The success of *Code of the Quipu* is due partly to its organization and mode of presentation. An introduction to Inca culture, in its broad outlines, defines the context within which quipus functioned. The physical characteristics of quipus are then elaborated so that one becomes familiar with their structural features (for example, types of cords and the directionality, hierarchy, and spacing of cords) as well as symbolic elements, such as the range and variable patterning of colors, by which information is coded. The Aschers then introduce the notion of "insistence," a concept borrowed from a lecture given by Gertrude Stein, which refers to the phenomenon or process whereby a culture, for instance, expresses itself in a number of consistent and predictable ways by whose recurrence an observer is able to recognize it. The particular features of Inca insistence include concern with spatial relations, portability, cloth, methodological arrangements, conservativism, natural fit, and symmetry. The quipu, it is argued, is the quintessence of the elements that characterize Inca insistence.

After an account of the place of the quipu-maker in Inca society, there are three chapters ("Format, category, and summation"; "Hierarchy and pattern"; and "Arithmetical ideas and recurrent numbers") that examine numbers and the arrangement of numerical data on quipus according to several logical structures. The structures include cross categorization, hierarchical categorization, rhythm, and symmetry. For each an example, such as box scores of baseball games, from a familiar context is given, and then specific quipus that appear to incorporate the concept are described and analyzed. Marginal notes also refer the reader to the Aschers' *Code of the Quipu Databook* (University of Michigan Press, 1978; on microfiche from University Microfilms International, Ann Arbor), which contains detailed descriptions of 191 quipus studied by them. Finally, exercises are provided in which the reader is asked to construct quipus for imaginary situations for which the concept that has been elaborated is the most efficient means of encoding information. By this kind of "insistence" one comes to understand the differences between the organizational concepts and their relative utility in storing different kinds of information. The specialized analysis of mathematics simultaneously provides a clear elucidation of a number of more fundamental characteristics of Inca structural and organizational principles and of the concepts that underlay Inca systems of classification. In this respect, the book would serve as an excellent introduction to Inca thought and culture in courses dealing with more traditional topics in Andean archeology and social anthropology.

One contribution of the book, which remains implicit throughout, is the light it sheds on Inca concepts of history. As devices for recording and storing information for future reference quipus provide perhaps the best evidence we have concerning what the Incas considered vital to the description, as well as the functioning, of the empire.

There are a few criticisms that must be made of the book. First, though it is well referenced with marginal notes, there is no general bibliography. Nor is there an index. This is especially unfortunate in a book that should be useful as a reference work. Finally, the book leaves the impression that Inca culture is dead and that there are no possibilities for observing reflections or remnants of Inca-like patterns of thought and culture. However, the Incas were a particular example of a more general phenomenon: cultures successfully adapted to the Andean environment. Recent ethnographies clearly demonstrate that many Inca-like principles of organization underlie and give coherence to the lives of Quechua-speaking Indians who live in the Andes today, who cultivate traditional Andean crops with traditional forms of technology and scheduling, and whose social organization incorporates such Inca institutions as ayllus. There is also no mention of the fact that the fundamental skills required to make the physical material of a quipu are very much alive today in the hands of Andean spinners and weavers.

These few criticisms notwithstanding, *Code of the Quipu* is an important contribution to the comparative study of the history of science and to our understanding of Inca thought and culture.

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Pre-Columbian Dress

Indian Clothing before Cortés. Mesoamerican Costumes from the Codices. PATRICIA RIEFF ANAWALT. University of Oklahoma Press, Norman, 1981. xx, 232 pp., illus. $35. The Civilization of the American Indian Series, vol. 156.

In much of ancient Mesoamerica, particularly in the hot country of the Gulf Coast, the Maya lowlands, and the Pacific drainage, there was really no biological need to wear clothes. And yet such peoples as the Maya, in the midst of humid forests, chose to cover their naked forms with incredibly rich textiles. It is folk wisdom to say that clothing both conceals and reveals. On the one hand, it removes from sight those portions of the anatomy culturally considered "shameful" (usually the genitalia and other sexually powerful details), while on the other it proclaims to the outside world the status and achievement of the wearer. Unfortunately, if we wish to examine and analyze Mesoamerican costume, with the ultimate goal of understanding its role in society, politics, and religion, there are almost insurmountable problems. The gravest of these is that, in contrast to the situation in Peru, almost no pre-Spanish textiles have survived the damp climate of Mesoamerica, excepting a few rags from dry caves and the carbonized fragments dredged up from the Cenote of Sacrifice in Chichen Itzá, Yucatán.

