QUIPU AS34

Museum identification: No. 365240 (National Museum, Smithsonian, Washington, D.C.)

Main cord: color W

$ 2.5 cm: group of 5 pendant cords (1-5), then space of 0.5 cm.

  4.0 cm: group of 5 pendant cords (6-10), then space of 0.5 cm.

  5.5 cm: group of 5 pendant cords (11-15), then space of 0.5 cm.

  7.0 cm: group of 5 pendant cords (16-20), then space of 0.5 cm.

  8.5 cm: group of 5 pendant cords (21-25), then space of 0.5 cm.

 10.0 cm: group of 5 pendant cords (26-30), then space of 0.5 cm.

 11.5 cm: group of 4 pendant cords (31-34), then space of 2.0 cm.

 14.0 cm: group of 5 pendant cords (35-39), then space of 1.0 cm.

 16.0 cm: group of 5 pendant cords (40-44), then space of 0.5 cm.

 17.5 cm: group of 5 pendant cords (45-49), then space of 0.5 cm.

 19.5 cm: group of 10 pendant cords (50-59), then space of 0.5 cm.

 22.0 cm: group of 14 pendant cords (60-73),

 27.0 cm: group of 10 pendant cords (74-83), then space of 1.0 cm.

 30.0 cm: group of 5 pendant cords (84-88), then space of 1.0 cm.

 33.0 cm: group of 5 pendant cords (89-93), then space of 0.5 cm.

 35.0 cm: group of 5 pendant cords (94-98), then space of 0.5 cm.

 36.5 cm: group of 5 pendant cords (99-103), then space of 15.0 cm.

 52.5 cm: group of 5 pendant cords (104-108), then space of 190.0 cm.

243.5 cm: end ¢

Cord	Knots (no., type, position)	Length	Color	Value	Subsidiaries (no., position)
1	6L(12.0)	20.5¢	YB	6	
2	3L(11.5)	41.5¢	YB	3	
3	7L(11.5)	38.5¢	YB	7	
4	3L(11.5)	44.5¢	YB	3	
5	1E(11.0)	43.0¢	YB	1	
6	5L(11.5)	39.5¢	YB	5	
7	4L(12.0)	41.0¢	YB	4	
8	5L(12.0)	40.0¢	YB	5	
9	2L(12.0)	40.0¢	YB	2	
10	2L(12.5)	36.5¢	YB	2	
11	4L(13.0)	37.0¢	YB	4	
12	4L(13.0)	30.0¢	YB	4	
13	4L(13.5)	31.0¢	YB	4	1:0.5
13s1	5L(12.5)	29.5¢	YB	5	
14	--	35.0¢	YB	0	
15	--	35.0¢	YB	0	
16	4L(13.5)	32.0¢	BG	4	5:0.5-1.5
16s1	--	39.0¢	YB	0	
16s2	--	37.0¢	YB:W	0	
16s3	--	32.0¢	YB-W/YB (16.5/32.0)	0	
16s4	--	49.0¢	YB-W	0	
16s5	1s(6.0)	50.0¢	YB:W	10	
17	4L(14.5)	33.5¢	BG	4	5:0.5-1.5

Cord	Knots (no., type, position)	Length	Color	Value	Subsidiaries (no., position)
17s1	--	36.0¢	YB	0	
17s2	--	38.0¢	YB-W	0	
17s3	--	36.0¢	YB:W	0	
17s4	--	60.0¢	YB-W	0	
17s5	3s(7.0)	37.0¢	LB:W	30	
18	5L(14.5)	31.5¢	BG	5	5:0.5-1.5
18s1	--	30.0¢	YB/LB (10.0/30.0)	0	
18s2	--	36.0¢	YB-W	0	
18s3	--	35.0¢	YB:W	0	
18s4	--	43.0¢	LB-W	0	
18s5	5s(8.0)	40.0¢	YB:W	50	
19	3L(15.5)	34.5¢	BG	3	5:0.5-1.5
19s1	--	36.5¢	YB/LB (12.0/36.5)	0	
19s2	--	38.0¢	YB-W/YB (17.0/38.0)	0	
19s3	--	34.0¢	YB:W	0	
19s4	--	44.0¢	LB-W	0	
19s5	1s(7.0)	27.0¢	LB:W	10	
20	3L(14.5)	21.5b	BG	3	5:0.5-1.5
20s1	--	36.0¢	YB/LB (12.0/36.0)	0	
20s2	--	34.0¢	YB-W/YB (17.0/34.0)	0	
20s3	--	32.0¢	YB:W	0	

