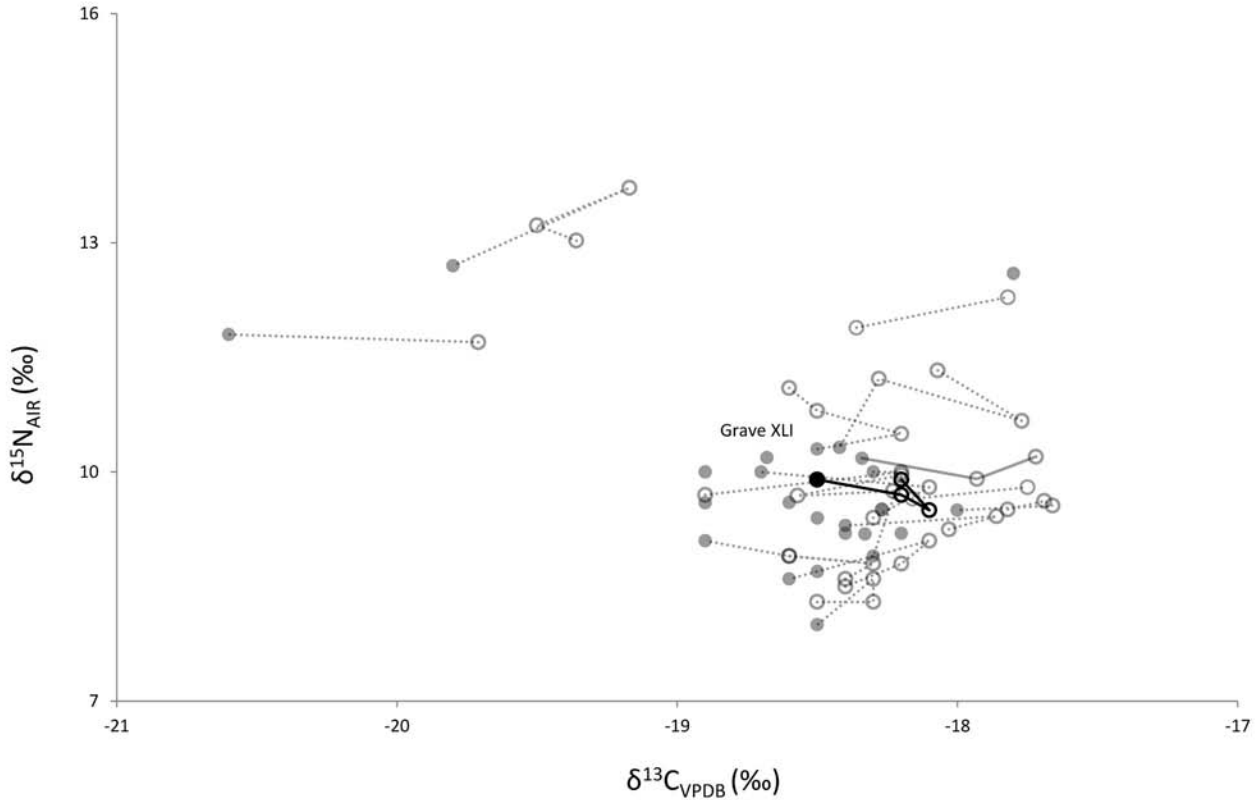

FIG. S15. Intra-individual changes of carbon and nitrogen isotope values for individual Grave XLI from Silbojokk highlighted. Filled circles: bone; empty circles: tooth.

