AN ODYSSEY IN GLASS:

A SURVEY OF ANTIQUE GLASS PIERCING JEWELRY AND TECHNOLOGY



Text by Jason Pfohl Photography by Victor Mendiola

This article presents a brief look into the 3,500-year-old history of glass piercing jewelry. I will look at specific examples of glass piercing jewelry and attempt to place them within their historical and cultural context. This will give us a pinhole view into an overlooked chapter in the history of glass, and the diverse achievements of non-European cultures that used this unique material for personal adornment.

My survey is restricted to antique piercing jewelry made of glass, primarily ear plugs and ear weights. To maintain the material focus of the article, plugs of other materials with glass inlays and earrings with glass beads have been excluded, with the exception of the Inuit labret, in which the glass takes a central and significant meaning in the piece. I have included obsidian, a natural volcanic glass, but not quartz, which has a crystalline structure. Technically, glass is solid when cold but maintains the amorphous structure of a liquid. Crystalline materials are therefore not considered glass.

The article will discuss five geographical/cultural regions where we find glass piercing jewelry: Egypt, India, Southeast Asia, Mesoamerica, and North America. Other cultures may have used glass piercing jewelry, so this is by no means a complete history. Even within these limits, however, this research does challenge the idea that piercing belongs to "primitive" societies, since the majority of glass pieces presented are the products of civilizations with urban centers, advanced technology and far-reaching trade relations. If tribal societies are assumed to be non-urban, much of the oldest glass jewelry is not tribal. Later, in the 19th and 20th Centuries, expanding trade routes brought glass to prototypically tribal communities in remote areas of India and Southeast Asia, and as far north as the Artic Circle. Although they did not melt glass themselves, local people generally had carving and polishing skills and readily incorporated glass into their existing jewelry and body modification traditions at this time, producing elegant and refined glass jewelry.

The Greek historian Pliny wrote that glassmaking was discovered by accident by Phoenician sailors observing their campfire on the beach. Although in reality, a campfire could not get hot enough to melt the silica in sand, Pliny reported that the sailors learned this secret by watching rivulets of molten glass flow from the fire. In truth, glassmaking developed in several advanced societies with supportive commercial infrastructure, and grew directly out of existing ceramics, metal, and lapidary technology. (Ceramics provided the kilns and chemical experiments with glazes; metalworking provided the moldmaking and casting technology; and lapidary techniques used for carving precious stones were employed to cut and polish the glass.)

As a glassmaker, I find it most informative to analyze manufacturing techniques based on actual glassmaking experience. It is important to

remember that the manufacturing techniques explored here predate glass blowing by at least fourteen hundred years. It was not until the 1st Century BCE that glass blowing (inflating a bubble of hot glass on a pipe) was pioneered by the Syrians. Glass blowing was adopted and industrialized by the Romans soon after – a development that changed how humans viewed and used glass, and that turned it from a magical into a secular material. The fact that body modification has persisted throughout our history, and that ancient glass techniques have been used continually to make piercing jewelry right up until modern times, bespeaks of an old and intimate relationship between human bodies and this material.

There are many difficulties in studying antique glass jewelry. To begin with, there is a problem locating sufficient artifacts to draw meaningful comparisons. Old glass deteriorates over time from long burial. Many of the intact glass artifacts from ancient tombs have been looted and sold on the open market without being documented or studied. These pieces remain valuable as clues but are virtually impossible to date precisely, and their archeological value is thus greatly diminished. When pieces are found and recorded, archeologists and glass historians have commonly mislabeled glass ear plugs as "game pieces" or "furniture knobs."

Accurately dating glass pieces poses particular challenges as well. In India, for instance, the dead were frequently cremated, leaving few large tombs undisturbed for centuries. However, even those scattered artifacts found during excavations can be dated by the age of the soil surrounding them. Also, since the spread of glass technology is fairly well documented, the age of a piece of jewelry can be approximated by studying the available level of glass technology in the geographical area, and the type and quality of glass being used. Unfortunately, this method of dating can be complicated by the fact that glass was often traded not as a finished product, but as a raw material in the form of glass ingots, frit (crushed glass), cane, or cast blocks (Cummings 1980:17). Glass produced in one area could be re-melted on a torch or cast into molds in another region. Blocks of glass from China and Europe were imported into Southeast Asia and carved, ground, and polished into finished ear plugs in the 18th and 19th centuries. Mistaking fake artifacts and reproductions for real pieces is also always a concern, but since glass ear plugs are not widely collected (unlike glass beads), they have not been widely copied.

