

The Margaretologist

Volume One, Number Four

1987

FOCUS ON MEXICO



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Through the Eye of a Needle: The Editor's Page

Mexico and the countries to the south are largely terra incognita in terms of bead research. Rather few studies have been done in this area; this vast region with its brilliant prehistoric civilizations and rich history has been underexplored in our field.

With this in mind, the Center has initiated a program of bead research in Latin America, beginning with the Preliminary Bead Research Tour of Mexico during March and April 1987. The term "preliminary" must be emphasized, as it indicates the nature of the tour, designed to begin bead studies in the area and identify problems and topics for more intensive future work. At the outset, three questions were formulated: 1.) What were the beadmaking techniques used in prehispanic times and can we identify similarities and differences among the various ancient Mesoamerican cultures? 2.) What types of beads were brought to Mexico by the conquistadors? 3.) Where are the current living beadmakes, what is their background, and how do they work?

None of our questions have been fully answered nor completely explored, however a beginning has been made. For prehispanic beads we have built up a large photographic collection, identified much of the literature, and have planned future research projects. Most, but not all, of the conquistadors' beads have proven elusive. Modern beadmakes are far more numerous than had been supposed; a dozen were visited, and others identified. Additionally, two new topics have been opened: the bead trade in colonial and later times and the beads used by the indigenous Mexican peoples. Research projects on both topics are being planned.

The articles in this issue discuss what we have learned thus far. The first two deal with prehispanic materials, the third with beads brought by the conquistadors. They are followed by an examination of later trade beads and the origin of the colonial San Pedro Quiatoni pendants. The last paper discusses modern beadmaking in Mexico. Because sources are often repeated in several articles, the bibliography for the entire issue is at the end.

Due to lack of space in this issue, some of our news must be condensed here. The *Margaretologist* has received its ISSN designation, and the Library of Congress has specifically asked for copies of our publication. Many thanks are due Dudley Giberson, Anita Gumpert, Barbara Hail, Elizabeth Harris, Bee and Vernon Hill, Michael Heidi, Margaret Moore, Melanie, Nora Fisher, David Reese, Ronis-Raeburn, and Rose and Ralph Solecki for playing host and/or donating to our library or study collection, and to the Rev. Dr. Peter and Mrs. Francis for helping to revitalize our physical plant.

Recent visitors to the Center have included John Carswell, director of the Smart Gallery, University of Chicago and excavator of Mantai, Sri Lanka, Tom Holland of Mt. View, Arkansas, Ralph and Rose Solecki of Columbia University and excavators of Shanidar Cave and Zawi Chemi Shanidar, Iraq, and Barbara Hail, curator of the Haffenreffer Museum, Brown University.

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The Center for Bead Research 4 Essex Street, Lake Placid, N.Y. 12946

RESEARCH ON ANCIENT BEADS IN MEXICO

Several studies devoted in whole or in part to beads have been published recently in Mexico. Because they are not widely available, some of the more significant findings in four of them are presented here. All except Tibon are out of print; his book was priced from 1300 to 2700 pesos (ca. 1100 per dollar at the time).

Lorena E. Mirambell (1968) *Tecnicas Lapidarias Prehispanicas*, Series Investigaciones 14, Instituto Nacional de Anthropologia e Historia [INAH], Mexico City. 109 pp. + 3 pp. bib.

Lourdes Suarez (1974) *Tecnicas prehispanicas en los objetos de concha*, Coleccion cientifica 14 Arqueologia, INAH, Mexico City. 58 pp. + 11 pp. bib + 71 plates.

Lourdes Suarez Diez (1977) *Tipologia de los objetos prehispanicas de concha*, Coleccion cientifica 54 Arqueologia, INAH, Mexico City. 82 pp. + 94 plates + map, 5 graphs, 11 charts, 2 bib., 5 appendix, index.

Gutierrez Tibon (1983) *El jade de Mexico: el mundo esoterico del "chalchihuite"*. Panorama, Mexico City. 152 pp. + bib. with 32 pls.

The two volumes by Suarez and Suarez Diez (the same person) are based on the study of some 18,000 shell beads and other artifacts excavated in 1963-65 in part of the Balsas River basin about to be flooded by a new dam. Mirambell examined 1037 stone beads and other stone objects, many of them ornaments in the National Museum of Anthropology and History in Mexico City from 11 known and several unknown sites. These three were derived from doctoral theses. Tibon is a well known writer on prehispanic subjects and brings a love of jade and a lifetime of scholarship to his study.

