

QUIPU ASI36

Museum identification: No. VA16635 (Museum Für Völkerkunde, Berlin)

Main cord: attached to wooden bar*

group of 9 pendant cords (1-9),
group of 9 pendant cords (10-18),
group of 9 pendant cords (19-27),
group of 9 pendant cords (28-36),
group of 9 pendant cords (37-45),
group of 9 pendant cords (46-54),
group of 9 pendant cords (55-63),
group of 9 pendant cords (64-72),
group of 9 pendant cords (73-81),
group of 9 pendant cords (82-90),
marker (M1),
group of 9 pendant cords (91-99),
group of 9 pendant cords (100-108),
group of 9 pendant cords (109-117),
group of 9 pendant cords (118-126),
group of 9 pendant cords (127-135),
group of 9 pendant cords (136-144),
group of 9 pendant cords (145-153),
group of 9 pendant cords (154-162),
group of 9 pendant cords (163-171),
group of 9 pendant cords (172-180).

Cord	Knots (no., type, position)	Length	Color	Value	Subsidiaries (no., position)
1	1s(9.0); 4s(16.5)	31.5	W	140	2:14.5-15.0
1s1	4L(10.5)	16.5	B	4	
1s2	7L(10.0)	16.0	B	7	
2	1s(16.5); 2L(26.0)	34.0	W	12	
3	2s(16.5); 2L(24.5)	32.5	BB:W	22	1:14.0
3s1	1E(10.5)	18.5	B	1	
4	9L(25.0)	32.5	BB:W	9	
5	4s(16.0); 8L(25.5)	35.5	W	48	
6	6s(16.0); 4L(24.5)	32.5	W	64	1:13.0
6s1	2L(11.5)	19.5	B	2	
7	6s(16.5)	30.5	W	60	1:14.0
7s1	3L(10.5)	17.5	B	3	
8	6s(16.5); 8L(23.5)	33.0	W	68	
9	4s(16.0); 8L(27.0)	33.5	W	48	
10	1s(8.5); 4s(16.5); 4L(25.0); 2L(26.0)	30.5	W	144+2	1:13.5
10s1	1s(2.0)	16.5	B	10	
11	1s(15.0); 1E(24.0)	31.0	W	11	
12	3s(16.0); 6L(24.5)	31.5	G:W	36	1:13.0
12s1	4L(11.0)	18.0	B	4	
13	1s(15.5)	31.5 ϕ	BB:W	10	1:13.0
13s1	1E(11.5)	18.0	B	1	
14	6s(16.5)	30.5	W	60	1:13.5
14s1	6L(11.0)	17.0	B	6	

Cord	Knots (no., type, position)	Length	Color	Value	Subsidiaries (no., position)
15	5s(16.5)	30.5	W	50	1:14.0
15s1	4L(11.0)	19.5	B	4	
16	8s(16.0); 1E(23.0)	34.0	W	81	1:13.0
16s1	4L(10.5)	18.5	B	4	
17	3s(15.5); 9L(23.5)	31.5	W	39	
18	3s(15.5); 5L(24.0)	31.0	W	35	
19	1s(8.5); 4s(16.0); 5L(24.5) 2L(25.5)	39.5 ϕ	W	145+2	1:14.0
19s1	2L(10.5)	21.0	B	2	
20	1s(16.0)	43.5	W	10	
21	4s(16.0); 6L(24.0)	36.0	G:W	46	1:12.0
21s1	2L(10.0)	20.0	B	2	
22	2s(15.0); 4L(23.5)	34.0	BB:W	24	
23	3s(16.5); 8L(25.5)	34.0	W	38	1:14.0
23s1	1E(10.5)	33.0	B	1	
24	3s(15.5); 6L(24.5)	35.0	W	36	
25	5s(17.0); 2L(26.5)	43.0	W	52	
26	3s(15.5); 6L(25.0)	45.5	W	36	
27	2s(15.5); 9L(25.0)	35.5	W	29	
28	9s(17.0); 4L(25.5); 1E(26.5)	31.0	W	94+1	1:13.5
28s1	2s(3.0)	17.5	B	20	
29	4L(25.0)	36.0	W	4	1:13.0
29s1	3L(11.5)	26.5	B	3	

