NO PREP

Quipu

The Inca Writing System Made of Knots

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Name: Period: Date:

Quipu: The Inca Writing System Made of Knots

A Different Kind of Writing

Every complex civilization we know of developed some form of writing. The Mesopotamians used cuneiform on clay tablets. The Egyptians used hieroglyphics on stone and papyrus. The Chinese developed a character-based script that has survived for over 3,000 years. The Aztec used a pictographic script in folded screenfold books called codices. The Inca were the only major ancient civilization to build and administer a continent-spanning empire without any of these systems. Instead, they developed something radically different: a recording technology made of knotted cords, called a quipu. The word 'quipu' (also spelled 'khipu') comes from the Quechua word for 'knot.' A quipu consists of a primary cord, typically horizontal, from which hang a series of pendant cords. Additional cords can be attached to the pendant cords, creating

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What Quipus Could Do: Numbers Are Clear

One function of quipus is well established and has been decoded: they recorded numerical information using a decimal place-value system. Knots at the bottom of a pendant cord represented ones, knots above them represented tens, then hundreds, then thousands. This is a positional number system, the same basic logic as Arabic numerals, which are the foundation of modern mathematics. The Inca used this system to record tribute amounts, census data, agricultural yields, military tallies, and astronomical observations. The quipucamayoc (the keeper and reader of quipus)

was a specialist bureaucratic role that required years of training. The numerical system is sophisticated. A single quipu found at the Puruchuco site near Lima contains records of 23 different villages, with local data on pendant strings that aggregate upward through the hierarchy to regional and imperial totals. This is essentially a spreadsheet encoded in cord: multiple layers of data organized in a hierarchical structure that could be read at different levels of detail depending on what the reader needed. Modern researchers studying this quipu have confirmed that the totals at each level of the hierarchy consistently match the sum of the subordinate data, proving that the numerical encoding is precise and systematic.

The Narrative Question: Did Quipus Do More Than Count?

The more contested question is whether quipus could encode non-numerical information: narrative, history, law, poetry, or administrative text. Spanish colonial sources consistently describe quipus being used to record history and oral tradition, not just numbers. One account describes quipu specialists reciting the history of each Inca emperor's reign from their cords. Another describes laws being recorded in quipu form. If true, this would mean the Inca had a full writing-equivalent system, just encoded in a radically different physical medium than any other known civilization. The evidence is tantalizing but not conclusive. Several researchers, including Gary Urton of Harvard, have developed elaborate classification systems for quipu features and identified patterns that suggest narrative encoding. Urton counted 24 binary features in quipu construction (twist direction, ply, color, knot type, etc.) that could in principle encode an enormous amount of information, more than enough for a writing system. However, actually reading what those features say, if they say anything beyond numbers, remains an unsolved problem. No Rosetta Stone for the quipu has been found.

The Spanish Destroyed Most of Them

One of the most significant acts of cultural destruction in the history of the Americas was the Spanish campaign to eliminate quipus. Beginning in the 1560s, colonial authorities and the Inquisition targeted quipus as instruments of devil worship and pagan record-keeping. Massive burnings of quipus were carried out, particularly following the 1583 Third Council of Lima, which officially ordered their destruction. Quipucamayocs were prosecuted. The oral traditions and training methods that would have allowed future generations to read the cords were

systematically suppressed. The result is that of the untold thousands of quipus that must have existed across the Inca Empire, approximately 900 survive today. They are scattered across museums in Peru, Europe, and the United States, many in fragmentary condition. Without the living tradition of reading that would have accompanied them, we are in the position of having the books but not the alphabet. This is why the decipherment of quipus remains one of the most exciting and frustrating open problems in the archaeology of the ancient world.

Community Collaboration: A New Approach

Recent years have seen a promising new direction in quipu research: collaboration with Andean communities who may have preserved fragments of quipu-reading tradition in their own local practices. Researchers working in the village of San Juan de Collata in Peru discovered that community members still possess quipus that local oral tradition associates with specific historical narratives about the colonial period. The challenge is that the 'reading' of these quipus by community members involves oral tradition and contextual knowledge that does not transfer cleanly into academic decipherment. A parallel project, the Harvard Quipu Archive, has digitized the surviving corpus of approximately 900 quipus and made the data publicly available, allowing researchers and community members worldwide to analyze patterns, compare structures, and potentially identify encoding conventions that no single researcher could spot working alone. As pattern recognition software improves and more community knowledge is incorporated, there is genuine optimism in the field that progress is possible — though full decipherment may remain decades away.

