3. Numerals

It is noteworthy that only the numbers from one to five[4] and ten are exactly designated; all other numbers are derived from these. The numbers beyond 99 can also be expressed in words which have only recently been borrowed from Swahili, i.e. 100 *(amiot-apei)*[5], 200 *(ngamiyo-ngarei)*, 1,000 *(aluput-apei)*[6] and 2,000 *(ngalupui-ngarei)*.

Every number has hitherto been verbalized and made unmistakeably clear by means of simultaneous hand signs. Due to the increasing use of higher numbers, the hand signs are inadequate and are becoming less significant. My information and observations allow me to come to the conclusion that the symbolic Turkana numbers can theoretically only be effective up to the number 99; there is no appropriate sign for 100.

3.1 Cardinal Numbers

The cardinal numbers which have been considered here are all feminine. This form has been chosen because it is used most frequently (also in connection with money). The corresponding forms in the other genders can easily be derived from the feminine form, whereby it can be seen that the numbers are treated as adjectives and take the same prefixes as the corresponding nouns, for example:

aberu apei	one woman
ekile epei	one man
ikoku ipei	one child
ngaberu ngarei	two women
ngikiliok ngiarei	two men
ngide ngiarei	two children
ngaberu ngakan-ka-arei	seven women
ngikiliok ngikan-ka-arei	seven men
ngide ngikan-ka-arei	seven children

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[4] N. B. The numeral five *(ngakan)* is taken from the plural form of the word *akan* (hand).

[5] In Swahili 100 is "mia".

[6] In Swahili 1,000 is "elfu".

Arabic Numbers	Turkana Terms	Numerical Combinations
1	*apei*	
2	*ngarei*	
3	*ngauni*	
4	*ngomon*	
5	*ngakan*	
6	*ngakan-ka-apei*	5 plus 1
7	*ngakan-ka-arei*	5 plus 2
8	*ngakan-ka-uni*	5 plus 3
9	*ngakan-ka-omon*	5 plus 4
10	*ngatomon*	
11	*ngatomon-ka-apei*	10 plus 1
12	*ngatomon-ka-ngarei*	10 plus 2
13	*ngatomon-ka-ngauni*	10 plus 3
14	*ngatomon-ka-ngomon*	10 plus 4
15	*ngatomon-ka-ngakan*	10 plus 5
16	*ngatomon-ka-ngakan-ka-apei*	10 plus 5 plus 1
17	*ngatomon-ka-ngakan-ka-arei*	10 plus 5 plus 2
18	*ngatomon-ka-ngakan-ka-uni*	10 plus 5 plus 3
19	*ngatomon-ka-ngakan-ka-omon*	10 plus 5 plus 4
20	*ngatomon-arei*	2 tens
30	*ngatomon-uni*	3 tens
40	*ngatomon-omon*	4 tens
50	*ngatomon-kan*	5 tens
60	*ngatomon-kan-ka-apei*	5 tens plus 1 ten
70	*ngatomon-kan-ka-arei*	5 tens plus 2 tens
80	*ngatomon-kan-ka-uni*	5 tens plus 3 tens
90	*ngatomon-kan-ka-omon*	5 tens plus 4 tens
100	*ngatomon-tomon*	10 tens
101	*ngatomon-tomon-ka-apei*	10 tens plus 1
110	*ngatomon-tomon-ka-ngatomon*	10 tens plus 10
200	*ngatomon-tomon-ngarei*	10 tens (times) 2
300	*ngatomon-tomon-ngauni*	10 tens (times) 3
1,000	*abunget*	
1,001	*abunget-ka-apei*	1,000 plus 1
1,010	*abunget-ka-ngatomon*	1,000 plus 10
2,000	*ngabunge-ngarei*	1,000 (times) 2
3,000	*ngabunge-ngauni*	1,000 (times) 3
8,000	*ngabunge-ngakan-ka-uni*	1,000 (times) 5 plus 3
10,000	*ngabunge-ngatomon*	1,000 (times) 10
100,000	*ngabunge-ngatomon-tomon*	1,000 (times) 10 tens
200,000	*ngabunge-ngatomon-tomon-ngarei*	1,000 (times) 10 tens (times) 2
300,000	*ngabunge-ngatomon-tomon-ngauni*	1,000 (times) 10 tens (times) 3
1 million	*aurereme*	
2 millions	*ngaureremia-ngarei*	1 million (times) 2
3 millions	*ngaureremia-ngauni*	1 million (times) 3
innumerable	*nyiamarun*	