The methods for working shell and jade (sawing, grinding, including rotary perforating, and polishing) are well known from other studies. Mirambell and Suarez seem to have judged how beads were made by examining finished products, suggesting some interesting techniques or variants. Mirambell observed that hard stone beads were first pecked, or hit repeatedly with a hard point to form a depression where the drill would be applied. This was usually smoothed out, but I pointed out to her that a several quartz crystal and amethyst beads in the Museum seem to have been perforated only by being pecked. Pecking is becoming recognized as a widespread beadmaking method. She also said that most beads had conical holes at both ends, with a second, more cylindrical drill finishing the perforation. Suarez suggested that flat shells were cut apart for disc beads with a blade hammered with another tool, a technique not previously recorded for shell bead manufacture.

Suarez Diez's classification has primarily local application. She divided beads into discs, "wheels" (short cylinders), cylinders, tubes (often bent), spheres, square sectioned, triangular sectioned, and tabulars. Pendants were divided into 13 groups according to species and 36 groups of various shapes (triangles, tabs, rods, animals, annulars, etc.). The tabulations of beads and their zoological identification are especially valuable. For example, while 87.5 % of the identified shell came from the Pacific and only 6.3% from the Gulf of Mexico, among the beads (in which species were hard to identify) more actually came from the latter area.

On raw materials, Suarez gave a thumbnail distribution of shell bead use: in northern Mexico, *Olivella* and *Spondylus* were widely used (as in southwest U.S.), in the Central Plain *Spondylus* was favored, in western Mexico many

species were used, and the Maya had a widespread and well developed shell bead industry. Both Tibon and Mirambell discussed jade substitutes. Tibon traced the Spaniards' error of calling jade "emeralds", and said the common modern substitutes were serpentine and steatite. The later appears to have been in error, as he calls it "tecali" found largely in Puebla; this is the so-called "onyx" (actually a form of marble), which is far more suited for a jade imitation than steatite. Mirambell condemned the common practice of labeling every green stone from Mexico as jade. Just over half the beads she investigated she called "skarn," a term adapted here to include jade, diopside, etc., though it usually refers to somewhat different rocks. Three beads from Monte Alban were analyzed; two were jadeite and one was diopside. A quarter of the beads were marble-onyx, and 15% were of schist.

Suarez Diez pointed out the universality of beads and pendants and their role in prehispanic Mesoamerican religions. Shells were associated with life-giving water and agriculture, with the god Quetzalcoatl, who wore cut Strombus conch pendant symbolizing the wind, and the god Tecciztecatl, the god of the moon and birth, and the "Lord of Marine Shells."

Jade had many of the same attributes, and this was the focus of Tibon's work. The green color (shared with turquoise, quetzal feathers, and some dyes) was identified with water, life, and agriculture. Jade was associated with Chalchiuhtlicue, the water goddess, and her consort Chalchiuhtlatonac, the sun god. It was not merely amuletic, but possessed a higher magic as the sustainer of life, having power to realize whatever one desired. The Toltecs believed they emerged from a jade cave, jade beads on statues gave them life, and the jade image of Achiutla was a most sacred oracle called the "heart of the people," until smashed to pieces by the Spanish. Tibon devoted chapters to the use of "jade" in personal and place names and jade incrustations in teeth. Earlier studies attributed only a decorative or status motive to the practice; Tibon says it was magical, giving strength and life and used only by the ruling classes.

It is heartening to see that shell and jade beads have received serious attention in Mexico. These works are valuable, especially for quantified data and research into prehispanic sources. Much work remains to be done, including comparing beads between prehispanic cultures, details of technical aspects, wider identification of jade and "jade," and the integration of Mexican research into bead research in other areas of the world.

Appendix: A Bibliography on Glass

Another useful book, although not related to those discussed above, may be mentioned here. *Bibliographia Sumaria para el Estudio del Vidrio* by Gonzalo Lopes Cervantes (1980: Coleccion Cientifica 93, INAH, Mexico City) lists 1163 articles and books on glass and related topics. It is divided thematically and geographically, and one of the more interesting sections covers Spanish, Caribbean, and Spanish American glass. References are to works in Spanish, French, and German, but the majority seem to be in English. It contains entries on the subject of collecting glass as well as its archaeological, historical, and technical aspects. Some periodicals appear to have been completely scanned, including popular ones such as "Antiques" and "The Connoisseur" and professional ones, especially "The Journal of Glass Studies." Hence the bibliography can serve as an index to the glass articles in these publications. The book is still in print. As with all books in Mexico, the price varies considerably, but it can usually be purchased for around two dollars.