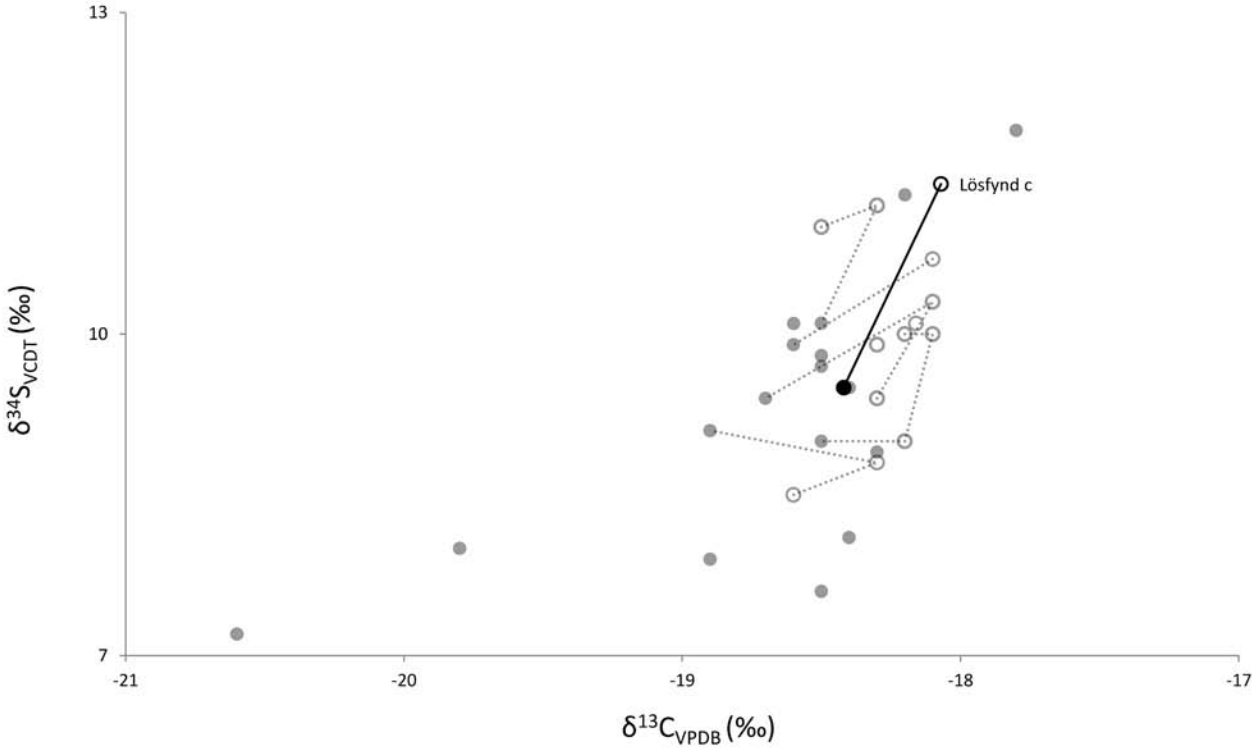

FIG. S16. Intra-individual changes of carbon and sulphur isotope values for individual *Lösfynd* c from Silbojokk highlighted. Filled circles: bone; empty circles: tooth.