3.2 Ordinal Numbers

As we have already explained the numerical system of combinations in
dealing with the cardinal numbers, we need not repeat it here. All the
ordinal numbers to be found here are also feminine. The corresponding
forms in other genders will be demonstrated by a few examples:

aberu naekingaren	the first woman
ekile loekingaren	the first man
ikoku niekingaren	the first child
aberu nangarei	the second woman
ekile loangarei	the second man
ikoku niangarei	the second child
aberu nangakan-ka-arei	the seventh woman
ekile loangakan-ka-arei	the seventh man
ikoku niangakan-ka-arei	the seventh child

1st	*naekingaren*
2nd	*nangarei*
3rd	*nangauni*
4th	*nangomon*
5th	*nangakan*
6th	*nangakan-ka-apei*
7th	*nangakan-ka-arei*
8th	*nangakan-ka-uni*
9th	*nangakan-ka-omon*
10th	*nangatomon*
11th	*nangatomon-ka-apei*
12th	*nangatomon-ka-ngarei*
13th	*nangatomon-ka-ngauni*
14th	*nangatomon-ka-ngomon*
15th	*nangatomon-ka-ngakan*
16th	*nangatomon-ka-ngakan-ka-apei*
17th	*nangatomon-ka-ngakan-ka-arei*
18th	*nangatomon-ka-ngakan-ka-uni*
19th	*nangatomon-ka-ngakan-ka-omon*
20th	*nangatomon-arei*
21st	*nangatomon-arei-ka-apei*
22nd	*nangatomon-arei-ka-ngarei*
23rd	*nangatomon-arei-ka-ngauni*
30th	*nangatomon-uni*
40th	*nangatomon-omon*

50th	*nangatomon-kan*
60th	*nangatomon-kan-ka-apei*
70th	*nangatomon-kan-ka-arei*
80th	*nangatomon-kan-ka-uni*
90th	*nangatomon-kan-ka-omon*
100th	*nangatomon-tomon*
101st	*nangatomon-tomon-ka-apei*
110th	*nangatomon-tomon-ka- ngatomon*
200th	*nangatomon-tomon-ngarei*
300th	*nangatomon-tomon-ngauni*
1,000th	*naabunget*
2,000th	*nangabunge-angarei*
10,000th	*nangabunge-angatomon*
20,000th	*nangabunge-angatomon-arei*
100,000th	*nangabunge-angatomon-tomon*
200,000th	*nangabunge-angatomon-tomon-angarei*
1st million	*naaurereme*
2nd million	*naangaureremia-angarei*

3.3 System of Counting

The Turkana know addition, subtraction, multiplication and division which, however, they only use in a rudimentary way. Counting using higher numbers seems to be rather theoretical but demonstrates the principles of the system of counting. No hand signs are used in counting and the Turkana are also not familiar with either fractional arithmetic or decimals. There is no existing terminus for the system of counting, to count means *akimar* and the equals sign is *arai*. In Turkana the four types of counting are as follows:

akimorianakin	addition
akimorikin	to add
kimorik	plus[7]
alemanar	subtraction
alemar	to subtract
tolema	minus
akidokonokin	multiplication
akidok	to multiply
ta	multiplied by

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[7] N. B. The term for "plus" in numbers beyond five is *ka,* for example *ngakan-ka-uni* (eight, i.e. five plus three).

GÜNTER BEST

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