

END OF FUNDING PERIOD REPORT

LAUC Statewide Grants, Research & Professional Development Committee

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TITLE OF PROJECT: INCA WRITING: QUIPUS, YUPANAS AND TOCAPUS

Time Period of Grant: 2014-2015

Amount of Award Received: 3,000

Original Abstract as Submitted: See also your archives

Quipus (or khipus), were recording devices used in the region of [Andean South America](#). A quipu usually consisted of cords produced from colored, spun, and plied threads or strings from [llama](#) or [alpaca](#) hair (See Figures 1 and 2). The cords contained numeric and other values encoded by knots in a [base ten](#) positional system. Quipus might have just a few or up to 2,000 cords. When Spaniards first reached the Andes in the third decade of the sixteenth century they credited themselves with the "*discovery*" of an ancient civilization. This civilization was the Incan Empire, and the Spaniards destroyed almost all evidence of this civilization, including the quipus. However, some Europeans wrote down their observations of Incan life. These observations, usually called chronicles, together with what can be salvaged with the archaeological shovel, form the basis of what is known today about the quipus.

One can hardly expect a fair and accurate appraisal of the intellectual attainments of the native Andeans by a group that rationalized its destructive acts on the grounds of cultural superiority. To get closer to the truth, the quipus have to be analyzed for the specialized information only they can yield. This serious analysis is currently being carried out by archaeologists, historians, statisticians, astronomers, mathematicians, computer scientists and similar researchers who are trying to decipher the significance and full meaning of the quipus. For example, Martín de Murúa (1986) said that "By these knots they counted the successions of the times and when each Inca ruled, the children he had, if he was good or bad, valiant or cowardly, with whom he was married, what lands he conquered, the buildings he constructed, the service and riches he received, how many years he lived, where he died, what he was fond of; in sum, everything that books teach and show us was got from there."

Quipus worked in conjunction with Yupanas, a device used to count as a type of [calculator](#), researchers believe that such calculators were based on [Fibonacci numbers](#). The quipus also worked in conjunction with *Tocapu* signs that may have been used as a form of representational language (analogous to writing) expressed in Inca clothes and vestments.

One of the principal difficulties in assessing the function of the quipus is the disparity between European and Andean cultural modes of thought and representation. Though much literature has been produced about the quipus, an organic and comprehensive bibliographic collection and analysis of this literature has not yet been done. Librarians, bibliographers, sociologists, historians and academics who deal with history of science, sociology of science and philosophy of science will benefit from the publication of this bibliography. No book or online database provides comprehensive subject and multi-language coverage on this topic.

I. ACCOMPLISHMENTS and EVALUATION

I found a considerable amount of literature, build a bibliographic database in Endnote 7.0 and later I did a bibliometric analysis of the collected literature. I presented the findings in two congresses.

II. IS YOUR PROJECT COMPLETED? Yes_X

III. FINANCIAL STATEMENT

I put the funding in a work-study budget at UCR and hired a student helper to assist me in searching and checking adequacy of the literature. This student also help me in building the bibliographic database.

You can look at my original budget in LAUC-Wide archives.

IV. SHARING YOUR PRODUCT/RESULTS

The book that I intended to produce is already publish (See a copy attached)

I will make available the literature-collected through my page at Academia:

<https://ucriverside.academia.edu/RubenUrbizagastegui>