Cord	Knots (no., type, position)	Length	Color	Value	Subsidiaries (no., position)
30	1s(16.0)	37.5	G:W	10	1:14.0
30s1	2L(11.5)	24.0	B	2	
31	2s(16.5); 4L(25.5)	41.5	BB:W	24	1:14.0
31s1	3L(11.0)	25.0 ϕ	B	3	
32	3s(16.0)	30.0	W	30	1:13.0
32s1	3L(11.0)	18.5	B	3	
33	6L(16.5)	27.0	W	6	1:13.5
33s1	9L(11.0)	19.5	B	9	
34	1s(15.5); 4L(24.5)	38.0	W	14	1:13.5
34s1	9L(10.5)	17.0 ϕ	B	9	
35	3s(15.5); 4L(23.5)	34.0	W	34	1:13.5
35s1	7L(10.0)	18.0	B	7	
36	7L(24.0)	31.5	W	7	
37	9s(17.0); 7L(25.5); 3L(26.5)	38.0	W	97+3	1:13.5
37s1	3L(10.5)	17.5	B	3	
38	5L(24.0)	35.5	W	5	
39	1s(15.5); 6L(24.5)	42.0	BB:W	16	
40	1s(16.0); 9L(26.0)	34.5	BB:W	19	
41	1s(15.5); 9L(25.0)	37.5	W	19	
42	2s(15.0)	40.0	W	20	
43	2s(15.0); 7L(25.0)	34.0	W	27	
44	1s(14.5); 1E(24.0)	39.0	W	11	
45	6L(24.5)	39.5	W	6	1:13.0

Cord	Knots (no., type, position)	Length	Color	Value	Subsidiaries (no., position)
45s1	1E(11.0)	23.0 ϕ	B	1	
46	8s(16.0); 9L(25.5); 2L(26.5)	42.0 ϕ	W	89+2	1:13.0
46s1	4L(12.0)	25.0 ϕ	B	4	
47	5L(24.5)	29.0	W	5	
48	1s(15.0); 8L(26.0)	33.5	BB:W	18	1:12.0
48s1	1E(12.5)	20.5 ϕ	B	1	
49	1s(15.0); 2L(26.5)	41.0	BB:W	12	
50	2s(15.0); 1E(25.0)	30.0	W	21	
51	1s(15.0); 9L(25.5)	29.0	W	19	
52	2s(14.0); 3L(24.0)	30.0	W	23	
53	2s(15.0); 2L(25.0)	30.5	W	22	
54	2s(14.5); 2L(25.0)	32.5	W	22	
55	1s(8.0); 1s(15.0); 5L(25.5)	31.5	W	115	1:13.0
55s1	1E(12.0)	20.5	B	1	
56	4L(25.0)	31.5	W	4	
57	2s(15.0); 7L(25.5)	35.0	BB:W	27	1:13.0
57s1	1E(12.0)	20.5 ϕ	B	1	
58	1s(15.0); 1E(25.0)	35.5	BB:W	11	
59	2s(14.5); 6L(25.0)	33.0	W	26	
60	2s(15.0); 6L(26.0)	33.5	W	26	1:12.0
60s1	2L(13.0)	22.0	B	2	
61	3s(14.5); 2L(25.0)	31.0	W	32	
62	3s(15.0); 6L(25.5)	33.0	W	36	