Despite these obstacles, there are some well documented archeological sites in Egypt, India, and Mexico that allow us to confidently draw some conclusions on the dates of certain glass piercing jewelry. Let us turn to these now.

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Egypt (New Kingdom, 1570- 1070 BCE)

Glassmaking was first introduced in Egypt under the reign of the Pharaoh Thutmosis III (1479- 1426 BCE), and saw its highest development under Amenhotep II (ruled 1427- 1400 BCE). Tutankhamen's exquisite burial mask is made of gold with glass inlays, and his pierced and stretched ears are realistically rendered. Glassmaking in Egypt would collapse at the end of the Bronze Age (c. 1200 BCE), a time of continual war and famine (Batte 1991:18).

Glass technology in Egypt was probably imported from Mesopotamia, where it was invented three hundred years earlier. Because of the deteriorating effects of the humid environment, very little Mesopotamian glass remains today, but cuneiform tablets at the Royal Library at Ninevah describe the working methods used (Cummings 1980:11). The Mesopotamian technique involved first melting glass in crucibles, then mixing it in shallow pans, casting objects in closed ceramic molds and heating for up to ten days. Multiple firings allowed craftsmen to create complex colors, and dipping rods helped them to judge viscosity. Glassmaking was considered a ritual activity and these techniques would have been accompanied by prayers and sacrifice (Cummings 1980:14).

In Egypt the historical predecessor to glass was faience, a pasty mixture of quartz sand and sodium carbonates that was molded like clay before being fired (Savage 1965:6). The Metropolitan Museum of Art in New York possesses an excellent example of a faience ear plug from the 18th Dynasty. The plug has a domed surface on one side with an orange dot in the middle, surrounded by radiating lines in black and white. There are three more colored dots in white and yellow on a dark blue background, and a yellow trail surrounding the whole composition. Another plug with a similar design in glass is displayed at the British Museum (Postel 1989:272-273). The patterns may represent astronomical symbols. The plugs demonstrate the link between

faience and glass, suggesting that ear plugs were among the first objects to be made in glass by the Egyptians. These plugs are also the earliest direct evidence we have of glass piercing jewelry.

Ear expansions were in fashion during the 18th Dynasty Amarna Period (1570- 1354 BCE), which was a prosperous time following the expulsion of the Hyskos tribes from Egypt and the formation of the New Kingdom. Postel suggests that ear expansion came to Egypt from the Harappan culture (2500-1600 BCE) of the Indus River Valley (now Pakistan). This seems likely because ear expansion was previously unprecedented in Egypt and was only practiced for relatively short period of a few hundred years, according to the archeological evidence. Postel also points to the similarity in form between ceramic Harappan ear plugs and the early Egyptian cast faience and glass plugs, all of which feature a convex dome on the front side of a flat-backed plug (1989:274).

Three distinct styles of glass ear jewelry have been found in Egypt. The first examples were large plugs cast in open molds, usually of opaque blue glass with geometric symbols on one side. Later, smaller mushroom-shaped ear plugs came into fashion in a variety of bright opaque colors. These were manufactured on a torch from glass rods, and often featured several colored glass trails fused onto the piece and dragged with a metal rod while the glass was hot, making a "feathered" effect that was very popular. The mushroom shape may represent a papyrus column. The Theban mummies of Sen-nufer and his wife Meryt from the reign of Amenhotep II (1427- 1400 BCE) were found wearing glass ear plugs of this style (Postel 1989:271). The third style of glass earring was formed in the shape of a C, also on a torch. All three styles of Egyptian ornaments feature polychromatic decoration in opaque colors, which was common in ancient Egypt but quite different from the mainly monochromatic and transparent treatment of glass preferred by later cultures.

Indian Subcontinent (500 BCE - 1,100 CE)

India has the longest unbroken tradition of using glass piercing jewelry in the world, and ear piercing and stretching are well documented in Buddhist and Hindu sculptures and scriptures. An amazing variety of jewelry styles developed using a wide range of materials. Glassmaking technology had arrived in Northern India by 500 BCE, and the industry was well established by the Second Century BCE in Kausambi and Achichatra in the province of Uttar Pradesh (Adhyatman 1993:11). With the later expansion of the Roman Empire, Greco-Roman glass artisans settled in Arikamedu in Southeastern India and in Gujarat in Western India. Both became major glass producing centers, exporting glass beads to Europe, Africa, and Asia (Adhyatman 1993:11). One large glass ear plug measuring 52mm in diameter and 19mm in thickness was discovered in Arikamedu and dated to the 1st Century CE. Other excavations in Nasik in Western India uncovered glass expansors in the Mauryan Stratum predating that Arikamedu glass by two to four hundred years! (Postel 1989:48).

