11. AN ENIGMATIC ARTIFACT, by Peter Francis, Jr. (1982, 1:3)

What We Know

The lithified object pictured [Fig. 1] was found on the surface near Poona, India. It weighs 4.91 g, has a sp. gr. of 1.63, and H 5-6. It twice tested negatively to HCl reaction (no carbonate), but positively to containing some phosphate. It appears to be a fossil in opaline form. Given the geology of the Poona region (in the middle of the Deccan Trap lava flows), it must have been manuported there. This may have happened any time in the last 10,000 years; the immediate area has evidence of occupation by microlith users, and is today a suburb of an old urban area.

What We do not Know

We do not know what the object is. I have taken it to several institutions in the U.S. and in India, and have received numerous suggestions. Thus far, none of these has proven completely satisfactory.

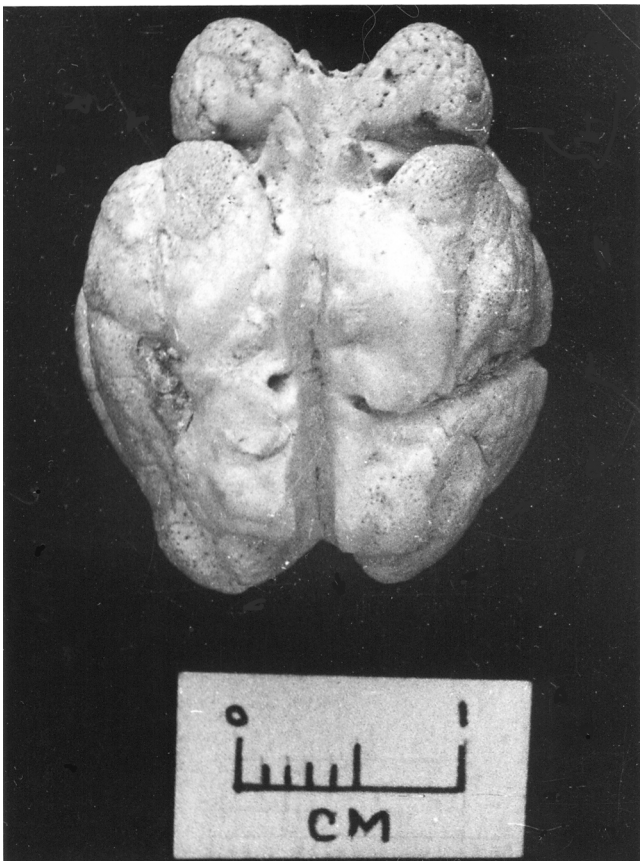

Figure 1. Opaline fossil apparently used as a bead. Found near Poona, India.

What we can Surmise

The object is an artifact, probably used as a bead. It has a number of grooves which allow it to be suspended in several different ways. The large transversal groove visible in the photo may or may not be man-made, but on the opposite side of the object (which has a very different appearance) points of wear correspond exactly to the path a strand would have taken had it been wrapped around the object through this groove. There are also clearly artificial cuts, including the widening of the gap under the right lobe at the top of the photo. A string can suspend the object in 3 ways: transversely through the large groove, below the two lobes, or crossing in front in a diamond pattern. Each of these paths have wear marks and/or cuts which must be humanly produced.

Grooved pendants and beads are generally characteristic of a relatively low technology. Such pendants are found in the lowest Upper Paleolithic levels in Europe, disappearing thereafter, only to return on some hard stones early in the Chalcolithic. This object, pendant, if you will, must have been made and worn by people with fairly primitive technology, whether ancient (e.g., microlith users) or modern (e.g., tribal aborigines).

If anyone can suggest the nature of this object or shed any further light on this mystery, I would appreciate it greatly. It has been puzzling me for 4 years.

Postscript (1983, 2:4)

From the Icthyology section, L.A. County Museum of Natural History comes the suggestion that the enigmatic artifact (*Forum* 1) may be a fossilized (marine) mammal skull. This is the 5th different identification received from zoologists and paleontologists.

12. MOLLUSCAN SHELL AS BEADS, by Peter Francis, Jr. (1982, 1:4-5)

No one interested in primitive ornaments can overlook the use of molluscan shells. Beads made of shell are among the earliest recorded beads from Europe and Asia.