BEADS AND EAR PLUGS

Aside from beads, flared ear plugs (*bezote*) were the most common ornament in prehispanic Mesoamerica. From at least the Lower Preclassical Period (beginning 1700 B.C.) they are seen on statues, and were made from many materials. In addition to ears, some were put on belts [Digby 1972:19], and others on headbands or worn elsewhere [Kidder et al. 1946:111].

An interesting suggestion has been made concerning the manufacture of ear plugs by the Maya and the use of by-products from the process [Digby 1972:19-21]. This is best understood by reference to Figure 1.

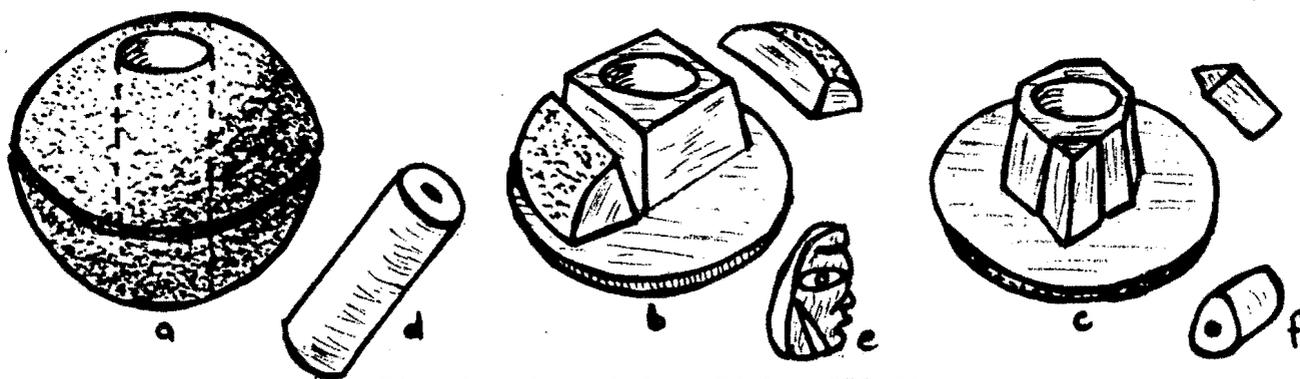


Fig. 1. Adapted from Digby 1972:20

In this scheme, natural round pebbles were drilled with a hollow drill (maybe bamboo or copper) and abrasives and then cut in half (a). The halves were reduced by removing segments in two stages (b, c). The octagonal flange left was rounded, and a finished ear plug resulted. Of especial interest is the use of the by-products. The perforation core would make a tubular bead (d). The segments cut off in the first stage (b) made triangular sectioned pendants (e). The smaller pieces from step c were made into small beads (f).

Is Digby correct? His point that jade was never wasted [1972:19] is well taken. It was extremely valuable; among the Aztecs one jade bead could be worth up to 200 pounds of gold [Francis 1985; 1986:17-20]. Kidder, Jennings and Shook [1946:124] said that ear plugs were nearly always paired because they were made from a single pebble and that at least some tubular beads were made from ear plug cores. Digby shows head pendants clearly made from the by-products of the second stage (b) of his reconstruction [1972:pl. IX].

But there were also other ways of making ear plugs. In one, the pebble was sawed in half until a deep cut was made and the remaining "septum" was broken, then drilled from both sawed sides. In another process, a pebble was drilled, sawed, and then a wider drill used to form the outside of the flange of the ear plug [Kidder et al. 1946:124]. Neither of these methods would preclude the later use of waste products.

However, beads studied by Mirambell (see pp. 3-4) show little evidence of the process Digby described. Because ear plugs are so common, we should expect many triangular sectioned tubular jade beads and pendants. But this is not the case. Of the 1037 beads she examined only three or four were of this shape [1968:cuadro 9]. The shape accounted for 30.5 % of the 200 small pendants, but most or all were marble, not jade ("skarn") [Ibid:cuadro 12].

In sum, Digby's suggestion is most interesting, but not enough work has been done on Mesoamerican beads to confirm or deny it. It clearly merits further consideration.

CHEVRONS AND THE CONQUISTADORS

Chevrons are among the most popular beads of all times; their distinctive design makes them easy to identify and markers in the history of trade. Did the Conquistadors take chevrons to Mexico? Interested archaeologists and historians have been trying to trace the beads they brought for some time.