The Indians were significant innovators of glass technology, among other things being the first to use diamonds for industrial purposes, cutting and grinding glass from the 2nd Century BCE on (Adhyatman 1993:12).

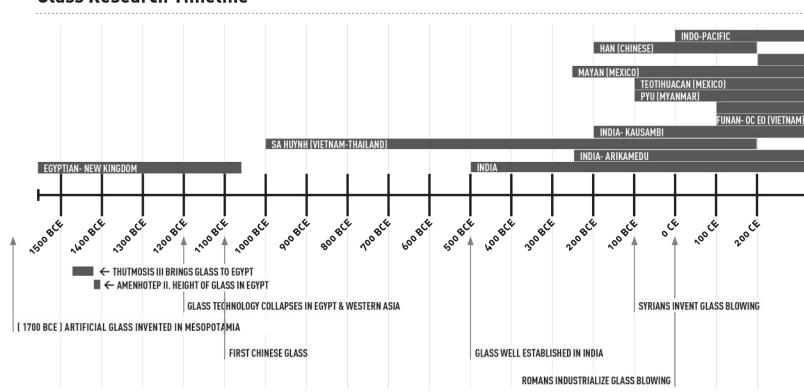
Large glass ear plugs were worn by the nobility in India until the 11th Century and were called tatankacakras (Postel 1989:136). This tradition continues in remote areas of India such as Bihar in Central India, Gujarat in Western India, and Nagaland in the North on the border of Myanmar (Postel 1989:167).

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Southeast Asia

The history of Southeast Asia is a complicated story of cross-cultural exchange and the rise and fall of advanced maritime trading civilizations. Many of these cultures made regional variations of glass piercing jewelry for two thousand years, using a wide range of glass-forming and lapidary techniques. The Sa Huynh and their Cham descendants in Vietnam, the Khmer in Cambodia, the Funan (encompassing Klong Thom in Thailand and Oc Eo in Vietnam),

Glass Research Timeline

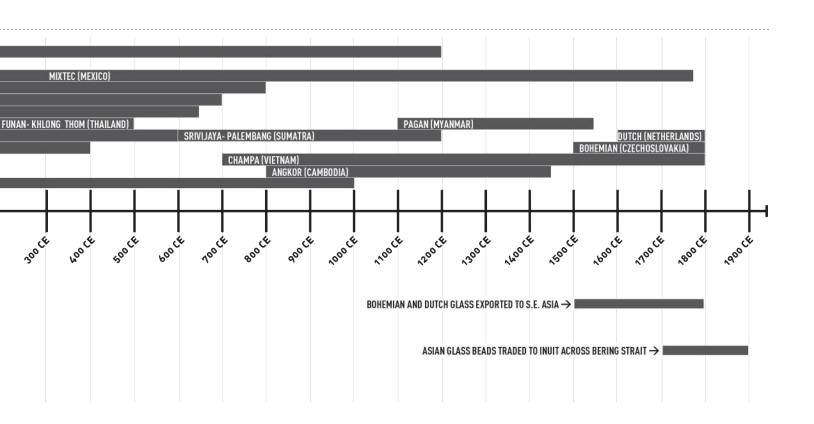




Nagaland, India. Rectangular glass ear weights. Length 48.2mm, height 37.6mm, width 14.6mm. 20th Century CE. Glass is used as a substitute for rock crystal by the Nagas. The portrait below shows an Ao Naga woman wearing glass (taken by Jimmy Buddha in the 1990's). Among the Mongolian Naga or "Naked People" earrings declared the personal status of the wearer. The rectangular tongpang ear weights are worn specifically by Ao Naga women (Cutsem 2001:64).



Indian black glass ear plug with iridescent blue glass interior. Diameter 33mm, thickness 25mm. Mauryan Period, 400 to 100 BCE. The plug is flat on one side, convex on the other, probably cast in an open mold. The surface of the plug is badly deteriorated and pitted from extremely long burial and humidity and accelerated by too many alkalis in the glass formula. The iridescent effect in the blue glass may be intentional, or may be caused by the interaction of the surface of the glass with carbonic acid during long burial (Savage 1965:20). Other cast glass plugs in India have been discovered with radiating lines suggesting sun symbols.