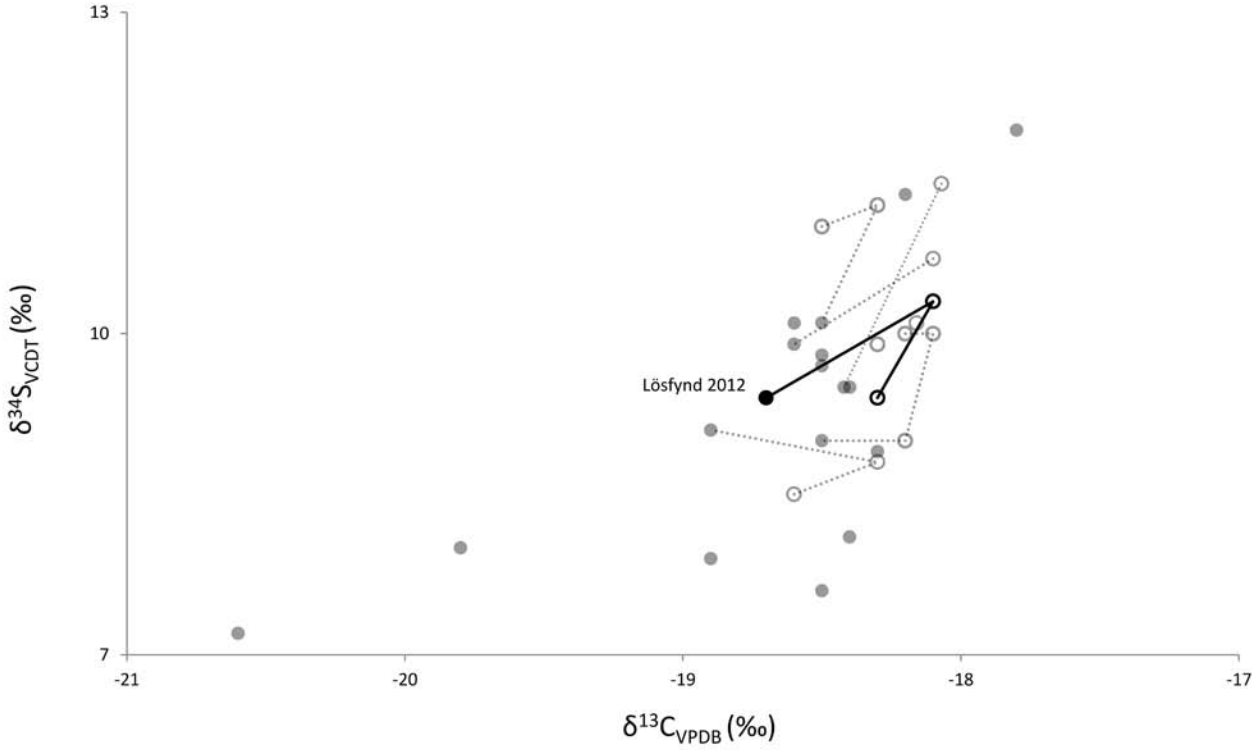

FIG. S17. Intra-individual changes of carbon and sulphur isotope values for individual *Lösfynd* 2012 from Silbojokk highlighted. Filled circles: bone; empty circles: tooth.

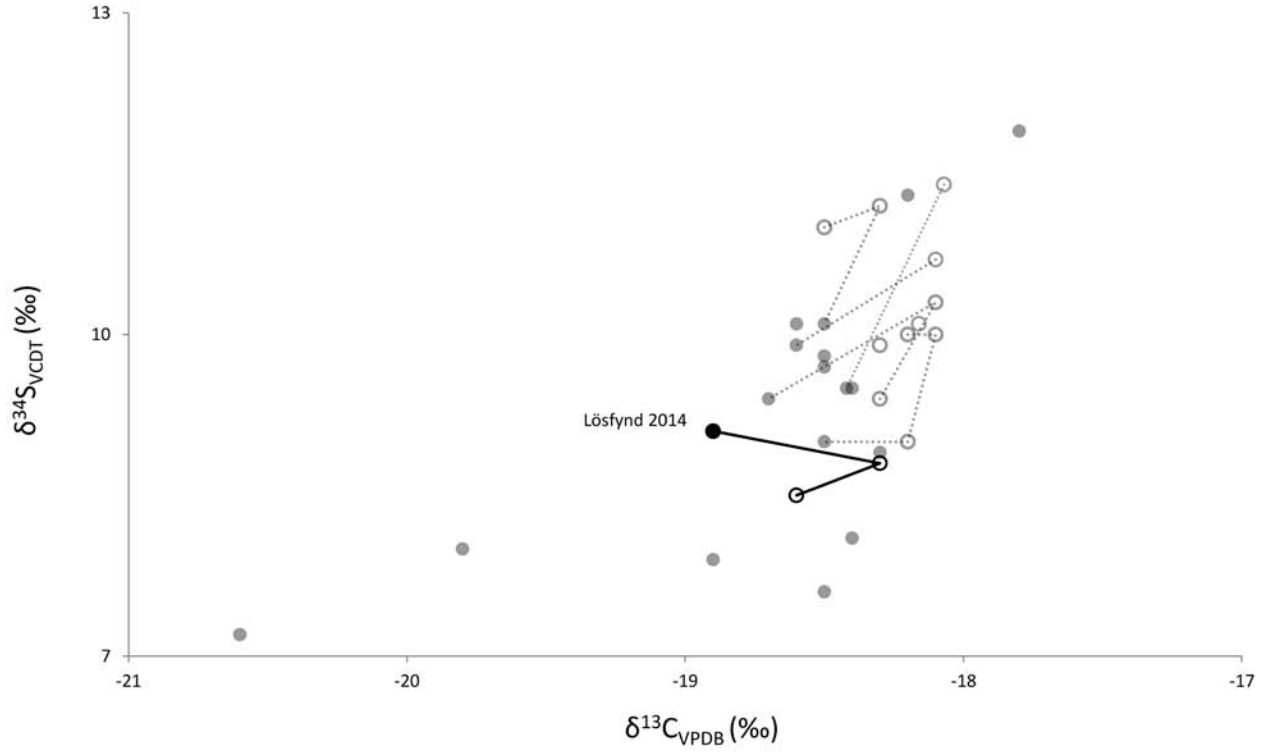

FIG. S18. Intra-individual changes of carbon and sulphur isotope values for individual *Lösfynd* 2014 from Silbojokk highlighted. Filled circles: bone; empty circles: tooth.