Accounts of early explorers and conquerors are often vague, but suggest that chevrons were given to the New World natives. "On Columbus' first voyage he gave a chief on Haiti, "very handsome beads of many pretty colors, which appeared very good in every way." [Morison 1963:125] The account of the conquest of Mexico by Lopez de Gomera (1552) often mentions glass beads and lists "100 strings of many-colored beads" given by Juan de Grijalba to the natives near modern Veracruz [Gomera 1965:18].

The authoritative history of the Mexican conquest is by Bernal Diaz del Castillo, a member of the de Grijalba and Cortez expeditions. He recalled the beads given near Veracruz, "some artificial jewels called margajitas" [Diaz 1800:55], and referred to them later as, "jewels of that kind called margajitas, which are figured in different colors" [Ibid:130]. Cortez gave Moctezuma, "a collar of those artificial jewels called margajitas which are of various colors." [Ibid:133] In another translation of Diaz's work the descriptions differ: "margaritas, stones with many [intricate] designs in them," [Diaz 1956:71], and to Moctezuma, "a necklace which [Cortez] had ready at hand, made of glass stones, which I have already said are called Margaritas, which have within them many patterns of diverse colors." [Ibid: 193] The description of beads de Soto gave the chief of Nilco in Florida says, "a few small margarites, which are certain beads much esteemed in Peru." [Elvas 1851:117]

These references suggest chevrons; no other European beads at the time fit the descriptions as well. Chevrons are common in Peruvian graves, which lamentably have rarely been scientifically excavated and cannot provide us with proper dating. Chevrons in early contact sites in the southern United States include several attributed to the de Soto expedition [Smith 1977:15; Wilford 1987]. Of the beads given to the Aztecs, it has been said, "[they] may well be be a chevron bead of some type." [Smith and Good 1982:8]

There is a wide variety of chevron shapes, numbers and colors of layers, numbers of points, and treatments of the ends [Allen 1983-4]. The earliest chevrons (before about 1580) had seven layers, the inner one of translucent green, and were ground to facets on the ends [Smith 1977:15-6].

As suggestive as all this is, there had been no archaeological proof of chevron beads being imported to Mesoamerica by the conquistadors. The Aztec capital of Tenochtitlan is buried under Mexico City, and only recently have parts of it been rediscovered and partially excavated. The conquest was so swift and terrifyingly complete that no beads from the period are to be seen in any of the several public museum collections in modern Mexico City.

However, the conquest of Mexico did not take place all at once, and some areas held out against the Spanish long enough to acquire and preserve some European trade goods. Teotenango was founded in the seventh century by colonists from Teotihuacan in the Valley of Mexico, famed for its Pyramids of the Sun and the Moon. It is in the adjacent Valley of Toluca, built on a steep hillside with a magnificent view and afforded control of the road over which all goods from the south and the west passed. The Aztecs conquered it 1474-76, and its tributes included many gold and semiprecious stone items.

Because of its fortress-like aspect, it was only taken by the Spanish in 1582, 60 years after Mexico City. The Relation of Teotenango (1582) said the upper city was then abandoned, and the residents moved to Tenango, built by the Spanish on the valley floor.

Excavations in 1971-1975 under the direction of Roman Piña Chan uncovered two small chevrons, about a centimeter in length. Their style and date fit perfectly with the chronology suggested by Smith: seven layers, the inner one of which is a translucent green, 12 pointed "stars," and faceted ends. At least one of them has a third layer in deep translucent blue. Here is at last is proof that chevrons were one type of bead brought by the Spanish to Mexico in the first few decades of the conquest.

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H I S T O R I C P E R I O D G L A S S B E A D S

European contact brought Mexico many glass beads which circulated among the native peoples. The earliest of these were chevrons and Nueva Cadiz beads or long square, often twisted, tubes. Other beads were imported later, a practice which continues to this day.

A complete study of glass beads in Mexico would require cataloguing those in private hands, many of which are kept as heirlooms among villagers. No such study has been done, but the Cordrys [1968] made the best beginning. Their collection is now in the Museum of Folk Art in Santa Fe, New Mexico. Although I recently viewed this collection, these notes are derived from historical and ethnographic sections in Mexican museums. The museum names have been abbreviated as follows:

- The National Museum of Anthropology and History, Mexico City (NMAH)
- The Museum of the National Institute of Indiginistas, Mexico City (MNII)
- The Oaxaca Regional Museum in Oaxaca (ORM)
- The Chiapas Regional Museum in Tuxtla Guiterrez (CRM).