Mantai in Sri Lanka, and Sriwijaya Kingdom based in Palembang, Sumatra, all used and manufactured glass. These islands and peninsulas are rich in natural resources and are the major trade link between India and the Far East. Hindu, Buddhist, Islamic, and animist views overlap and blend together, just as the glass jewelry found there reflects the wide range of styles and techniques employed in Southeast Asia since ancient times. The pages that follow present an assortment of these styles, through which the influence of both trade and migration can be seen.

Although the majority of the examples of Asian glass piercing jewelry presented here are fairly modern, dating from two to four hundred years old, there is ample evidence of ancient glass use in this region of the world, particularly from Sa Huynh archeological sites in Vietnam and Cambodia, dated at over two thousand years old. The Sa Huynh were a culturally and ethnically distinct sea-faring people with a unique style of ornamentation that included hanging ear weights with two-headed animals (lingling-o) carved from glass or stone. The Sa Huynh traded extensively, and Sa Huynh ear-weights have been found as far away as Orchid Island in Taiwan, and Palawan in the Philippines. There is evidence from archeological sites at Giong Ca Vo (present day Ho Chi Minh City) in Vietnam that the Sa Huynh not only possessed advanced lapidary skills, but also melted their own

Glassmaking was considered a ritual activity and these techniques would have been accompanied by prayers and sacrifice.



Cham ear weights, Vietnam. Transparent green glass ear weights. Height 33.4mm, width 24mm, width of loop 5mm. Flame-sculpted on a torch or possibly cast with flameworked details. The ring patterns were made by pressing a metal tube into the surface of the glass when it was hot. The loop was cut and polished later when the glass was cold, to allow the ear to pass. 15th to 19th Century CE.

glass (Francis 1995:9).

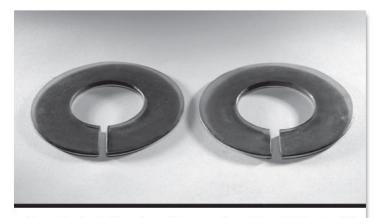
Chemical studies of glass from several Indo-Pacific bead-producing sites in Southeast Asia and India have confirmed that glass was locally manufactured with regional glass formulas as well as imported as a raw material, mainly from Arikamedu, India and re-melted (Francis 1995:3-9). Glass artisans from Arikamedu also emigrated to Oc Eo in Vietnam and Klong Thom in Thailand around 200 CE, bringing



Khmer, Cambodia. Yellow glass ear plugs, flameworked. Length 19mm, width of the head 8.5mm, width of stem 3.5mm. 11th to 16th Century CE. The shape of these mushroom-shaped glass plugs is reminiscent of the glass ear plugs used by the Egyptians a thousand years earlier. The Khmer city Angkor had strong trade ties with Oc Eo (Vietnam) and cultural influences from India and China. Khmer figure sculptures generally feature distended lobes with ear weights (Postel 1989:290), but artifacts like those above are evidence that plugs were also used.



Khmer, Cambodia. Cobalt glass ear weights. Length 28mm, width 23.2mm. 17th to 19th Century CE. The carving and design display a Sa Huynh influence. The form is a classic variation of the split earring evolved from the lingling-o design, also found in metal. These ear weights are fertility symbols representing the female genitals (Cutsem 2001:336). They were carved from a block of glass: first chipped to the basic shape, then ground with abrasive stones to the final form, and the hole for the ear drilled with thin jasper blades in a bow-drill (Adhyatman 1993:12).



Khmer, Cambodia. Blue glass split hoop earrings. 17th to 19th Century CE. Total diameter 10.36cm, width of hoop 26mm, thickness 4.6mm. These dramatic ear hoops are carved, probably from imported glass ingots. They are flat on one side, beveled on the other, becoming thinner and more transparent near the edges. The glass is high quality with consistent color and no air bubbles, making these an extremely sophisticated specimen. The split earring, often referred to as a "split ring," has been fashioned from a wide variety of materials throughout Southeast Asia since Neolithic times. The hoop with the open hole represents fertility and the life-giving powers of women (Cutsem 2001:333).



Thai. Glass split earrings. Transparent turquoise glass, flameworked. Height 27.4mm, length 30mm, width 5.8mm. This is another variation on the split earring representing fertility. The primitive workmanship may indicate that this is an older piece. Klong Thom in Thailand and Oc Eo in Vietnam were important glass-making and trade centers of the Funan Empire (Cutsem 2001:67).



Vietnamese, Sa Huynh. Glass "leech" ear crescents. Dark green transparent glass and lighter green. Large crescent, length 29.7mm, height 26.4mm, width 14.6mm. Small crescent, length 20mm, height 17.7mm, width 10.7mm. The green color indicates high iron content in the glass. Thought to date from the 1st century BCE.