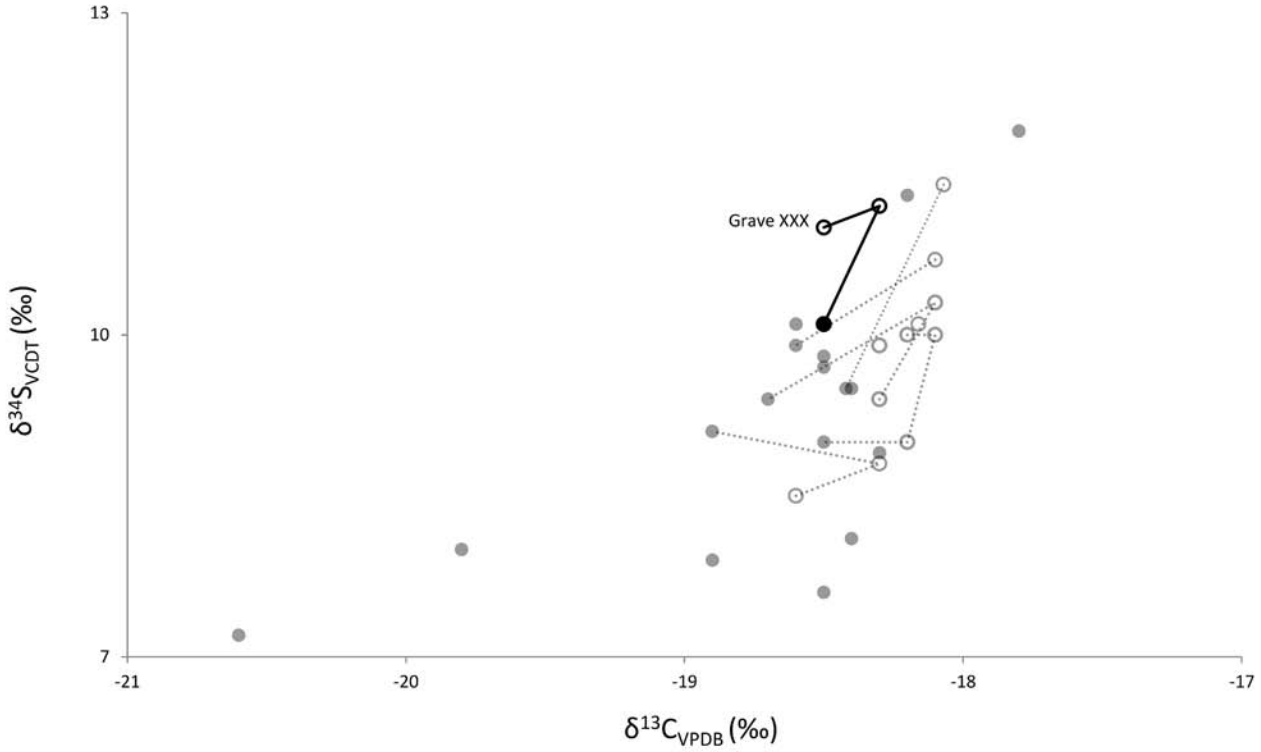

FIG. S19. Intra-individual changes of carbon and sulphur isotope values for individual Grave XXX from Silbojokk highlighted. Filled circles: bone; empty circles: tooth.