Cord	Knots (no., type, position)	Length	Color	Value	Subsidiaries (no., position)
20s4	2s(7.0)	45.0¢	LB-W	20	
20s5	--	56.0¢	LB:W	0	
21	1E(14.0)	31.0¢	BG	1	
22	3L(14.0)	28.0¢	BG	3	
23	3L(14.0)	27.0¢	BG	3	
24	--	32.0¢	BG	0	
25	--	31.0¢	BG	0	
26	2L(14.5)	30.5¢	BG	2	
27	4L(14.5)	33.5¢	BG	4	
28	4L(15.0)	29.0¢	BG	4	
29	--	34.0¢	BG	0	
30	--	33.0¢	BG	0	
31	5s(9.0)	31.0¢	LB	50	
32	2s(7.0)	37.0¢	LB	20	
33	7s(9.0)	27.0¢	LB	70	
34	1s(9.0)	41.0¢	LB	10	
35	3s(6.0)	36.0¢	YB	30	3:0.5-1.5
35s1	--	43.0¢	W	0	
35s2	2L(11.0)	35.0¢	YB:W	2	
35s3	2s(5.0)	35.0¢	YB	20	
36	3s(6.0)	37.0¢	YB	30	2:0.5-1.0
36s1	1E(10.5)	45.5¢	W	1	
36s2	1s(6.0); 8L(10.0)	21.0¢	YB	18	

Cord	Knots (no., type, position)	Length	Color	Value	Subsidiaries (no., position)
37	3s(7.0)	37.0¢	YB	30	2:0.5-1.0
37s1	2L(11.0)	41.0¢	W	2	
37s2	2s(6.0); 2L(11.0)	26.0¢	YB	22	
38	2s(7.0); 7L(13.0)	35.0¢	YB	27	2:0.5-1.0
38s1	--	38.0¢	W	0	
38s2	1s(6.0); 2L(14.5)	29.5¢	&B	12	
39	3s(7.0)	38.0¢	YB	30	3:0.5-1.0
39s1*	2L(11.0)	34.0¢	W	2	
39s2	--	44.0¢	W	0	
39s3	1s(5.5); 2L(11.5)	38.5¢	&B	12	
40	3s(6.0)	28.0¢	LB:YB	30	1:1.0
40s1	1E(11.0)	39.0¢	YB	1	
41	3s(6.0)	27.0¢	LB:YB	30	2:1.0-1.5
41s1	--	55.0¢	W	0	
41s2	1E(10.5)	42.5¢	YB	1	
42	3s(6.5)	32.5¢	LB:YB	30	1:1.0
42s1	1E(10.5)	30.5¢	YB	1	
43	1s(6.0); 2L(12.5)	32.5¢	LB:YB	12	1:1.0
43s1	1E(11.5)	32.5¢	YB	1	
44	3s(7.0)	33.0¢	LB:YB	30	1:1.0
44s1	1E(11.5)	30.5¢	YB	1	
45	1s(6.0)	29.0¢	LB:YB	10	1:1.0
45s1	1E(11.0)	31.0¢	YB	1	

Cord	Knots (no., type, position)	Length	Color	Value	Subsidiaries (no., position)
46**	7L(12.0)	23.0¢	LB:YB	7	1:1.0
46s1	1E(11.0)	39.0¢	LB-W	1	
47	1s(6.5)	30.5¢	LB:YB	10	1:1.0
47s1	1E(11.5)	31.5¢	YB	1	
48	4L(12.5)	24.5¢	LB:YB	4	1:0.5
48s1	1E(12.0)	31.0¢	YB	1	
49	2L(12.5)	27.5¢	LB:YB	2	1:1.0
49s1	--	31.0¢	YB	0	
50	1E(12.5)	32.5¢	W	1	
51	9L(11.5)	22.5¢	YB	9	
52	1E(12.0)	33.0¢	W	1	
53	9L(12.5)	21.5¢	YB	9	
54	2L(12.5)	32.5¢	W	2	1:0.5
54s1	3L(12.5)	38.5¢	LB	3	
55	2s(6.0); 3s(12.0)	27.0¢	YB	23	
56	1E(13.5)	33.5¢	W	1	
57	8L(13.0)	23.5¢	YB	8	
58	1E(12.5)	35.5¢	W	1	
59	8L(13.5)	25.0¢	YB	8	
60	1E(10.0)	27.0¢	LB	1	
61	3L(10.0)	34.0¢	W	3	
62	6L(11.0)	27.0¢	YB	6	2:0.5-1.0
62s1	1s(5.0); 1E(10.0)	32.0¢	YB	11	