The problem of molluscan shells used for beads raises several questions: 1) what is their antiquity and distribution?;

2) marine species are often found at inland sites; what mechanism brought them there?; 3) how were they treated to be formed into beads?; and 4) to what purpose were they put?

I do not claim to be able to answer all these questions, but I have been working on some of them and would like to share the highlights of what I have learned.

1) Age and Distribution: Not unexpectedly, shell ranks as one of the oldest and most wide-spread bead materials. Shell beads are found in the earliest assemblages of Europe, China (Choukoutein Upper Cave), and India (Patne, Maharashtra). The picture is likely true for the Americas; I would appreciate knowing more details from there. To form an idea of materials used in the Upper Paleolithic for beads, I tallied those listed in Muller-Karpe's *Handbuch Der Vorgeschichte* (1966). Excluding the very detailed Petersfels, Germany, materials from 31 European sites were as follows:

Material	# of pieces	# of sites
Shell	898	11
Tooth (inc. ivory)	351	21
Bone	68	16
Stone (chalk, jet)	7	5
Wood (!)	6	1

Shell was clearly one of the more important materials, though not as widely distributed as bone or tooth. The number of pieces was skewed by large finds at 2 sites.

2) Transportation mechanisms: Here we know very little. Several possibilities exist: trade, gift-giving, raids, expeditions, etc. I would appreciate more ethnographic data from America on this point. Certainly trade was used, but Forde mentions the Yokuts (Calif.) making long expeditions into enemy territory to gather shells.

3) Worked into beads: I conducted a series of experiments on common bead shells. A full paper has been submitted; some of the results are as follows:

a) Shells most commonly worked (at least in Old World contexts) are those with certain advantages–the pre-perforated *Dentalium*, the animal absorbing the columella so only the apex needs removal (*Oliva, Conus*), or a very large fina1 whorl (*Cypraea, Nerita*);

b) 5 methods have been described in the literature for perforating shells. Of them, *gouging* with a stone point is efficient for thin shells, but does not work on thick ones. *Hammering* with a stone is very efficient on thick shells, and with practice will work on thin ones. *Grinding* against a flat stone is efficient in tool wear and leaves a nice, smooth hole. *Sawing* with a blade takes a long time and is hard on the tool (used surface-found chalcedonic blades picked up locally). *Scratching* with a point is hard on the tool and takes a very long time (one clam took nearly 3 hours).

c) Shells at a site can probably be considered used for beads if they are found in context (i.e., burial), part of a series of similarly worked shells, or have been clearly man-perforated.

d) Man-made perforations can often be recognized: flattened surfaces from grinding, many furrows from scratching (which otherwise looks rather like drilling), deep furrows from sawing; hammering and gouging leave similar jagged holes.

4) Use of shells: Though much has been collected already, we can use more ethnographic data. Primary uses are decoration, currency, and status symbols. Magic, curios, or souvenirs are other uses. This will vary greatly between groups.

13. EARLY POST-CONTACT NATIVE-MADE GLASS BEADS IN AMERICA?, by Peter Francis, Jr. (1983, 2:5-6)

Small, light to dark translucent green beads found in Peru and Ecuador have recently come to the attention of several of our members. They vary in shape from sub-oblate and donut to cylindrical and in size from 3 to 8 mm or more in diameter. They are distinguished by poorly fused bubbly glass, conical perforations with rough surfaces on the end with the small hole, and bubbles oriented along the axis of the perforations.

The beads were first reported by Harris and Liu (*Ornament*, 1979, 4[2]:60). Experiments by Harris indicated that they might have been made by heating a small bit of glass in a crucible and piercing it with a hot pointed metal tool. The technique was within the ability of early metalsmiths in the region, and it was hypothesized that the beads were locally made by the natives soon after Spanish contact.

Smith and Good (*Early 16th Century Glass Beads in the Spanish Colonial Trade*, 1982, p. 20) have questioned this idea. They classify the beads as wound, and state the clarity of the glass is unlike native-made beads from Africa and N. America. Smith has expressed to me (letters 23 June 1982 & 9 May 1983) that glass bottles are rare on European sites of