components into a consistent whole. The main documentary sources are: *Capitanato Provinciale* (1803-1806); *Camera di Commercio* (1806-1870); *Commissione di Sorveglianza alle fabbriche ed arti privilegiate nel recinto del Portofranco di Venezia* (1830-1873), hereafter Porto Franco.

3. This documentary void is partly due to our limiting the research to the so-called "Privileged factories." A possible development of this research will include recognition of licences assigned by the mayor (through the Chamber of Commerce) to all the active craftsmen, as explained in L. Alberti, *Quadro del sistema di commercio e d'industria vigente nelle provincie venete*, Venice, 1823.

4. ASV, Camera di Commercio, b. 23 (1818), t. III, fasc. 10. In 1826, only the duty on the soda coming from Pola (Dalmatia) was abolished (ASV, Camera di Commercio, b. 52 [1826], t. III, fasc. 2).

5. ASV, Camera di Commercio, b. 29 (1820), t. III, fasc. 9.

6. ASV, Camera di Commercio, b. 52 (1826).

7. This mechanism is not very clear and will require further research to be fully understood.

8. A form of Privilege certainly existed at least since 1822, as Dal Mistro is reported as a "national privileged factory" in that year (ASV, Camera di Commercio, b. 82 (1826), t. III, fasc. 4). However, it is not clear whether this first Privilege system applied to exports abroad or not.

9. ASV, Camera di Commercio, b. 59 (1828), t. III, fasc. 4.

10. ASV, Porto Franco, b. 12 (1833-47), t. X, fasc. 13.

11. ASV, Porto Franco, b. 54 (1845-73), t. VIII, fasc. 3.

12. ASV, Porto Franco, b. 54 (1845-73), t. VIII, fasc. 4.

13. ASV, Porto Franco, b. 12 (1830-44), t. X, fasc. 5. See also ASV, Porto Franco b. 75 (1845-73), t. LI, fasc. 1.

14. ASV, Porto Franco b. 75 (1845-73), t. LI, fasc. 10.

15. ASV, Porto Franco b. 12 (1830-44), t. X, fasc. 4.

16. ASV, Porto Franco b. 12, (1830-44), t. X, fasc. 18.

17. ASV, Porto Franco b. 54 (1845-73), t. VIII, fasc. 4.

18. Data concerning production quantities were gathered by Silvia Ferrari and will be available soon.

19. In the bead industry, the existence of a mass of working people who were escaping the official system and ways of control is evident since the 18th century, as noted by F. Trivellato, "Echi della periferia. Note sulla circolazione e la produzione delle perle di vetro veneziane nei secoli XVII-XVIII," *La ricerca folklorica*, 1996, (34):25-34.

20. This is particularly true for the invention of new enamels, the introduction of new textures and colors, and the like. The most famous case is Bigaglia's *aventurina*, but many others were awarded prizes during these years for their innovative work. *See* V. Mutinelli, *Annali delle Provincie Venete (1816-40)*, Venice, 1843, and the *Atti dell'Istituto Veneto di Scienze, Lettere ed Arti*. As to the process of mechanization, on the contrary, Venetians appear to have been slow and not very innovative.

## 4. COMMENTS ON "RARE" MELON-SHAPED CHEVRONS, by Jürgen Busch (1997, 31:8-11)

Marie-José Opper's note in *Bead Forum* #30 on a melon-shaped Italian chevron bead found in the northern Mauritanian holy city of Chinguetti requires some corrections and additions. Locally called *sria*, the antique, small, seven-layered, melon-shaped chevrons are said to be "rare" by Mrs. Opper. This is somewhat misleading. Among the 2,000 chevron beads depicted by John and Ruth Picard (1986, 1993), one is a melon-shaped type. Three specimens of this kind (including one in a "rare" blue-green color), against 200 in "traditional" shape, are in the author's collection (Fig. 1); one is in Mrs. Opper's hands. Five "melons" in relation to approximately 2,400 pieces in traditional shape result in a percentage of ca. 0.2%. This percentage would be significantly higher (4.5%) if only the author's collection is considered, revealing that melon-shaped chevrons are not as "rare" as Mrs. Opper believes. Since no records exist of Italy's total chevron-bead production (some hundred million pieces may be just a pessimistic assumption) it is hard to estimate how many melon-shaped chevrons are represented by 0.2% in absolute numbers.