Cord	Knots (no., type, position)	Length	Color	Value	Subsidiaries (no., position)
63	3s(14.5); 5L(25.0)	31.0	W	35	
64	1s(8.0); 4L(26.0); 1E(29.0)	32.0	W	104+1	2:13.0, 20.0
64s1	7L(11.5)	15.5 ϕ	B	7	
64s2	1E(5.5)	15.0	G	1	
65	8L(25.0)	34.5	W	8	
66	2s(15.5)	44.5	BB:W	20	1:13.0
66s1	1E(12.0)	21.0 ϕ	B	1	
67	1s(15.5); 8L(26.0)	35.5	BB:W	18	
68	3s(15.0); 3L(25.0)	36.0	W	33	
69	3s(14.5); 3L(25.5)	35.5	W	33	
70	3s(16.0); 2L(27.5)	38.0	W	32	1:13.5
70s1	2L(12.0)	22.0 ϕ	B	2	
71	3s(15.5); 3L(26.0)	34.5	W	33	
72	1s(15.0); 4L(26.5)	35.0	W	14	
73	8s(16.0); 8L(26.0); 1E(27.0)	32.5 ϕ	W	88+1	1:13.0
73s1	3L(12.5)	24.0 ϕ	B	3	
74	1s(14.5); 5L(26.0)	36.5	W	15	
75	9L(26.5)	37.5	BB:W	9	
76	1s(15.0)	35.5	BB:W	10	
77	2s(14.5); 1E(25.5)	35.5	W	21	1:12.5
77s1	2L(12.5)	22.5	B	2	
78	1s(15.0); 9L(26.5)	35.5	W	19	
79	1s(14.5); 3L(26.0)	34.0	W	13	

Cord	Knots (no., type, position)	Length	Color	Value	Subsidiaries (no., position)
80	1s(15.0); 4L(26.0)	37.0	W	14	
81	1s(14.5); 3L(25.5)	36.5	W	13	
82	--	33.5	W	0	
83	--	33.0	W	0	
84	--	37.0	BB:W	0	
85	--	37.5	BB:W	0	
86	--	35.5	W	0	
87	--	36.0	W	0	
88	--	36.0	W	0	
89	--	36.0	W	0	
90	--	34.5	W	0	
M1**		--	B	--	
91	--	35.0	B	0	
92	--	35.5	B	0	
93	--	41.0	B	0	
94	--	41.5	B	0	
95	--	34.5	B	0	
96	--	36.0	B	0	
97	--	37.0	B	0	
98	--	32.5	B	0	
99	--	34.0	B	0	
100	1s(20.0); 3L(29.0)	37.5	B	13	
101	1s(20.0); 1E(28.0)	37.0	B	11	

Cord	Knots (no., type, position)	Length	Color	Value	Subsidiaries (no., position)
102	1s(20.0); 2L(28.0)	37.5	B	12	
103	2s(20.5)	36.5	B	20	
104	1s(20.0); 4L(28.5)	37.5	B	14	
105	1s(20.5); 1E(28.5)	35.5	B	11	
106	1s(21.0)	39.0	B	10	
107	1s(21.0); 7L(30.0)	36.0	B	17	2:19.0-19.5
107s1	1E(9.5)	16.5	B	1	
107s2	2L(9.5)	16.5	B	2	
108	4s(22.0); 7L(29.5)	37.0	B	47	1:19.0
108s1	3L(9.0)	14.5	B	3	
109	2s(22.0); 5L(29.0)	34.0	B	25	
110	3s(21.5); 1E(29.0)	35.5	B	31	2:1.0, 18.0
110s1	1E(27.5)	37.0	BB	1	
110s2	3L(10.5)	17.0	B	3	
111	2s(20.5); 2L(28.0)	36.0	B	22	
112	1s(21.0); 4L(29.0)	40.5	B	14	1:1.0
112s1	1E(26.5)	35.5	BB	1	
113	2s(20.0); 1E(28.0)		B	21	1:1.0
113s1	--		BB	0	
114	1s(21.0); 8L(28.5)	35.5	B	18	
115	1s(21.0); 6L(28.0)	38.5	B	16	1:1.0
115s1	1E(25.5)	34.5	BB	1	
116	6L(26.0)	35.0	B	6	