Key Information: Quipus

Detail	Information
What It Is	A recording device of knotted cords: one primary cord plus pendant and subsidiary cords
Deciphered Function	Numerical recording using decimal place-value system — tribute, census, agricultural data
Contested Function	Possible narrative/historical encoding; Spanish sources describe history recorded in quipus

Detail	Information
Key Researcher	Gary Urton (Harvard) — identified 24 binary features potentially encoding information
Surviving Examples	Approximately 900 worldwide, scattered across museums in Peru, Europe, and USA
Destruction	Spanish colonial authorities burned quipus and prosecuted quipucamayocs from 1560s onward
1583 Order	Third Council of Lima officially ordered destruction of all quipus as pagan objects
Quipucamayoc	Inca specialist trained to read and maintain quipus; a defined bureaucratic role
Puruchuco Quipu	Contains records of 23 villages with hierarchical data confirmed to total accurately
Harvard Archive	Digitized 900 surviving quipus; publicly available for pattern analysis

Case Study: What Maria's Grandmother Kept

Maria Ccorimanya is a graduate student in anthropology at the Universidad Nacional de San Antonio Abad in Cusco. She grew up in the village of San Juan de Collata, where her grandmother kept a bundle of knotted cords wrapped in cloth at the back of a cedar chest. Her grandmother called it by a word in Quechua that translated roughly as 'the record of what happened,' and on certain feast days would take it out and tell stories while her fingers moved along the cords. Maria understood, doing her coursework, that what her grandmother had was a quipu. What she did not understand, until she began her graduate research, was that her grandmother's telling was not simply reciting memorized stories — she was reading. Her fingers were moving to specific knots and cord junctions. The stories corresponded to specific features of the cord in ways that Maria, with two years of quipu research behind her, is only beginning to map. She is now trying to document her grandmother's reading practice before her grandmother, who is eighty-six, can no longer do it. She is also navigating the question of what to do with the knowledge: her grandmother does not want the quipu photographed or removed from the village. The researchers at the Harvard Archive are very interested. 'Some things,' her grandmother says, 'belong to the people they belong to.'

1. Maria's research illustrates a tension between academic knowledge production and community authority over heritage. What specific ethical questions does her situation raise, and how might her grandmother's position be justified on academic grounds as well as moral ones?

2. The reading says that without the living reading tradition, 'we are in the position of having the books but not the alphabet.' Using Maria's grandmother as evidence, what does this suggest about where quipu decipherment might actually come from?

Multiple Choice

1. Which function of quipus has been conclusively decoded by modern researchers?

a) Religious hymns encoded in the twist direction and color of the cords

b) Numerical recording using a decimal place-value system for administrative data

c) Narrative encoding of Inca oral history and law

d) Astronomical observation data using knot position to plot exact star coordinates

2. Why was the Spanish destruction of quipus particularly damaging to historical knowledge?

a) Quipus were made of perishable materials that no modern scholars have been able to reproduce

b) All Inca history had been stored in quipus with no oral backup

c) Quipus were the only records of Inca agricultural techniques

d) The destruction eliminated both the records and the trained specialists who could read them

3. What does Gary Urton's identification of 24 binary features in quipu construction suggest?

a) Quipus could theoretically encode enough information to constitute a writing system

b) The numerical encoding of quipus has been completely deciphered using these features

c) Quipus were purely decorative objects with no information-encoding function

d) Quipus were only capable of recording numbers up to the thousands place

Matching

Write the letter of the correct definition on the line next to each term.

Term	Definition
1. ___ Quipucamayoc	A) A number system where position determines value (ones, tens, hundreds), used in Inca quipu recording
2. ___ Pendant cord	B) The 1583 colonial council that officially ordered the destruction of all quipus as pagan objects
3. ___ Decimal place-value	C) A subsidiary string hanging from a quipu's primary cord, carrying encoded information
4. ___ Third Council of Lima	D) A digital database of approximately 900 surviving quipus, publicly available for research
5. ___ Harvard Quipu Archive	E) An Inca specialist bureaucrat trained to read, maintain, and create quipu records

Fill-in-the-Blank

1. Of the untold thousands of quipus that once existed across the Inca Empire, only approximately _____ survive today, scattered across museums worldwide.

2. The Puruchuco quipu near Lima contains records of 23 different villages, organized in a hierarchical structure similar to a modern _____ that aggregates local data into regional totals.

3. Beginning in the 1560s, Spanish colonial authorities and the _____ targeted quipus as instruments of devil worship and ordered them burned.

Short Answer

Answer each question in 2-4 complete sentences.

1. Explain the difference between the numerical function of quipus, which has been decoded, and the narrative function, which remains uncertain. Why is the distinction important?

_____

_____

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2. The reading calls the Inca 'the only major ancient civilization to build and administer a continent-spanning empire without conventional writing.' How did the quipu system make this possible, based on what we know about its numerical capabilities?

_____

_____

_____

3. Some researchers believe that full decipherment of narrative quipus may require collaboration with Andean communities rather than academic analysis alone. Based on the reading and case study, explain why this is and what challenges that collaboration involves.