Indian glass techniques with them (Adhyatman 1993:15).

The crescents presented on the bottom left were manufactured in three stages. First the glass was melted and pulled into rods. Then each rod of glass was re-heated on a torch and formed into the basic crescent shape. Finally, after the glass had cooled, the crescent was ground and polished to give it the final form and sharp triangular shape.

The historical movement of materials, ideas and people in Southeast Asia is again demonstrated in the shape and origin of these crescents. Leech designs like these are a common motif of Dayak artwork in Borneo. The Sa Huynh who made these pieces were a Malayo-Polynesian people who migrated from Borneo to Vietnam in the 1st and 2nd Centuries BCE. This piercing jewelry, along with similarities between Sa Huynh burial sites in Vietnam and those in Sarawak (Borneo), are perhaps the cultural and stylistic remnants of common ancestry between the Dayaks and the Sa Huynh.

Next I present a series of glass plugs from Myanmar (Burma), a nation whose history and art clearly reflect the flow of people and ideas across and within geopolitical borders. Myanmar is the largest country in Southeast Asia and includes a wide mix of minority ethnic groups. It shares borders with Thailand and Laos to the South and East, Nagaland and Manipur of India to the northwest, China and Tibet to the northeast, and Bangladesh to the West. The history of Myanmar has been dominated by long periods of war, expansion, invasion, and internal rebellions. The Mon, Pyu, and Pagans all formed major empires, trading with India and China. Kublai Khan and the Mongols then invaded the Pagan Empire in the late 1200's CE. In the 18th CE Century King Alaungpaya established the Konbaung Dynasty and founded the Third Burmese Empire, which would conquer parts of Thailand, and absorb Thai cultural influences. Three Anglo-Burmese Wars were fought in 1824, 1851 and 1885 over territory bordering India. Myanmar was subsequently annexed by British India in 1885, finally achieving independence in 1948. The nation's name was officially changed to Myanmar in 1989 by a military junta, although some Western nations refuse to acknowledge this.

The following collection of Burmese plugs was acquired together and shows a wide range of styles and manufacturing techniques. It is possible that they were manufactured in other parts of Southeast Asia and imported as trade goods. The high quality colored transparent glass used to make some of these plugs was probably produced in Bohemia (Czechoslovakia) or the Netherlands, and imported in cane or block form to Southeast Asia. It is interesting that the Burmese collection is entirely plugs. Other glass piercing jewelry styles in Southeast Asia and neighboring Nagaland tend towards ear weights and split hoop earrings. However, figures in Buddhist sculptures from Pagan temples can be seen wearing large ear plugs.

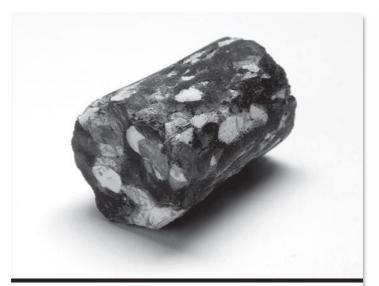
In the 18th Century Europe's center of glass production shifted from Venice to Northern Europe, where glass formulas were improved by adding chalk to the potash flux and adding more lime (Batte 1991:83). Glass bead manufacturing was developed in Europe for export to Africa and Asia. "Dutch Monochromes" were



Myanmar (Burma). Series of glass ear plugs in a range of colors, probably imported Bohemian glass. The largest plug measures 38.8mm length, 24.5mm width at the top, 18mm at the middle. Tubular plug of blue glass measures 18.5mm length, 14.6mm width at the top, and 12.7mm at the middle. 17th to 19th Century CE.

exported to Southeast Asia by the Dutch East Indian Company between the late 16th to 19th Centuries (Adhyatman 1993:86). There is a written account from 1879 of the Norwegian Carl Bock being sent on behalf of the Dutch-Indian government to Kutei and Banjarmasin in Kalimantan with gifts of glass beads for the wives of Dayak chiefs (Adhyatman 1993:89). Similar gifts and trade relations must have existed between the Europeans and Burmese ethnic groups, resulting in such ornamentation as the plugs above.

The small hollow blue plug on the far right is of particular interest. It was made from an inflated bubble of hot glass drawn into a tube that was later cut into sections, ground and polished. This is the only example of a blown glass ear plug in this survey. Although these pieces may have been entirely manufactured in Europe, it seems more likely that they were imported as raw material and then made into plugs in Asia. While Europeans had glassblowing skills at this time, they were not familiar with the form and proportion of this type of jewelry.