Cord	Knots (no., type, position)	Length	Color	Value	Subsidiaries (no., position)
117	6s(21.0); 2L(29.5)	35.5	B	62	2:1.0, 17.0
117s1	3L(25.5)	34.5	BB	3	
117s2	3L(10.5)	19.5	B	3	
118	4s(19.5); 6L(26.0)	31.0	B	46	
119	3s(20.0); 4L(26.5)	42.5	B	34	
120	2s(20.5)	36.0	B	20	
121	1s(20.0); 6L(26.5)	36.0	B	16	
122	1s(20.0); 4L(26.5)	32.5	B	14	
123	2s(21.0); 4L(28.0)	47.0	B	24	1:1.0
123s1	2L(26.0)	38.0	BB	2	
124	1s(20.5); 3L(27.0)	42.0	B	13	2:1.0, 17.0
124s1	2L(25.5)	36.0	BB	2	
124s2	1E(10.5)	17.5	B	1	
125	1s(20.0); 5L(26.5)	31.0	B	15	
126	9s(21.0); 2L(28.0)	39.5	B	92	1:1.0
126s1	2L(25.0)	33.0	BB	2	
127	1s(19.0); 2L(26.0)	34.5	B	12	
128	2s(19.0); 3L(25.5)	35.5	B	23	
129	1s(19.0); 9L(25.5)	33.0	B	19	1:1.0
129s1	1E(23.5)	32.0	BB	1	
130	1s(19.0); 8L(25.5)	31.0	B	18	
131	2s(19.5); 3L(25.0)	31.5	B	23	
132	2s(19.0); 4L(25.5)	37.0	B	24	

Cord	Knots (no., type, position)	Length	Color	Value	Subsidiaries (no., position)
133	1s(19.5); 1E(25.5)	34.0	B	11	
134	1s(19.5); 2L(25.0)	32.5	B	12	
135	6s(20.5)	46.0	B	60	1:1.0
135s1	3L(24.5)	38.0	BB	3	
136	1s(18.5); 5L(25.5)	36.0	G	15	
137	6L(25.0)	40.0	G	6	
138	1s(18.0)	36.5	G	10	1:1.0
138s1	1E(24.0)	32.5	BB	1	
139	1s(18.0); 2L(24.5)	49.5 ϕ	G	12	1:1.0
139s1	1E(25.0)	45.0	BB	1	
140	1s(17.5)	31.0	G	10	
141	2s(17.0); 6L(25.0)	36.0	B	26	2:1.0, 12.0
141s1	5L(25.0)	34.0	BB	5	
141s2	2L(13.0)	18.5	B	2	
142	1s(17.0); 5L(24.5)	45.0 ϕ	B	15	1:1.0
142s1	5L(26.0)	44.5	BB	5	
143	9L(26.5)	36.0	G	9	
144	3s(20.0); 4L(26.5)	38.5	G	34	1:1.0
144s1	--	0.5b	BB	?	
145	1s(19.0); 3L(26.5)	37.5	G	13	
146	7L(27.0)	31.0	G	7	1:15.5
146s1	3L(11.5)	26.0	B	3	
147	1s(19.0)	31.0	G	10	1:16.0
147s1	3L(10.5)	31.0	B	3	
148	1s(18.5); 8L(27.0)	31.0	G	18	1:15.5

Cord	Knots (no., type, position)	Length	Color	Value	Subsidiaries (no., position)
148s1	1E(10.5)	16.0	B	1	
149	1s(19.0)	31.0	G	10	1:15.5
149s1	6L(10.5)	15.0	B	6	
150	3s(19.0); 2L(26.0)	32.0	B	32	1:15.5
150s1	6L(10.5)	15.0	B	6	
151	1s(18.5); 2L(26.0)	31.5	B	12	1:15.0
151s1	3L(11.5)	23.0	B	3	
152	8L(27.0)	33.5	G	8	2:1.0, 15.0
152s1	--	0.5b	BB	?	
152s2	3L(11.0)	16.0	B	3	
153	2s(19.0); 7L(27.0)	31.5	G	27	2:1.0, 15.5
153s1	2L(25.0)	34.0	BB	2	
153s2	2s(2.5)	15.5	B	20	
154	3s(18.0); 1E(25.0)	37.5	G	31	1:1.0
154s1	--	22.5b	BB	?	
155	4s(18.0); 2L(24.0)	34.5	G	42	2:1.0, 14.5
155s1	4L(24.0)	33.5	BB	4	
155s2	2L(10.5)	18.0	B	2	
156	5s(18.5)	37.0	G	50	1:1.0
156s1	2L(24.5)	32.0	BB	2	
157	2s(17.0); 5L(24.5)	29.5	G	25	1:1.0
157s1	2L(24.0)	34.5	BB	2	
158	2s(17.0); 3L(24.5)	31.0	G	23	1:1.0