Many Venetian beads are found among these collections, mostly of 19th century date [see Karklins 1982]. They include "white hearts" or newer Cornaline d'Allepos, drawn beads with white centers and clear selenium-red exteriors in Oaxaca (NMAH) and Chiapas (CRM). Some older cornaline d'Allepos with wound gold-red exteriors are found among the Zapotecs of Tehuantepec and Juchitan in southeastern Oaxaca (NMAH). Black eye beads with pink and blue centers on white spots were also popular in Oaxaca (ORM), and were sometimes strung with San Pedro Quiatoni pendants (NMAH). Also strung with these pendants (see the next article) are elongated white beads with combed floral patterns (NMAH) and beads with combed loops, the "squiggle" design (MNII) [Kelly and Johnson 1979; Francis 1980]. Beads with squiggle designs are also worn in the multi-strand necklaces of the Mixe women of Mixistlan in northwestern Oaxaca (ORM, NMAH, MNII), and listed as "trade beads" in an ORM display case. A blue chevron with four layers and faceted ends was in the same "trade bead" case.

A few beads are apparently of Bohemian (Czech) origin [see Francis 1979]. These include pressed faceted beads used on rosaries by the Tarahumara (NMAH) and on necklaces of the Zapotecs of Tehuantepec and Juchitan, Oaxaca (NMAH). On the multi-strand necklaces of the Mixe of Mixistlan, Oaxaca, are translucent uranium-green faceted beads ("vaseline beads"), which appear to have been made by the "mandrel pressing" technique (ORM) [Ross 1974]. Among newer Czech types are opaque selenium-red toggles worn by the Cuicateo of

San Andres Teotlalpan in Oaxaca (ORM) and molded beads with a swirl or "agate" exterior and white interior grouped with the trade beads, although they are only late 19th or early 20th century in age (ORM).

There are some examples of "Prosser" beads, named for the inventor of a method of forming beads and buttons by pressing powdered glass together [Sprague 1983]. A blue Prosser oblate with a large equatorial band is on a necklace worn by the Yaquis (NMAH), and white ones dominate the multi-strand necklaces of the Mixe in Oaxaca, which contain other beads, as noted above (ORM, NMAH, MNII). The Cordrys [1968:152-3] say that these necklaces weigh up to 3½ pounds. Their speculation that the white Prosser beads may have come from China might be related to the popular name of "small Chinas" used for buttons made by a similar process or the fact that these buttons and beads are often described as being made of porcelain [Sprague 1983:167].

There are also several examples of the cornerless blue hexagonal prisms ("Russian") beads on the Mixe necklaces [see Harris 1985]. Other "Russian" beads are to be found grouped with trade beads (ORM, CRM), and made into small flowers standing in a pot (CRM).

Blown glass beads, called *papelillo* (paperlike) have become popular in the last few years [Cordry and Cordry 1968:162]. Probably because they are cheap, light, and showy, they are worn in many parts of Mexico. They are also strung in hanks as offerings in the Cult of the Dead during the annual ceremony in which a woman prepares an altar at home and invites all her neighbors to visit it (ORM).

The Huichols of Nayarit and adjoining states are well known for their beadwork, including beaded ornaments and votive bowls made from gourds which are decorated inside with beads attached with an adhesive (Lumholtz n.d.; Davis and Pack 1963:84-8; Norman 1977). Lumholtz [n.d.:225] said that prior to the time glass beads were available similar work was done with beads of shell. Davis and Pack [1963:88] said that the glass beads come from France, while the NMAH display lists France, Japan, and Czechoslovakia (not Venice) as sources for them.

Beads being imported today and seen on the streets and in shops include Japanese, Venetian, and Indian glass beads, and plastic ones from Hong Kong and the U.S.A. In some cases these are presented as being quite special, as with one dealer I saw who had a tiny selection of common Indian glass beads preciously grouped together in Mexico City.

Center for Bead Research Publications

The Occasional Papers Series:

Our next publication is in preparation. It will be an index to all the beads and other forms of human adornment found in the *National Geographic* during the fifteen years 1971-1985. The index is divided into two parts. The main listings are by country, which are often divided chronologically or ethnically. The second part indexes the entries in the main index by material or ornamental type. We have attempted to include all forms of adornment, whether in a photograph or in the text. It has been a far more complex task than had at first been thought, but the dummy copy has already proven useful here at the Center. We anticipate publication very soon.