Myanmar (Burma). Polychromatic crumble plug. Fused glass, stone, ceramic. 17th to 19th Century CE. Length 32mm, width in middle 20.3mm.

The ear plug on the bottom left stands in sharp contrast to the monochromatic plugs just shown, and is certainly not of European manufacture. It resembles "polychrome crumble beads" that were made in Kalimantan (Borneo) by recycling old glass beads and scraps of glass. Broken glass bits were melted and fused together with crushed stones or ceramics in molds. The texture and devitrification is due to the low heat in the firing kiln. (Adhyatman 1993:73). It is possible that this plug was imported from Kalimantan to Myanmar by European traders.



Myanmar (Burma). Yellow glass ear plugs, possibly Chinese glass. Length 14.4mm, width 11.7mm. 17th to 19th Century CE.

The Chinese also manufactured glass beads for trade to Southeast Asia, trading in particular with the Irian Jaya and Kalimantan. The Chinese were the first to use barium in glass production, and barium was frequently used in Chinese glass until the Tang Period (618-907 CE) (Adhyatman 1993:73-74). Bubbly yellow glass beads from China resembling these plugs and dating to the 17th Century CE were found in Dieng in Central Java (Adhyatman 1993:33).



Myanmar (Burma). Purple and crystal cameo ear plug. Length 25mm, width in middle 12mm. 17th to 19th Century CE. This plug was made of two different layers of hot glass fused together, one transparent crystal and another thin layer of opaque purple. After the glass cooled it was ground to the basic shape of the plug, and the ornamental designs were carved using a lapidary wheel, only leaving the purple dot in the center of the plug.



Myanmar (Burma). Glass plugs imitating amber, 17th to 19th Century CE. Bohemian or Dutch glass. Length 30mm, width at top 20.5mm, width in middle 18.6mm. Glass was often used to imitate stones such as jade and quartz crystal in ancient cultures. In this example glass is used to imitate amber.

Mesoamerica

On the other side of the world from Southeast Asia lived highly sophisticated Mesoamerican societies, whose artisans carved delicate ear spools and labrets out of volcanic glass. Obsidian use in Mesoamerica was ubiquitous among the hundreds of pre-Columbian civilizations such as the Teotihuacános, Zapotecs, Mixtecs, Mayans, Mexicas, and Aztecs, among others. Although these societies did not melt and manufacture artificial glass, naturally occurring volcanic glass was an indispensable part of their

local art, and Mesoamerican artisans developed incredible degree of skill in glass carving and polishing. The archeological evidence reveals sculptures of warriors and shamans with expanded ear lobes, as well as jewelry artifacts of obsidian, jade and quartz crystal, including ear plugs, ear spools and labrets. Piercing was an integral part of many of the bloodletting and other religious ceremonies in Mesoamerica, and some scholars have suggested that obsidian was viewed as the blood of the earth, imbued with spiritual power (Evans 2004).

Sources of obsidian in Mesoamerica are limited and thus can be accurately identified by using neutron activation analysis and X-ray fluorescence to isolate trace elements in the glass. Obsidian hydration dating can determine the approximate age of artifacts. These scientific techniques make it possible to study trade routes involving obsidian throughout Mesoamerica since ancient times. From this evidence it appears that the city-state of Teotihuacán (100 BCE to 700 CE) in central Mexico may have had a limited monopoly on obsidian, and perhaps on carving and polishing techniques as well. Transparent green obsidian from Teotihuacán



Guerrero, Mexican. Obsidian labret. Length 29mm, diameter 18.3mm, width 11.4mm. 15th to 17th Century CE. The lack of high polish suggests it is an older piece.

was a highly prestigious luxury item traded as far South as the Mayan territory.

Mixtec tombs in Oaxaca in southern Mexico have yielded obsidian piercing jewelry from approximately 200 - 1400 CE. The famous Mexican archeologist Alfonso Caso describes three styles of obsidian ear spools in his book, El Tesoro de Monte Alban. During his excavations of Tomb 7 in the hilltop city of Monte Alban, Caso found ten unbroken ear spools and fragments of nine more. He notes that the obsidian ear spools were all made of transparent green obsidian, while all the obsidian knives found in the tomb were made of from gray-black obsidian, revealing that different types of obsidian had different applications. Similar obsidian ear spools were found in other Mixtec tombs in Zaachila and Tzintzuntzan (Caso 1965:152).

The obsidian ear spools found in Caso's

Tomb 7 are a testament to the incredible
skill of these Pre- Columbian carvers.