A knowledge of Mauritanian bead prices and local women's bead preferences leads me to disagree with Opper's statement that such *sria* are "highly prized" in Mauritania. In my experience, chevron beads are neither particularly highly valued nor expensive. "Highly prized" is a relative and confusing term (in the Mauritanian bead

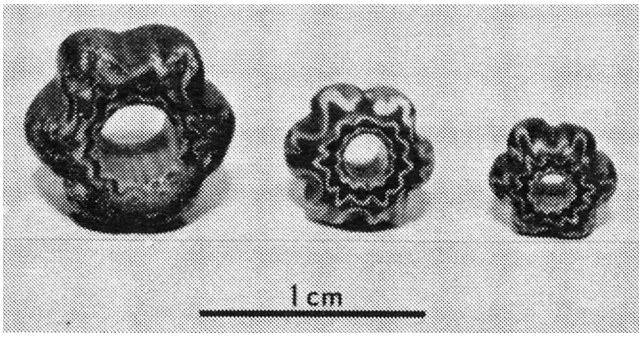


**Figure 1.** Three melon-shaped seven-layered chevron heads (the middle one with a "rare" blue-green outer layer) acquired in Tichitt and Oualata, Mauritania, in 1993-1995 (photo: J. Busch).

context anyway). Especially in Mauritanian bead markets, "highly prized" must be understood as meaning nothing but "highly priced!"

Religious prestige and the magical aura of a bead are the main parameters for value in the Mauritanian bead market. Beads with this reputation are automatically both "highly prized" and "highly priced!" Is this the case with chevrons in Mauritania? It is definitely not! The three dollars apiece I regularly paid for them between 1992-1996 explains their status and value better than words. One thing is clear: chevrons are cheap in Mauritania, especially in a market where certain kinds of glass beads (e.g., simple monochrome *nila* beads [blue glass beads of uncertain origin] and the *morfia* [Fustat Fused-Rod Beads] imported from Egypt) reach high-end prices comparable with the top beads on the U.S. bead market.

It should also be kept in mind that different ethnic groups set different values on the same kinds of beads. While a southern Sudani may pay ten dollars for a chevron bead, the northern Beidani may refuse it for three. Generally speaking, glass beads of European origin (including chevrons) are neither as expensive nor as "highly prized" in Mauritania as seems to be assumed by some researchers, especially in comparison with the country's West African neighbors. A few Hausa traders, mainly in the capital, offer some strings of Italian "trade beads" to foreigners, but the traditional Mauritanian bead market is completely in the hands of local women. Compared to beads of stone, metal, wood, amber, and coral, European glass beads, including chevrons, are under-represented, but not rare. Thus, "highly prized" is the wrong term to describe the value of any chevrons in Mauritania!

Mrs. Opper continues that the trans-Saharan route, located just 4 km from the town of Chinguetti where the melon-shaped *sria* was found, "linked southern Morocco with the Adrar, a mountainous region located in what is now Algeria and Niger." This is in error! Opper obviously confuses the northern Mauritanian Adrar province around Chinguetti with an area called Adrar des Iforas in what is now Algeria and Mali (not Algeria and Niger). This area is located 40 caravan days or 1,000 miles to the east (Fig. 2). This route once connected southern Morocco's commercial center Sigilmassa in the Tafilalet oasis with Tadmekka (*Es Souk*, Arabic for "the market") at the southern edge of Adrar des Iforas. Thus, this route cannot be considered when asking how this bead might have reached Chinguetti. Assuming that Mrs. Opper meant the indirect and minor Morocco-Adrar route (from Sigilmassa to Awlil via Nul, Idjil, and Asugi to Chinguetti), it raises the question whether European products, like glass beads, were traded on inner Saharan routes during the late Middle Ages. Since the 16th century, routes close to the coast (Sigilmassa-Sila/Takrur on the lower Senegal River is one example where glass beads were reported as a trade item) were given preference, mainly for better security. However, early beads could also have gotten to the Sahara by the overland route. In contrast to Mrs. Opper, I would suggest that glass beads intended for the West Saharan trade primarily came in through West African ports, at least since the early 16th century.

Chinguetti developed into a city in the second half of the 15th century; therefore, the "late Middle Ages" would be more precise than just "the Middle Ages" for dating it as stated by Mrs. Opper. It is also significant to note that Chinguetti, one-dimensionally described by Opper as a "major relay point for caravans...," is also an important religious center, one of the seven holy cities of Islam. It has the third-oldest African mosque, dating from the 13th century, and is one "meeting point" for western Saharan pilgrims joining the yearly caravans for the *hadj* to Mecca.

Opper's question as to why chevrons can be found in Mauritania when they were also exported to the Americas by 16th-century explorers is odd. Chevron beads are found in many parts of the world from Madagascar to the Philippines (Francis 1993), not only in the Americas and West Africa.

Finally, measurements should have been provided, not just the statement that the melon-shaped chevron was "small." [Ed. note: There was a metric scale in the photograph submitted by Mrs. Opper but it was cropped from the photo to save space; the specimen is ca. 7 mm in diameter.]

## References Cited

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1993 Where Beads are Loved (Ghana. West Africa). *Beads and People Series* 2. Lapis Route Books, Lake Placid. N.Y.