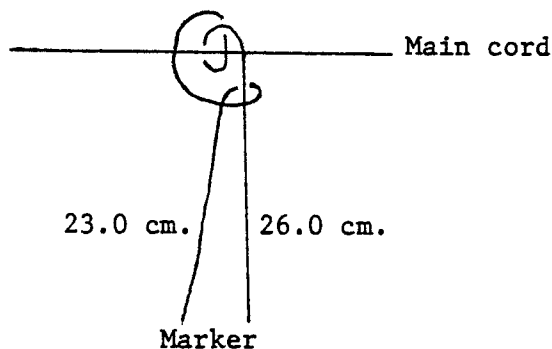
Cord	Knots (no., type, position)	Length	Color	Value	Subsidiaries (no., position)
158s1	--	1.0b	BB	?	
159	2s(18.0); 7L(25.5)	34.5	B	27	2:1.0, 14.5
159s1	--	15.5b	BB	?	
159s2	1E(10.5)	17.0	B	1	
160	4s(18.0); 5L(24.0)	33.0	B	45	2:1.0, 14.5
160s1	--	21.5b	BB	?	
160s2	3L(9.0)	19.0	B	3	
161	1s(17.0); 2L(24.0)	33.5	G	12	1:1.0
161s1	4L(24.0)	34.0	BB	4	
162	1s(9.5); 8s(17.0)	30.0	G	180	2:1.0, 13.0
162s1	1s(16.0); 5L(24.0)	33.5	BB	15	
162s2	2L(11.0)	17.5	B	2	
163	4s(16.5)	31.5	G	40	
164	4s(17.5); 5L(24.5)	35.5	G	45	1:1.0
164s1	3L(24.5)	36.0	BB	3	
165	4s(17.5); 7L(25.0)	34.5	G	47	1:1.0
165s1	4L(24.0)	34.5	BB	4	
166	4s(17.5)	37.0	G	40	1:1.0
166s1	3L(24.0)	35.5	BB	3	
167	2s(17.0); 7L(25.5)	36.5	G	27	1:1.0
167s1	2L(24.5)	36.0	BB	2	
168	3s(17.0); 3L(25.0)	34.5	B	33	1:1.0
168s1	5L(24.5)	34.5	BB	5	
169	3s(16.5); 9L(24.5)	36.0	B	39	2:1.0, 13.5

Cord	Knots (no., type, position)	Length	Color	Value	Subsidiaries (no., position)
169s1	5L(24.5)	35.0	BB	5	
169s2	1E(10.0)	22.5	B	1	
170	1s(16.5); 2L(24.5)	36.5	G	12	1:1.0
170s1	4L(24.0)	36.0	BB	4	
171	1s(9.0); 5s(16.0); 5L(23.5)	36.0	G	155	2:1.0, 13.0
171s1	5L(23.5)	?	BB	5	
171s2	1s(4.0); 5L(11.5)	22.5	B	15	
172	6s(17.5)	35.0	G	60	1:1.0
172s1	--	36.5	BB	0	
173	6s(17.0); 7L(23.5)	31.0	G	67	1:1.0
173s1	2L(23.0)	34.0	BB	2	
174	5s(17.5); 2L(24.5)	34.5	G	52	2:1.0, 13.5
174s1	3L(24.0)	35.5	BB	3	
174s2	3L(11.5)	29.5 ϕ	B	3	
175	3s(16.5); 6L(22.5)	31.0	G	36	2:1.0, 13.0
175s1	2L(23.5)	35.5	BB	2	
175s2	1E(11.0)	19.0	B	1	
176	2s(16.5); 4L(24.5)	32.5	G	24	1:1.0
176s1	3s(23.0)	35.5	BB	30	
177	7s(15.5); 2L(23.5)	35.0	B	72	1:1.0
177s1	1s(15.5); 2L(23.0)	34.5	BB	12	
178	6s(16.0)	33.5	B	60	2:1.0, 13.0
178s1	8L(23.0)	34.0	BB	8	