Patricia Anawalt has chosen, therefore, to limit her analysis to clothing as depicted in the surviving pictorial Mexican and Maya codices and as described in certain post-Conquest documents. Examples are taken from the Mixtec codices of Oaxaca (which are largely historical); from the so-called "Borgia Group" of ritual books, which most but not all scholars would ascribe to the central Mexican region; from the Codex Mendoza, a post-1521 book with a section on Aztec ethnology; from the Relación de Michoacán, our unique, early colonial source on the Tarascans; and from three Post-Classic codices from the Maya lowlands. Since Anawalt does not even mention a fourth Maya codex, the Grolier, I presume that she has accepted the view held by the late Eric Thompson that it is a fake, a view with which I definitely do not concur.

Anawalt suggests that Late Post-Classic Mesoamerican garments can be classified through five basic principles of construction: (i) draped (such as the wraparound skirt for women, and the loincloth, hip-cloth, and cape for men); (ii) slip-on (the *quechquemitl* and *huipil* blouses for females); (iii) open-sewn (the

xicolli male jacket, closely associated with human sacrifice); (iv) closed-sewn (this would include the quilted armor in use among both Aztec and Maya); and (v) limb-encasing, a category confined to the warrior suits worn by Aztec warriors. This classification is probably the book's great strength, for at least it gives us a starting point for dealing with the bewildering luxuriance of dress among these most advanced of New World peoples.

But I would like to point out some problems and differences with Anawalt's approach. In the first place, her sample, drawn exclusively from Post-Classic and post-1521 pictorial codices, may be quite unrepresentative of what people in various Mesoamerican culture areas were actually wearing at the time of the Conquest. For instance, the personages in the Borgia Group of codices are exclusively gods and goddesses, and one could hardly expect *them* to exhibit a one-to-one reflection of customary concerns with dress. Thus when Anawalt attempts to document regional and national differences in clothing solely on the basis of representations in these very specialized sources, she may be on shaky ground. It may be reductio ad absurdum, but surely one could not conclude from an examination of the dress worn by the Holy Family and saints in Duccio's *Maestà* that the trecento inhabitants of Siena went about draped in loose-fitting robes.

"Indian women wearing *quechquemitl* and *huipil*." According to the Spanish commentator, the dress of the second woman "is the dress of the Mexicans and of Zapotec, and of the Mixtec, whose [clothing] I have seen. The old men say the manner of dressing of the first woman is that of the Huastec women, which is a nation of this country that is in the northern part of Mexico." [Reproduced in *Indian Clothing before Cortés* from Codex Vaticanus A, fol. 61r]

Second, the representations of clothing in these sources must be extremely conventionalized and oversimplified. Probably the only really accurate depictions of costume in the sources used by Anawalt are in the Codex Mendoza and in the extraordinary Codex Ixtlixochitl, both heavily Europeanized.

Last, any adequate treatment of Indian clothing "before Cortés" should take into account the Maya area and central Mexico during the Classic period; if she had considered such material Anawalt would not have been led into such statements as (in dealing with the *huipilli*, or long blouse), "The costume apparently did not exist among the Mayas until after the Conquest." She also would have appreciated that Mesoamerican dress is far more than construction, for, if the evidence of Classic Maya reliefs, murals, and vase painting can be trusted, costumes were veritable symphonies of important iconographic themes related to legitimacy of title and to the supernatural world.

In spite of these strictures, I would still recommend this book to Mesoamericanists and to students of costume. It has accomplished at least part of what it has set out to do.

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"Four Tarascan women wearing *quechquemitl*." "In many areas the wearing of the *quechquemitl* may have been restricted to highborn ladies. If they were still wearing the garment at the time of the Conquest, it would have represented a pagan status or power symbol and therefore would not have been approved by the Spanish clergy. Even if the *quechquemitl* was not forbidden, the very women qualified to wear it . . . would have been the ones in a position to adopt a new status symbol, European dress. That could explain why the *quechquemitl* disappeared from some regions but continued in use in others where it did not have aristocratic connotations." [Reproduced in *Indian Clothing before Cortés* from Relación de Michoacán, lámina 8]

Maize Retraced Cytogenetically

Chromosome Constitution of Races of Maize. Its Significance in the Interpretation of Relationships between Races and Varieties in the Americas. BARBARA MCCLINTOCK, TAKEO ANGEL KATO Y., and ALMIRO BLUMENSCHEIN. Colegio de Postgraduados, Chapingo, Mexico, 1981. xxxii, 518 pp., illus. $28.

At the time of European colonization of the Americas, maize was grown from southern Canada to central Argentina and Chile, from elevations ranging to 11,000 feet, and under climatic conditions ranging from the Atacama desert, where a decade having any rainfall is rare, to the Chocó region of northwestern South America, where annual rainfall often exceeds 600 centimeters. As a result of this environmental diversity, of differences in the cultures of the Indian agriculturalists, and of the capacity of maize for widespread cross-pollination, maize became our most variable crop plant. It is also our best-studied major crop, with an excellent and expanding genetic map and with well-described landraces.

This book summarizes almost 20 years of work by an outstanding team of maize