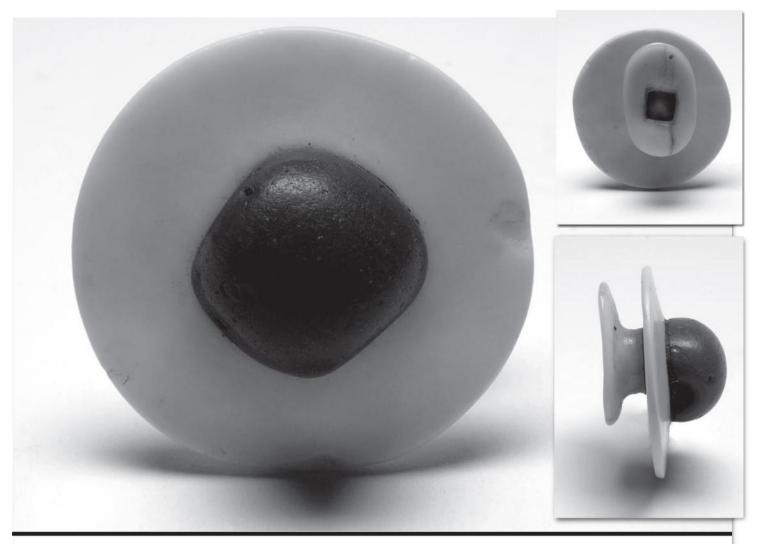
The largest earspool from Tomb 7
measures 54 mm in diameter and only
1 mm in thickness. Another ear spool
measuring 50 mm in diameter is only

[one half] mm thick!

We know the details of Aztec lapidary techniques (1300 CE - 1521 CE) from the writings of Sahagun, a Spanish priest, reported by Caso (1965:137-138). Sahagun described how grinding was done with abrasive rocks, sand and water, and copper tubes were used to drill Polish was achieved holes. with hard wood or copper. The obsidian ear spools found in Tomb 7 in Monte Alban are a testament to the incredible skill of these Pre-Columbian carvers. The largest ear spool from Tomb 7 measures 54 mm in diameter and only 1 mm in thickness.

Another ear spool measuring 50 mm in diameter is only _mm thick (1965:152)!

Since there are no local obsidian sources in Oaxaca, the ear spools from Tomb 7 were either imported as finished goods from Teotihuacán or crafted by a Teotihuacán minority living in Oaxaca Valley. Marcus Winter has perceptively observed that, although obsidian workshops from the City State Era (800 CE -1400 CE) have been found at at least four Oaxacan urban sites, three of the sites are located on the outskirts of town — perhaps so that social outsiders could maintain trade relations without sacrificing manufacturing secrets (Winter 2004:83).



Inuit labret, Norton Sound Alaska. Bone, marine mammal ivory and blue glass bead, probably of Chinese origin, with spruce gum or petroleum pitch glue. Total diameter 40mm, diameter of bead 18.3mm, total width 22.6mm. 16th to 19th Century CE.

North American Inuit

Meanwhile, far to the North in Alaska and Northern Canada, the Inuit began incorporating glass into their piercing jewelry traditions. The Inuit are descended from the older Dorset (c. 600 BCE -1000 CE) and Thule (1000 CE – 1500 CE) cultures. The Thule people had access to trade goods through the Alaskan Inupiaq to the west, who brought Asian products across the Bering Strait. Much later, in the 19th Century, commerce increased with the growth of a major trading area at Barter Island (Kaktovik), and later with the addition of the Hudson's Bay Company trading post in the Mackenzie Delta in 1840. Many more foreign goods, including blue glass beads, found their way into the area. Europeans encountering Inuit at Shishmareff Bay in 1816 observed them wearing blue glass labrets that resembled blue beads seen in Asia (Kotzebue 1821:211). In 1889, however, Stockton described Inuit at Point Hope wearing commercial glass bottle stoppers as lip plugs (1890:197), thus demonstrating the more recent influence of European trade on Inuit body jewelry production.

Inuit women also wore glass labrets. Maurelle is cited as encountering Inuit women wearing glass labrets in Prince

William Sound in 1779 (Thomas 1884:89).

Historically, the Inuit were neither glassmakers nor glass carvers. Their indigenous technologies revolved around hunting, fishing and fur clothing production. What makes the blue glass labrets worth mentioning in this survey is the extreme value and prestige placed on these ornaments and the willingness of the Inuit to incorporate foreign materials (glass) into an older artistic tradition. Blue glass beads mounted in bone or marble labrets were to be worn by the umealiq, the most prestigious whale crew leaders (Spencer 1959:242).