Currently Available in this Series:

1. *A Survey of Beads in Korea* \$6.50
2. *Chinese Glass Beads: A Review of the Evidence (with new addendum)* \$7.50
3. *Beads and the Discovery of the New World* \$8.50

SAN PEDRO QUIATONI AND PUEBLA GLASS

The most widely discussed glass bead in Mexico is a pendant made of a long drawn rod with a slightly bulbous end and a crimped loop for suspension. It has been called a San Pedro Quiatoni Pendant after the village in Oaxaca where they are most commonly found. Such pendants were noticed by the Cordrys in 1941, although not published until later [1968:72, 152]; there are several necklaces of them in their collection in Santa Fe. Barba de Piña Chan [1960] and Davis and Pack had published them earlier [1963:88-9]. Both said they were 16th century in date, but without any documentation.

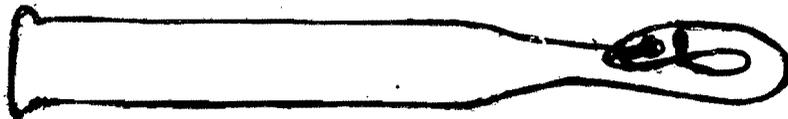


Fig. 2, 150 % actual size

They have attracted much attention [Cordry 1975; Davis 1975; Johnson 1975; Smith and Good 1982:20]. Cordry dated them to the 17th or 18th century [1975:10], again with no source, suggesting they imitate a prehistoric stone pendant. Johnson said that Barba, Pack and Davis, and the Cordrys implied that they were imports because they were shown strung with Venetian beads [1975:13], and speculated that they may have been made in Puebla, Mexico. He quoted Sorensen [1971:14] saying a glass house was begun there in 1542 making green, blue, and clear glass exported as far as Peru and Guatemala.

Sorenson's reference may have been a book published two years earlier in English (he said, "Recently it was learned...") by Rogelio Alvarez [1969:87], who took most of his data from Leicht [1934:188], who has nothing to about beads or pendants. Carrion's history of Puebla [1970] adds no data on any beadmaking there either. This is as far back as I have been able to trace the literature on Puebla glassmaking, but older references are being sought. In the meantime, a few other notes may be of interest:

1. There are at least two types of S.P.Q. pendants. Davis [1975] pointed this out, suggesting that the smaller, more varied colored ones may have been imported, while the more common larger ones may have been locally made. Both types are displayed in the Oaxaca Regional Museum as "trade beads."

2. Although Puebla was the first place to make glass in Mexico, it was by no means the only one. One glassworker from Puebla established factories in a half dozen sites in Puebla, Tlaxcala, and Mexico states, finally settling in Mexico City [Rogelio Alvarez 1969:91]. There was also glass being made in Cuba [Lopez Cervantes 1980:96].

3. If the S.P.Q. pendants were made in Puebla, they were not necessarily made by the glasshouse established by Rodrigo Espinosa in 1542. Others were established over the years to provide an almost unbroken tradition well into the current century [Leicht 1934:188-9; Rogelio Alvarez 1969:87-92].

4. As an aside, I have been informed (by Bee Hill) that in the Cuernavaca Museum a strand of S.P.Q. pendants is marked as having come from Puebla.

The conclusion of all of this is simple, if a bit disheartening. We do not know the origin of the S.P.Q. pendants at the moment. Nor if they are 16th, 17th, 18th or 19th century in date. Nor if they are imports or were made locally. Nor if these or any other sorts of beads or pendants were made in Puebla. That does not mean we will never know, but it does mean it is too early to draw any firm conclusions.

BEADMAKING AD HOC

There are beadmakers all over Mexico, working in a wide variety of materials from prosaic clay to semiprecious stones, silver, amber, and coral. Details of those visited on the 1987 Mexican Tour are to be published in Bead Report 23 in Ornament. Here we shall consider the implications of what was found when documenting modern Mexican beadmakers.

As other articles in this issue demonstrate, beadmaking was a high art in prehispanic civilizations. Mirambell emphasized that stone beadmakers had to have been specialists in order to turn out the fine products they made [1968:97], while Suarez noted the high development of Maya shell beadmakers [1974:240]. Examples of their work amply prove the case.

In lands where beads have been important for a long time it is not unusual to find them being made today in much the same way they have been made for centuries, even millennia. The agate, shell and glass beadmakers of India, the steatite and faience beadmakers of Egypt, Iranian faience beadmakers, and small glass beadmakers scattered throughout the Middle East and Asia all retain something of their ancient techniques, and show some continuity in production, even with labor saving devices introduced at various times.