Cord	Knots (no., type, position)	Length	Color	Value	Subsidiaries (no., position)
62s2	--	39.0¢	FB:YB	0	
63	2L(9.5)	38.5¢	LB	2	
64	4L(10.0)	40.0¢	W	4	
65	1s(6.0); 8L(11.0)	23.0¢	YB	18	2:0.5-1.0
65s1	1s(5.0); 1E(9.5)	32.5¢	YB	11	
65s2	1E(10.0)	35.0¢	FB:YB	1	
66	3L(11.0)	33.0¢	LB	3	
67	5L(11.0)	43.0¢	W	5	
68	3s(6.0)	28.0¢	YB	30	2:0.5-1.0
68s1	1s(5.0); 1E(10.0)	32.0¢	YB	11	
68s2	4L(10.5)	33.5¢	FB:YB	4	
69	--	29.0¢	LB	0	
70	1E(11.0)	38.0¢	W	1	
71	3L(11.0)	27.0¢	YB	3	2:0.5-1.0
71s1	6L(11.5)	28.5¢	YB	6	
71s2	1E(11.0)	38.0¢	FB:YB	1	
72	1E(10.0)	32.0¢	W	1	
73	4L(14.0)	39.0¢	YB	4	2:0.5-1.0
73s1	1s(5.0); 1E(14.0)	29.0¢	YB	11	
73s2	1E(14.0)	39.0¢	FB:YB	1	
74	3L(10.0)	35.0¢	W	3	1:0.5
74s1	1E(10.0)	32.0¢	LB	1	
75	1E(10.0)	29.0¢	YB	1	

Cord	Knots (no., type, position)	Length	Color	Value	Subsidiaries (no., position)
76	3L(10.5)	31.5¢	W	3	1:0.5
76s1	2L(10.0)	33.0¢	LB	2	
77	1E(10.0)	29.0¢	YB	1	
78	6L(11.0)	30.0¢	W	6	1:0.5
78s1	5L(11.5)	28.5¢	LB	5	
79	6L(11.5)	25.5¢	YB	6	
80	1E(12.5)	32.5¢	W	1	1:0.5
80s1	1E(12.5)	33.5¢	LB	1	
81	9L(12.5)	23.5¢	YB	9	
82	2L(12.5)	34.5¢	W	2	1:0.5
82s1	--	52.0¢	LB	0	
83	8L(13.5)	23.5¢	YB	8	
84	1s(3.0); 1s(10.0); 6L(16.5)	28.5¢	W	116	1:0.5
84s1	--	0.5b	LB	?	
85	1s(3.5); 2s(11.0); 5L(17.5)	27.5¢	W	125	1:0.5
85s1	--	45.0¢	LB	0	
86	1s(3.0); 8s(12.0); 3L(15.5)	18.0¢	W	183	1:0.5
86s1	5s(12.0)	46.0¢	LB	50	
87	4s(12.5)	35.5¢	W	40	1:0.5
87s1	--	42.0¢	LB	0	
88	5s(12.5)	28.5¢	W	50	1:0.5
88s1	--	44.0¢	LB	0	
89	1s(4.0); 2s(11.0); 5L(16.0)	28.0¢	W	125	

Cord	Knots (no., type, position)	Length	Color	Value	Subsidiaries (no., position)
90	1s(4.0); 8s(12.0); 2L(15.0)	18.0¢	W	182	
91	2s(4.0); 4s(12.0); 8L(16.0)	22.0¢	W	248	
92	4s(13.0)	35.0¢	W	40	
93	5s(13.0)	32.0¢	W	50	
94	7L(15.5)	29.5¢	W	7	
95	1s(12.5); 6L(15.5)	25.5¢	W	16	
96	1s(4.5); 3s(13.0)	32.0¢	W	130	
97	--	35.0¢	W	0	
98	2s(13.0)	32.0¢	W	20	
99	1s(12.5); 2L(15.5)	32.5¢	LB	12	1:1.0
99s1	9L(14.0)	?¢	LB	9	
100	1s(13.0); 2L(16.0)	32.0¢	LB	12	
101	1s(13.0); 1E(16.5)	41.5¢	LB	11	
102	1s(13.5)	39.5¢	LB	10	
103	1s(3.5); 8L(15.5)	21.5¢	LB	108	
104	--	40.0¢	LB	0	
105	--	41.0¢	LB	0	
106	--	41.0¢	LB	0	
107	--	43.0¢	LB	0	
108	--	39.0¢	LB	0	

Observations

*1. The subsidiary cord was not attached to the pendant. Since the pendant's coloration showed that it was missing a subsidiary, the association is probable.

