

perforation have very different dimensions. Beads of this type have been found at several Medieval sites in West Africa. No glass beads of European manufacture were found at the Senegal site, nor were any discovered within a 5-km radius of the site. However, another drawn cylindrical blue bead similar to those found at locus no. 1 was discovered some 15 km away along with pestles, polished stones, and numerous potsherds.

These sites are located well within the Galam-Bambouk auriferous region. The gold found in the area was the main contributor to the wealth and importance of the empire that existed during the Middle Ages. The presence of the three fetishes indicates the probability of animistic practices in a region that was yet to experience the period of Islamization that took place during the 11th century, after the annihilation of the Ghana Empire by the Almoravides.

The recovered ancient beads were undoubtedly traded for the gold that was (and still is) found in the Falmé River, close to the site. Although the source of these beads is not certain, it is probable that the specimens entered eastern Senegal via the caravan routes that led south from Morocco.

68. PALAU: THE GLASS PALACE, by Marie-José Oppé (1991, 19:11-13)

Palau de Vidre is the Catalan name of a small village in southern France where the foothills of the Pyrenees meet the Mediterranean Sea. The village has maintained its original name to this day, some 330 years after the region became a part of France. Before that, the region of Catalonia belonged to the kingdom of Spain. Palau de Vidre translates as "Glass Palace." However, despite documentation showing that numerous and well-known glass factories existed in the area during the Middle Ages, no solid archaeological evidence has yet been discovered.

Glass slag found in stratified archaeological layers attests to the existence of glass factories during the Roman occupation (200 B.C. to A.D. 300), and, in 1983, the local archaeologist, Annie Pezin, found 11 monochrome green and reddish-brown glass beads in the tomb of a small child dating to the third century. Located at chest level, the beads were either part of a necklace or a decorated piece of clothing. The form of most of the beads was irregular-annular (Fig. 1),



Figure 1. The various forms of glass beads from Palau de Vidre, France; approximately life size (black = black, stippled = green, and hatched = red).

with an average diameter of 5 mm and an average thickness of 1 mm. Also found were two green faceted stone beads, one round black stone bead, and a silver ring.

Numerous other glass beads dating from different periods have also been discovered locally at Iberian, Phoenician, and Visigoth sites. Beads have also been found in the Medieval tombs of travelers going to and from Santiago de Compostela, a pilgrimage center in northwest Spain.

Palau de Vidre is situated along the banks of the Tech River, an ideal location for the establishment of glassmaking activities. The Tech furnishes an excellent-quality sand for this purpose, and the plants that grow in the briny marsh area are an abundant and perfect source of material for the fabrication of soda, an important ingredient in the glassmaking process. The neighboring forests provided wood to fuel the factory ovens. Palau was also situated close to major trade routes, as well as to the port at nearby Collioure, from which all the maritime commerce of northern Catalonia arrived and departed. The naval flotilla based at Collioure was both powerful and well known. Important commercial exchanges took place with North African Mediterranean countries including Egypt and Syria, which were the preferred markets for Catalan traders. In return for their merchandise, these traders obtained silk, gold, leather, spices, and slaves. Alice Frothingham (1963) also informs us that "Catalan sea captains trading in the Eastern Mediterranean brought back rare glasses from Alexandria, Beirut and Damascus."

The kings of Aragon took up residence in Collioure and, in 1396, one of the queens accorded the inhabitants the right to receive pirates and corsairs in the port for the purpose of trade. During this time, southern France was also an exporter of glass objects. One of the first indications of this trade concerns the export of a case of glass to Algeria in 1302 (Foy 1989:378). Catalan glass factories were able to perfectly imitate glass fabricated in Damascus and Venice. By the 15th century, Catalonia had become a major glass-producing center. In addition to "tableware," the factories made "beads for rosaries, necklaces and trimming for ladies' gowns" (Frothingham 1963:23). These objects were sold locally by traders of general merchandise and notions who worked at markets or were traveling salesmen.

From its renowned past, Palau has conserved its original name. Today, one of the tourist attractions in the village is a collection of necklaces composed of old beads created by a local designer and sold in the campground boutique. The necklaces are made using glass beads from mortuary wreaths that have been discarded because they are too damaged to remain on tombs in the village cemetery. This type of beaded wreath was very popular in France from the end of the 19th century to just before the start of World War

II. The motifs were floral designs fabricated with small glass beads from Venice which displayed a wide variety of color nuances ranging from violet and rose to white.

References Cited

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69. NOTES ON A RARE MELON-SHAPED CHEVRON BEAD, by Marie-José Oppé (1997, 30:10-11)

Among a group of very small, old chevron beads acquired at the market in Chinguetti in northeastern Mauritania, and found together at a nearby ancient site, is a rare seven-layered melon-shaped specimen (Fig. 1). John and Ruth Picard (1993:40, no. 265) mention another similar bead, declaring it to be the single unique example so far encountered. The other chevron beads in the group are the same small size and also have seven layers. One is square, and another has a black inner and outer layer, showing similarities to bead number 95 in Smith and Good (1982:43). Three other beads correspond to their no. 79. In addition, there is an eight-layered chevron, with numerous imperfections. These types of small, ancient chevrons are highly prized in Mauritania, as well as northern Morocco.



Figure 1. The seven-layered chevron bead from Chinguetti.

Accompanying the chevron beads are three, short, three-layered, squared tubes with faceted corners. These beads, also described by Smith and Good (1982:42, no. 55), have a colorless core, a thin white middle layer, and an ultramarine exterior. There is also a similar bead, but without the facets.

If these beads were exported to the Americas by 16th-century Spanish explorers, how did they come to be found in Mauritania as well? Chinguetti is actually the site of an ancient city that, since the Middle Ages, served as a major relay point for caravans that had just traversed over 1,000 km of harsh desert. This major trans-Saharan route, located just 4 km from the town, linked southern Morocco with the Adrar, a mountainous region located in what is now Algeria and Niger. It is most likely, therefore, that the chevron and tubular beads acquired in Chinguetti were transported there by caravan from Morocco sometime in the 16th century.

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70. RESPONSE TO BUSCH, by Marie-José Oppé (1997, 31:1-12)

First, thank you to Mr. Busch for pointing out the error published in "Notes on a Rare Melon-Shaped Chevron Bead" which concerns the location of *l'Adrar des Iforas*, effectively straddling Algeria and Mali. This error of inattention by the author is compounded by the fact that she is native to the region, having roamed the Sahara all the way to Mauritania. Concerning the role of the caravan route from Sidjilmassa to Ghana via *l'Adrar de Mauritanie*, one has merely to consult Mauny (1961:428-434, Figs. 74-76) to confirm its importance.

The extent to which these beads are "highly prized" (please note the word used is prized, not priced), is revealed in such sources as Delarozzière (1985:69, 72, 126-127) and Fisher (1987:219), as well as through personal observation. Regarding rarity, so far, only six melon-shaped chevron beads have been documented among the thousands of chevron beads that have been studied to date by various