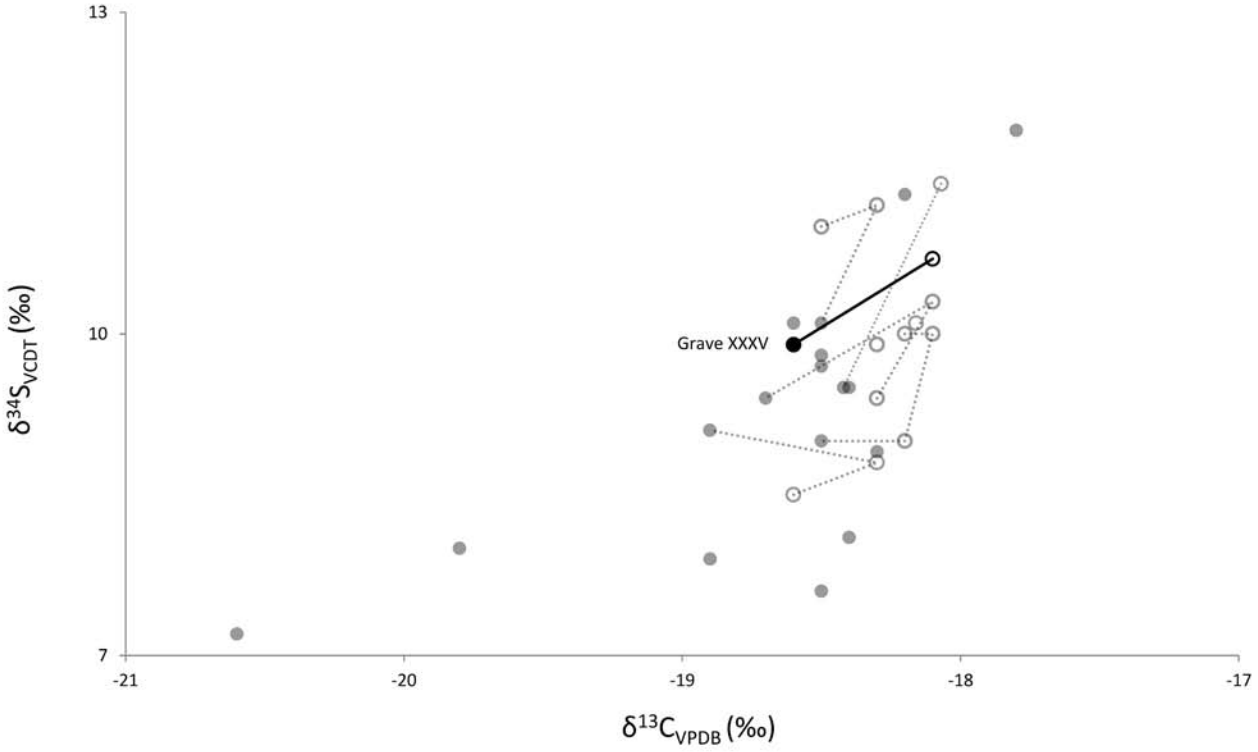

FIG. S20. Intra-individual changes of carbon and sulphur isotope values for individual Grave XXXV from Silbojokk highlighted. Filled circles: bone; empty circles: tooth.

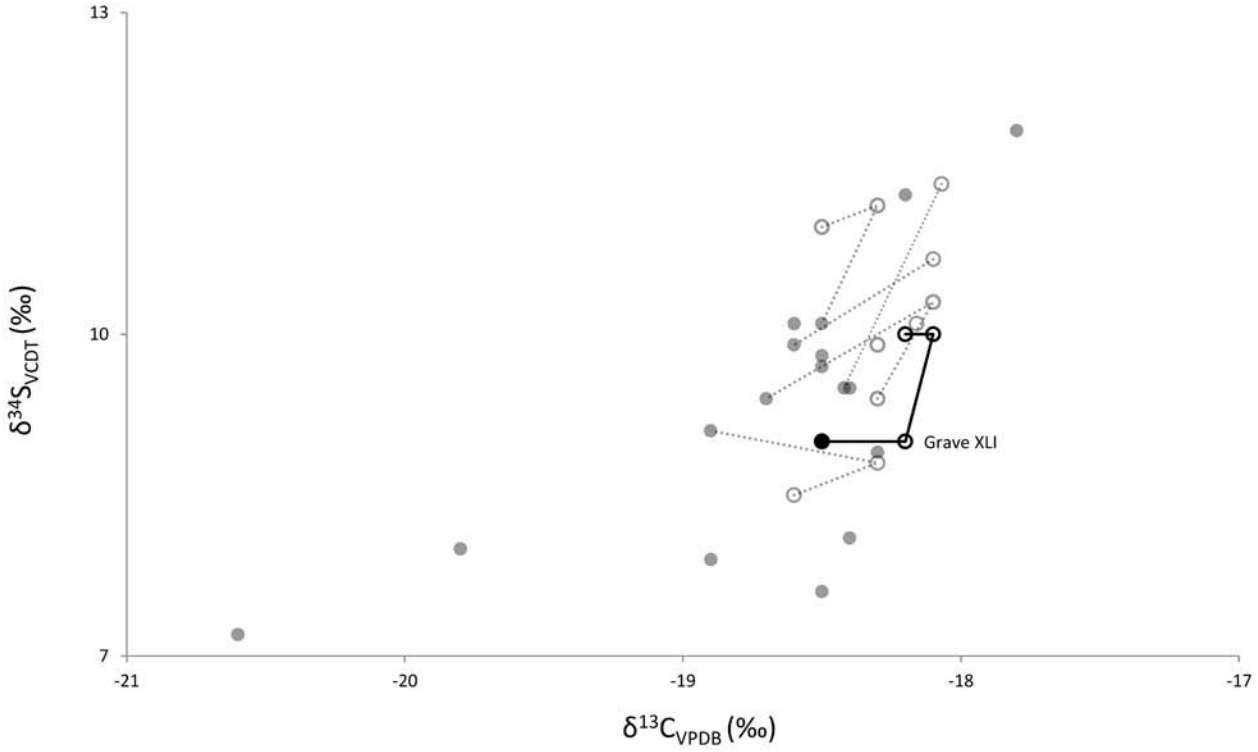

FIG. S21. Intra-individual changes of carbon and sulphur isotope values for individual Grave XLI from Silbojokk highlighted. Filled circles: bone; empty circles: tooth.