**2. The pendant attachment seemed to be a later repair.

3. Two detached cords were associated with the quipu. They were both color FB-W. One had value 2 and the other value 1. The knot placement indicates that, if anything, they were subsidiaries, not pendant cords.

4. The quipu was received by the Museum in rolled and tied condition. The provenance is Pachacamac. It was given to the Smithsonian in 1933 by Mrs. J. P. Compton.

5. Because larger spaces separate them on the main cord, the quipu is considered in 3 parts: groups 1-7; groups 8-17; and group 18.

6. Part I: The first 6 groups have 5 pendants each and the 7th group has 4 pendants.

   (i) Pendants in groups 1-3 are all colored YB; pendants in groups 4-6 are all colored BG; and all group 7 pendants are LB.

   (ii) The pendant values in groups 1-6 are limited to 0-7. In each group the third pendant has the maximum value. Since there are 30 positions with only 8 different values, repetition is expected but most of the repetition is in adjacent positions:

   $$P_{i1} = P_{i2} \quad \text{for } i=3,4; \quad P_{i2} = P_{i3} \quad \text{for } i=3,5,6; \text{ and}$$

   $$P_{i4} = P_{i5} \quad \text{for } i=2,3,4,5,6.$$

   (iii) There are 5 subsidiaries on each pendant in group 4. With one positional exchange, the colors of the subsidiaries are consistant with their position (s1 is YB or YB/LB; s2 is YB-W or YB-W/YB; s3 is YB:W; s4 is YB-W or LB-W; and s5 is YB:W or LB:W). On each pendant, 4 of the 5 subsidiary values are 0 (or blank) and the other is a multiple of 10.

7. Part II: The first 3 groups (groups 8-10) have 5 pendants each; the next 3
    groups (groups 11-13) have 10, 14, 10 pendants respectively; and the last 4
    groups (groups 14-17) have 5 pendants each.

    (i) All pendants in group 8 are color YB and all pendants in groups 9 and 10 are
    color LB:YB. All pendants in these 3 groups have 1, 2, or 3 subsidiaries. With
    1 exception, where there is 1 subsidiary, it is YB; where there are 2, they are
    YB and W; and where there are 3, 2 of them are YB and W.

    (ii) For groups 8 and 9, all pendant values are multiples of 3 with most of them
    being 30. Specifically,

    $$P_{8i} = P_{9i} = 30 \qquad \text{for } i=1,2,3,5.$$

    (iii) In groups 11-13, the colors within each group alternate. The pendants in
    group 11 are W, YB, W, YB, ..., etc. Each W pendant has an LB subsidiary.
    Assuming that group 12 is 15 pendants with the 13th non-existant, the re-
    peated color pattern is LB, W, YB with each YB pendant having 2 subsidiaries.
    The first is YB and the second is FB:YB. Finally, the pendants in group 13
    have the same color pattern as those in group 11.

    (iv) In groups 11 and 13, some of the values as well as colors alternate. Namely,

    $$P_i = P_{i+2}, \ P_{i+1} = P_{i+3} \qquad \text{for } i=1,4 \text{ in group 11 and}$$
    $$i=1 \text{ in group 13.}$$

    (v) In group 12, the first 3 LB colored pendants have consecutive values and,
    similarly, the first 3 W colored pendants have consecutive values:

    $$P_i + 1 = P_{i+3}, \ P_{i+3} + 1 = P_{i+6} \qquad \text{for } i=1,2.$$

    (vi) Groups 14-17 each have 5 pendant cords. Each pendant in group 14 is W with
    an LB subsidiary; pendants in groups 15 and 16 are all W; and those in group
    17 are all LB.

    (vii) The values of the pendants in groups 14-17 are of greater magnitude than those

on the rest of the quipu. With the exception of 1 subsidiary in group 4 of
value 50, and 2 pendants in group 7 with values 50 and 70, the 148 values in
groups 1-13 are limited to 0-30. Of the 25 values in groups 14-17, 13 are
above 30. Five are 40-50 and 8 are 100-250.

8. Part III: There is 1 group of 5 pendants all colored LB and all of value 0 (or
blank).