But this is not the case in Mexico. The red clay beadmakers of Mayatepec decorate them with the nylon fishing line they use to string them. Olivella shells are perforated in Veracruz by twisting the apex off with a pair of pliers, while electric drills are used for thicker shells. The stone beadmakers of Taxco, Iguala, and Queretaro are completely mechanized, as are most beadmakers in Veracruz, whether working in shell, "tortoise shell," or black coral. Some industries are demonstrably new. Queretaro has only cut stones (including a few beads) for 40 or 50 years. The black clay beads of San Bartolo Coyotepec (Oaxaca) have only been made after Dona Rosa invented the blackening process in 1952. Roberto Ventura, one of the more successful shell beadmakers in Veracruz, designed the electrified tools and production line himself.

Only a few Mexican beadmakers have any connection with the prehispanic past. The amber of Simojovel was no doubt used in prehistoric times, was worn by the indigenous people of the region when the Spanish got there, and was quickly adapted by the Spanish for rosaries. The knife used today to chip off the cortex and shape a bead replaced an obsidian blade. The steel file and sandpaper for grinding substitute for a flat stone. The sharpened bicycle spoke rotated between the fingers of one hand to perforate beads recalls an older method, and the gasoline used to polish the finished pieces replaces oil or some such substance. Here are elements of an old, unbroken tradition, elements are not easily identified in the other industries.

We are dealing with new bead industries. Why? The answer lies in the history of Mexico. The Spanish considered themselves superior to the indigenous people they met. The ancient cities were either razed and built over (as in Mexico City) or abandoned (as at Teotenango). The old crafts were considered pagan and not encouraged. Jade was drained off to Spain to be ground down for colic medicine (whence its name) [Francis 1985:17-20]. Shell beads were too lowly to consider.

Only pearls and coral were widely used for beads, mostly for rosaries. European fashion did not call for beads unless they were made of precious substances. Although the indigenous people of the more remote areas of Mexico still wore beads, the old types were quickly replaced with imported glass beads. Only the San Pedro Quiatoni pendants have any claim to being inexpensive locally produced beads.

Beadmakers and all artisans, along with the chiefs, priests, warriors, and peasants, were turned into slaves. All crafts were controlled by guilds (greminos) in Mexico well into the 19th century. It is not known if there was a guild for beadmakers (rosary makers?), but in the silversmiths' guild European styles and fashions were closely copied [Museo AIAP 1952:28]. Nor were natives allowed to become guild masters. With unparalleled swiftness the arts of prehispanic America disappeared following the Spanish Conquest [Kubler 1961].

The "newness" of Mexican beadmakers appears to be a genuine phenomenon. It appears that only the amber of Simojovel survived from an older time. This was because the village was (and still is) in a relatively isolated location and produces a valuable product, which alone among the many beauties of the ancient prehispanic beads was appreciated by the Spaniards for what it was.

B I B L I O G R A P H Y

- Allen, Jamey D. (1983-4) "Chevron-Star-Rosetta Beads," (4 parts) *Ornament* 7(1):19-25; 7(2):24-9; 7(3):24-6, 42-7; 7(4):24-7, 41.
- Barba de Piña Chan, Beatriz (1960) *La joyeria Mexicana in Alhajas Mexicanas, Artes de Mexico* 20(165):5-48.
- Carrion, Antonio (1970) *Historia de la Ciudad de Puebla de los Angeles*, Jose M. Cajica, Puebla (2 vols.).
- Cordry, Donald (1975) "Pendant Glass Beads from San Pedro Quiatoni, Oaxaca, Mexico," *Bead Journal* 1(4):10-12.
- and Dorothy Cordry (1968) *Mexican Indian Costumes*, U. Texas, Austin.
- Davis, Mary L. and Greta Pack (1963) *Mexican Jewelry*, U. Texas, Austin.
- Davis, Russel (1975) "More on S.P. Quiatoni Pendants," *Bead Journal* 2(2):1-2.
- Diaz del Castillo, Bernal (1800) *The True History of the Conquest of Mexico* [trans. Maurice Keatinge] 1966 reprint, March of America Facsimile Series 7, University Microfilms, Ann Arbor, MI.
- (1956) *The Discovery and Conquest of Mexico* [trans. A.P. Maudslay] Farrar, Straus & Cudsky, New York.
- Digby, Adrian (1972) *Maya Jades*, British Museum, London.
- Elvas, The Gentleman of (1851) *The Discovery and Conquest of Terra Florida by Don Fernando de Soto and Six Hundred Spaniards His Followers* [trans. Richard Haklyut] Haklyut Society IX, n.d. reprint Burt Franklin, New York.
- Francis, Peter (1979) *The Czech Bead Story*, World of Beads Monograph Series 2, Lapis Route, Lake Placid.
- (1980) "Squiggle Beads," *Ornament* 4(4):35.
- (1985) "Jade Beads and the Conquest of Mexico," *Lapidary Journal* 38(10):1328-31.
- (1986) *Beads and the Discovery of the New World*, Occasional Papers of the Center for Bead Research 3, Lake Placid.
- De Gomera, Francisco Lopez (1965) *Cortes: The Life of the Conqueror by His Secretary* [trans. Lesley B. Simpson] U. California Press, Berkeley.
- Harris, Elizabeth (1985) *The Russian Bead*, G.B. Fenstermaker, Lancaster, PA.
- Johnson, Stephen C. (1975) "The Intriguing Mystery of the Quiatoni Beads," *Bead Journal* 1(4):13-16.
- Karklins, Karlis (1982) *Glass Beads*, History and Archaeology 59, Parks Canada, Hull, Quebec.
- Kelly, Isabel and I.W. Johnson (1979) "Squiggle, an 'Undescribed' Bead from Central America," *Ornament* 4(1):4-8.