Cord	Knots (no., type, position)	Length	Color	Value	Subsidiaries (no., position)
178s2	1E(10.0)	19.0	B	1	
179	1s(15.5); 1E(23.5); 1E(24.0)	37.5	G	11+1	1:1.0
179s1	2L(23.0)	35.0	BB	2	
180	3s(9.5); 6L(23.0)	34.5	G	306	2:0.5, 12.5
180s1	6s(16.5); 4L(24.0)	33.0	B	64	
180s1s1***	1s(15.0); 1E(22.5)	38.0	BB	11	
180s2	5L(11.0)	19.5	B	5	

Observations

- 1.* The quipu is attached to a carved wooden bar. Figure 1 shows the way in which the quipu is attached to the bar and Figure 2 shows details of the carving.
- 2.** Marker M1 is a cord of length 49.0 cm. tied around the main cord.



- 3.*** Subsidiary 180s1s1 is tied around pendant 180 as well as around subsidiary 180s1.

FIGURE 1
(Not drawn to scale.)

AS136

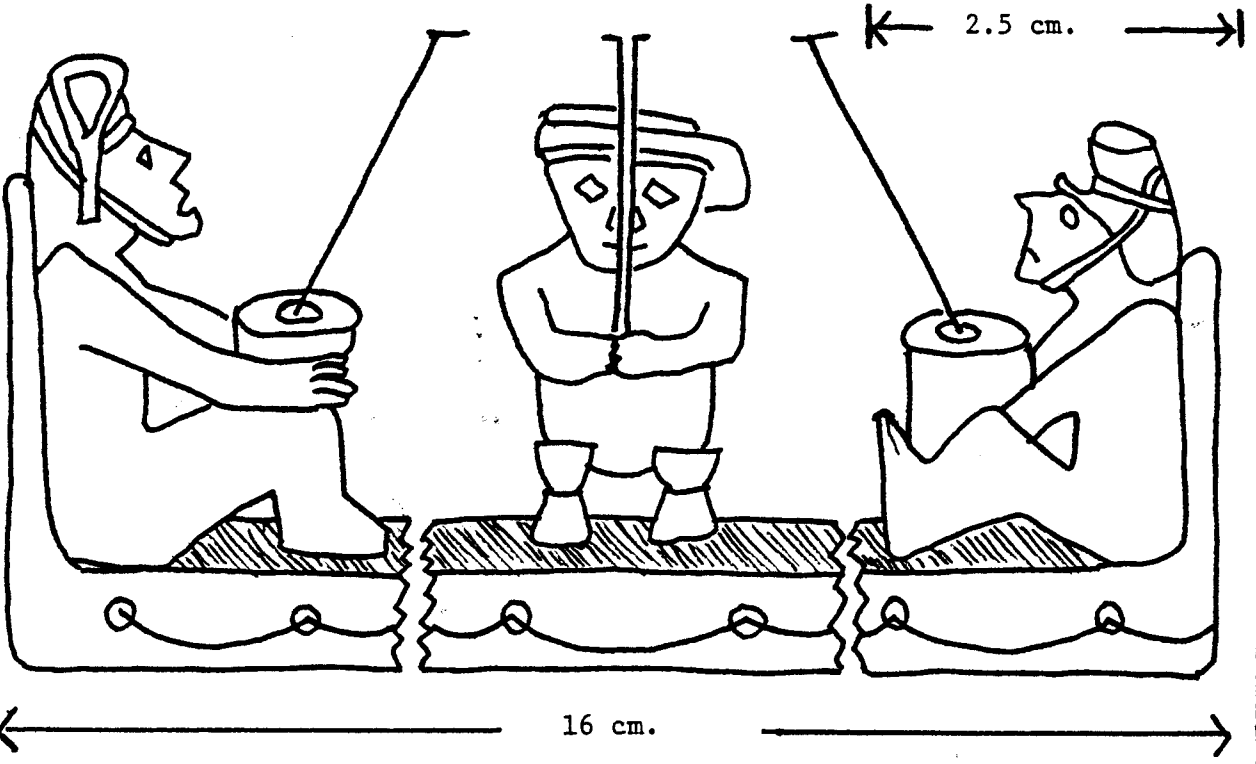
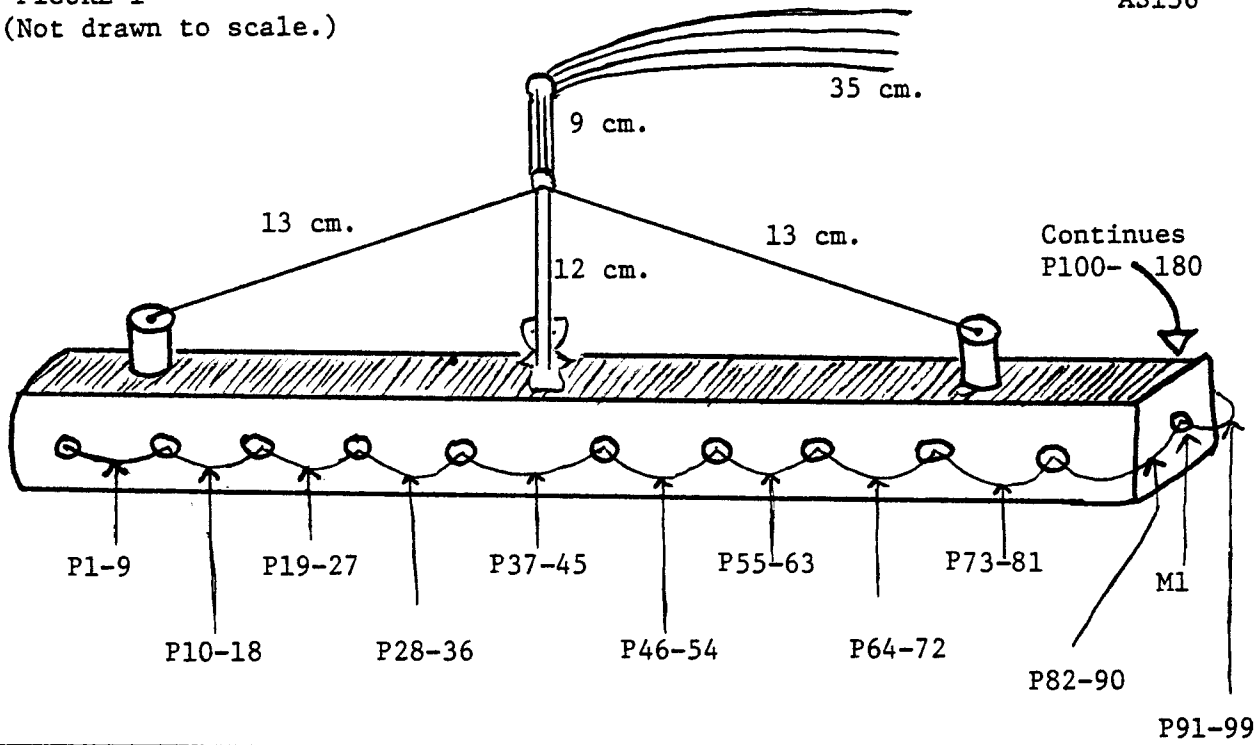
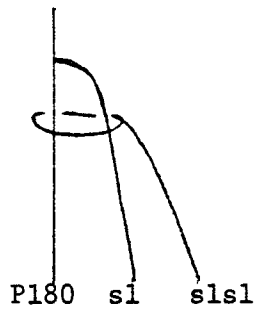


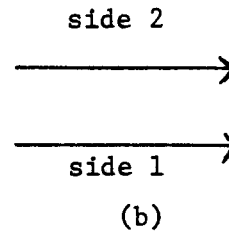
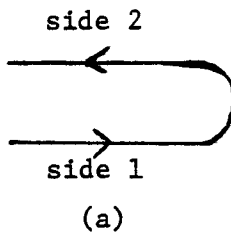
FIGURE 2 (Not drawn to scale.)



4. AS136 and AS140 were acquired by the Museum in 1904. The provenance is given as Nasca. For a comparison of them, see #10 below.
5. Photographs of AS136 are in Ascher (1975) and Schmidt, Max, 1929, *Kunst und Kultur von Peru*, Impropyläen-Verlagzu, Berlin.
6. The marker and the way in which the bar is threaded, separate the quipu into 2 parts each containing 10 groups of 9 pendants each.