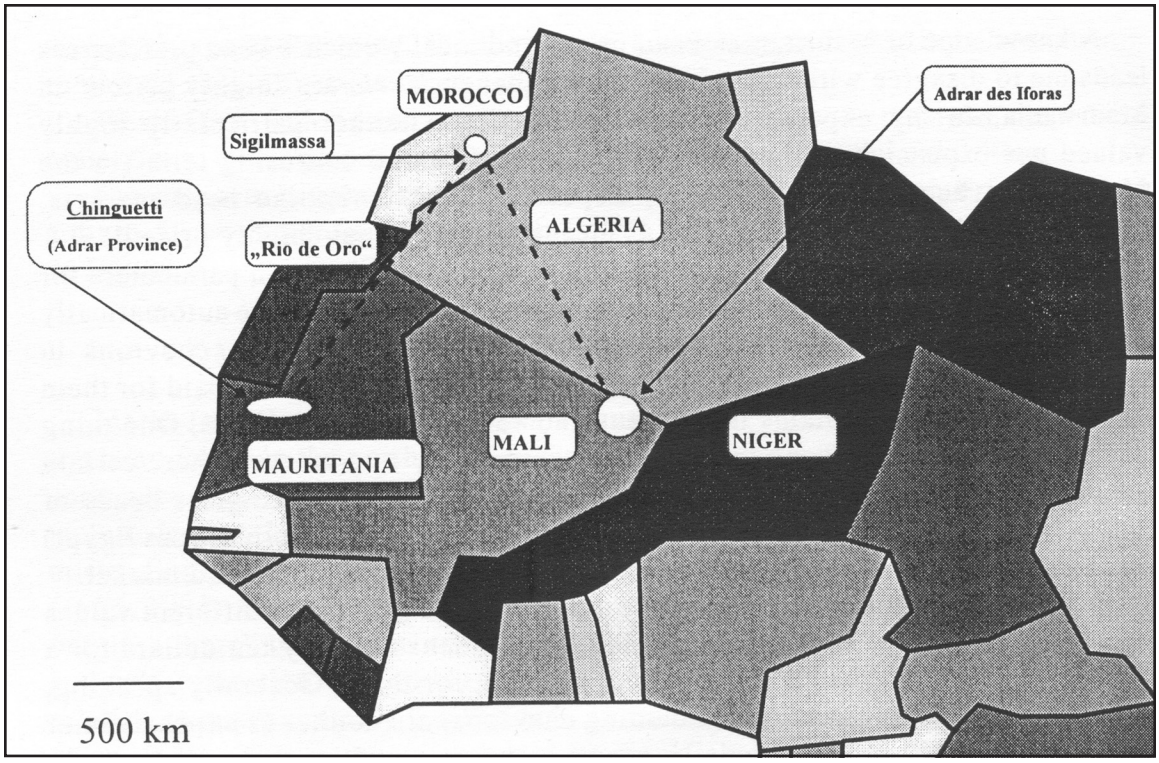


**Figure 2.** Map of West Africa showing the locations of the places and routes referred to in the text (drawing: J. Busch).

**Picard, John and Ruth Picard**

1986 Chevron Beads in the West African Trade. *Beads from the West African Trade Series* 1. Carmel, California.

1993 Chevron and Nueva Cadiz Beads. *Beads from the West African Trade Series* 7. Carmel, California.

## 5. A NOTE ON THE NEUTRON ACTIVATION ANALYSIS OF 16TH- AND 17TH-CENTURY BLUE GLASS TRADE BEADS FROM THE EASTERN GREAT LAKES, by Anne Chafe, Ron Hancock, and Ian Kenyon (1986, 9:13-18)

By the late 16th century, European-made glass trade beads were reaching the Native peoples of the eastern Great Lakes. From this time until the mid-17th century, beads of blue glass were widely traded items, being about as common in regions dominated by the French trade (Ontario) as by the Dutch (New York).

Although there is a wide range of blues observed in the glass trade beads of this period, there are two modal hues. One is a turquoise blue (hue about 2.5PB to 7.5B in the Munsell notation) called "robin's egg blue" in the Kidds' 1970 typological system (bead varieties IIa40, 41, 42, depending on the particular bead form), with some specimens tending towards "cerulean blue" (IIa44), "brite copen blue" (IIa45), and "shadow blue" (IIa46, 47). The second modal blue is a very dark, more purplish blue (about 7.5PB) which is called "brite navy" in the Kidds' system (varieties IIa55, 56, 57, depending on shape). This is the same blue that appears on the outer layer of "star" or "chevron" beads (IIIk3, IIIm1).

Although certain bead types can be used to identify particular time horizons or even European-centered trading zones, the turquoise blue beads (IIa40) have an extremely wide time-space distribution; that is, their presence on a site is not diagnostic. Yet, do these IIa40 beads in fact represent a homogeneous group or are there subtle differences through time or over space? More generally, why do there seem to be two basic colors of blue in these early historic trade beads? Furthermore, why is there a tendency for the turquoise blue glass beads on late 16th-century sites to be found in a highly disintegrated condition? To answer these questions, it seems that we must go "into" the beads, and look at their chemical composition. Other chemical analyses incorporating Great Lakes material have been reported by Karklins (1983) and Lewis (1979).

Consequently, 88 blue glass beads were selected for non-destructive neutron activation analysis using the SLOWPOKE Reactor Facility at the University of Toronto.