- Kidder, A.V., J.D. Jennings, and E.M. Shook (1946) *Excavations at Kaminuljuyu, Guatemala*, Publication 561, Carnegie Institute, Washington.
- Kubler, George 1961 "On the Colonial Extinction of the Motifs of Pre-Columbian Art," in Samuel K. Lothrop, *Essays in Pre-Columbian Art and Archaeology*, Harvard University Press, Cambridge MA.
- Leicht, Hugo (1934) *Las Calles de Pueblo, Estudio Historico*, A. Mijares y Hno., Mexico City/Puebla.
- Lopez Cervantes, Gonzalo (1980) *Bibliographia Sumaria para el Estudio del Vidrio*, Coleccion Cientifica 93, INAH, Mexico.
- Lumholtz, Carl (n.d.) *El arte simbolico y decorativo de los huicholes*, Instituto Nacional Indigenista Coleccion 3, Mexico City.
- Mirambell, Lorena E. (1968) *Tecnicas Lapidarias Prehispanicas*, Series Investigaciones 14, INAH, Mexico.
- Morison, Samuel Eliot (1963) *Journals and Other Documents on the Life and Voyages of Christopher Columbus*, Heritage Press, New York.
- Museo Nacional de Artes e Industrias Populares (1952) *Mexican Silverwork*, Mexico City.
- Norman, James (1977) "The Huicols, Mexico's People of Myth and Magic," *National Geographic* 151(6):832-55.
- Rogelio Alvarez, Jose (1969) *Vidrio Soplado*, Editorial Novaro, Mexico City.
- Ross, Lester (1974) "Hudson's Bay Company Glass Trade Beads: Manufacturing Types Imported to Fort Vancouver (1829-1860)," *Bead Journal* 1(2):15-22.
- Smith, Marvin (1977) "The Chevron Trade Bead in North America," *Bead Journal* 3(2):15-17.
- and Mary E. Good (1982) *Early Sixteenth Century Glass Beads in the Spanish Colonial Trade*, Cottonlandia Museum, Greenwood MS.
- Sorensen, Cloyd (1971) "The Enduring Intrigue of the Glass Trade Bead," *Arizona Highways* 47(7):10-37.
- Sprague, Roderick (1983) "Tile Bead Manufacturing," pp. 167-72 in Charles F. Hayes, ed. *Proceedings of the 1982 Glass Trade Bead Conference*, Research Records 16, Rochester Museum and Science Center, Rochester, N.Y.
- Suarez, Lourdes (1974) *Tecnicas prehispanicas en los objetos de concha*, Coleccion cientifica 14 Arqueologia, INAH, Mexico City.
- Suarez Diez, Lourdes (1977) *Tipologia de los objetos prehispanicas de concha*, Coleccion cientifica 54, INAH, Mexico City.
- Tibon, Gutierre (1983) *El jade de Mexico: el mundo esoterico del "chalchihuite"*. Panorama, Mexico City
- Wilford, John Noble (1987) "De Soto's Trail: Courage and Cruelty Come Alive," *New York Times* 19 May:C1, 3.

The Good Word

The usual word for "bead" in Spanish is "cuenta," which also means "account" or "calculation," etc. Thus, the word is associated with rosary beads, and Spanish derives its name for bead from a source similar to English

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