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Note: The pendant order on the listing proceeds from one end of the bar to the other, goes around the end, and continues on the other side [see diagram (a)]. However, similar color and number patterns are found in both parts if the pendants are read instead from one end of the bar to the other, and then beginning at the original end on the other side of the bar [see diagram (b)]. We will,



therefore, refer to the pendants and groups on side 2 as if following diagram (b). Part 1 is pendants 1—→90 and

references to the j^{th} pendant in the i^{th} group correspond to pendant $9(i-1)+j$. Part 2 is pendants $180 \longrightarrow 91$ and references to the j^{th} pendant in the i^{th} group correspond to pendant $190-9i-j$.

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Each of the groups in part 1 has the same color pattern: W, W, BB:W or G:W, BB:W, W, W, W, W, W. The first 5 groups in part 2 have a similar pattern involving different colors. Each group is G, G, B, B, G, G, G, G, G. The last 5 groups in part 2 consist of all B colored pendants.

7. Subsidiaries are attached to pendants in 2 distinctly different positions. One position is about 1.0 cm. down from the main cord and the other position is at about 13.0 cm. Part 1 has only subsidiaries in the lower position and, where there is only 1, it is always color B. (Where there are 2 subsidiaries, the second is G.) Part 2 has subsidiaries in both positions. As in part 1, the lower position always is B. The upper is BB with one exception. The exception is the subsidiary described in #3 which itself has a subsidiary of BB.
8. Parts 1 and 2 have several numerical similarities.
 - a) In each part, all pendant values in the 10th group are 0.
 - b) In all non-zero groups, the first pendant in the group has the maximum value.
 - c) In each part, the sum of the values in the 4th and 5th positions of the 10 groups is the same. That is,

$$\sum_{i=1}^{10} (P_{i4} + P_{i5}) = 433$$

d) With a discrepancy of 1 in part 1, in each part, the sum of the values in the 4th group equals the sum of the values in the 5th group. That is,

$$\sum_{j=1}^9 P_{4j} = \sum_{j=1}^9 P_{5j}$$

Also, in the second part only, this sum equals half the sum of the values in the 7th group. Thus,

$$\sum_{j=1}^9 P_{4j} = \sum_{j=1}^9 P_{5j} = 1/2 \sum_{j=1}^9 P_{7j}$$

so that

$$\sum_{j=1}^9 P_{4j} + \sum_{j=1}^9 P_{5j} = \sum_{j=1}^9 P_{7j}$$

e) Excluding the first pendant in each group, the sum of the values in the 6th group is the same for each part.

$$\sum_{j=2}^9 P_{6j} = 142$$

9. By color, part 2 is separated into 2 subparts of 5 groups each. There are a couple of regularities within the subparts.

a) In the second subpart (groups 6-10), the sum of the values in the 2nd position of the groups equals the sum of the values in the 3rd positions.

That is,
$$\sum_{i=6}^{10} P_{i2} = \sum_{i=6}^{10} P_{i3}.$$

b) The sum of the values in group 2, added to the sum of the values in the corresponding group in the next subpart (hence, group 7), equals the sum of the values in group 3 and its corresponding group. Namely,

$$\sum_{j=1}^9 (P_{2j} + P_{7j}) = \sum_{j=1}^9 (P_{3j} + P_{8j}).$$

10. Comparison of AS136 and AS140:

- a) Each quipu is attached to a carved wooden bar. Each has 180 pendants. The manner of attachment to the bar separates each into 2 parts of 10 groups of 9 pendants.
- b) Both quipus are made of cords of the same basic colors: B, BB, and G.
- c) The quipus can be oriented so that they have a common color pattern. The pattern separates the 9 pendants in a group into 2, 2, and 5 pendants with the first 2 and last 5 being the same color. In 5 of the groups of AS136, the remaining 2 pendants are also the same color. But, in most of the other groups, those 2 pendants are the same color as each other but different from the rest of the group.
- d) When oriented so that they show the same color pattern, in all groups on both quipus, the value on the first pendant is the maximum value in the group.