Although each of these labrets features half of a split glass bead, beads were never broken intentionally; they were too valuable. Only after a glass bead split by accident was it glued onto a disc of bone or white stone using seal oil, blood, spruce gum or petroleum pitch (Rubin 1995:186). The bone discs were carved with square posts on the back, which were then fitted from behind with a piece of walrus or whale ivory. Such labrets were called tootuk or tutu by the Inuit.

The Inuit acquired piercings in puberty and initiation ceremonies, and subsequently worn jewelry denoted age and

This research does challenge the idea that piercing belongs to "primitive" societies, since the majority of glass pieces presented are the products of civilizations with urban centers, advanced technology and far-reaching trade relations. If tribal societies are assumed to be non-urban, much of the oldest glass jewelry is not tribal.

status. Labrets were usually worn by men in lateral pairs, with a hole underneath each corner of the mouth. This placement may have marked a sympathetic connection between the Inuit hunter and the walrus. A pair of these labrets with glass insets was of equal value to an umiak, a large whaling boat (Spencer 1959:156). As the hunting culture waned with the arrival of Europeans and the decimation of whale and caribou populations, the traditional practice of wearing labrets also disappeared.

Conclusions

What I have tried to do in this survey is demonstrate the diversity and complex history of glass piercing jewelry. From the evidence so far uncovered, several conclusions can be drawn. It is clear that glass has been shaped into piercing jewelry for at least 3,500 years through a wide range of manufacturing techniques. Non-European cultures have had advanced glassmaking processes and locally meaningful artistic traditions for much of this time. Complex trade routes and cultural influences contributed to the spread of glass piercing jewelry and production technology until they permeated both urban and rural societies the world over. Many diverse cultures incorporated glass into their jewelry traditions, adjusting and embellishing imported ideas and materials to create distinctive regional variations that served their own needs.

Although this survey is by no means comprehensive, it can serve as a departure point for consideration of how tracing a material (glass) and a practice (body ornamentation) through time and across continents reveals the interconnectedness of distant cultures and peoples, both with one another and with us today. Ancient history becomes relevant in the face of the continuing globalization that seemingly sweeps away old traditions worldwide. By remembering the contributions and cross-development of earlier peoples, we can give modern piercing heritage and the past continuity.

I would like to thank all the people who helped with this article. Erica Skansen did the first major edit and was extremely helpful with sharing her knowledge and resources. Jimmy Buddha and Paul King gave feedback and encouragement. The wonderful photo of the Naga woman wearing glass ear weights was taken by Jimmy Buddha. Victor Mendiola took time out of his busy schedule to photograph the collection for me. Megg Mass did the final edit to make the text more readable. James Weber encouraged me to write the article in the first place, and was supportive from beginning to end. And a very special thanks to all the unknown glass artists who made the beautiful glass jewelry featured here.

References:

- Adhyatman, Sumarah. Beads in Indonesia. Jakarta: Djambatan. 1993.
- Batte, David. Sotheby's Concise Encyclopedia of Glass. London: Conran Octopus Limited. 1991.
- Caso, Alfonso. El Tesoro de Monte Alban. Mexico: Antropologia e Historia.
 1965.
- Cummings, Keith. The Technique of Glass Forming. London: B.T. Batsford Limited. 1980.
- Francis, Peter. "Beads in Vietnam: An Initial Report". *Margaretologist 8*. 1995.
- Postel, Michel. Ear Ornaments of Ancient India. Bombay: Franco-Indian Pharmaceuticals, Limited. 1989.
- Rubin, Arnold, Ed. Marks of Civilization. Los Angeles: Museum of Cultural History, University of California. 1988.
- Savage, George. *Glass*. Hong Kong: George Weidenfeld and Nicholson Limited. 1965.
- Spencer, Robert. The North Alaskan Eskimo. Bureau of American Ethnology Bulletin. 1959.
- Stockton, Charles. The Artic Cruise of the U.S.S. Thetis in the Summer and Autumn of 1889. *The National Geographic Magazine* 2, 1890.
- Thomas, Cyrus. Labretifery. 3rd Annual Report of the Bureau of Ethnology, Washington: GPO, 1884.
- Van Cutsem, Anne. A World of Earrings: Africa, Asia, America. Milano: Skira Esitore S.p.A. M. 2001.
- Von Kotzebue, Otto. A Voyage of Discovery into the South Sea and Beering's Straits in the Years 1815-1818. 3 vols. London. 1821.