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A SURVEY OF BEADS
IN KOREA

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TABLE OF CONTENTS

FOREWORD	1
INTRODUCTION	3
SECTION ONE: THE PREHISTORIC PERIOD	5
The Upper Paleolithic	5
The Neolithic Period	6
The Bronze Age	8
Development of the <i>Gokuk</i>	9
SECTION TWO: THE THREE KINGDOMS	10
King Muryong of Kongju	11
The Treasures of Kyongju	12
The Trade in Beads	13
Beads Made in the Three Kingdoms	16
Beads and the Social Order	20
SECTION THREE: THE UNITED SILLA AND KORYO PERIODS	22
SECTION FOUR: THE YI DYNASTY	23
Beads and Yi Costume	26
Beads and Buddhism	29
Summary	30
SECTION FIVE: THE MODERN PERIOD	31
SECTION SIX: FINAL REFLECTIONS	35
BIBLIOGRAPHY	36
INDEX	41

ILLUSTRATIONS, CHART, AND TABLE

Chart of Korean History and Bead Development	ii
Map of Korea	4
Table One: Analyses of Glass Cullet from an Old Silla Kiln, Kyongju, Korea	18

Plate One: Neolithic Beads

Plate Two: The *Gokuk*

Plate Three: The Top-hat and Associated Beads

Plate Four: Special Uses of Beads

Chart of Korean History and Bead Development

<i>Dates</i>	<i>Major cultural events</i>	<i>Effect on beads</i>
ca. 20,000 B.C.	Upper Paleolithic, appearance of modern humans	Unsubstantiated claims of even older art; deer phalanges, perforated
pre 5000 B.C.	Mesolithic	No evidence.
5000 - 2000 B.C.	Neolithic; pottery, agriculture, villages	In North: use of jade, first cylindrical beads
2000 - 200 B.C.	Bronze Age-- first metals; date in dispute.	No bronze ornaments. Zinc alloying. Development of <i>Gokuk</i> .
200 - 50 B.C.	Chinese provinces in northern Korea	First (Chinese) glass beads. Pearls and jade exported to China. 193 BC, top-knot introduced.
57 B.C. - A.D. 668	Three Kingdoms; wide-spread prosperity. 537 Buddhism introduced.	Beads very important. Gold mining celebrated. Many imported beads. Glass making developed for making <i>gokuk</i> . Early sumptuary laws.
668 - 1392	United Silla (to 918) and Koryo Period	Continuation of Three Kingdoms fashions; not many specifics.
1392 - 1910	Yi Dynasty; major Chinese influence. Reactionary, "The Hermit Kingdom."	Arts lost royal patronage; develops "people's art. Dress heavily regulated. Coin charms. "Underground" Buddhism.
1910 - 1945	Japanese annexation.	Early reforms failed; Glass bead industry begun by Koreans who learned in Japan.
1945 - present	Independence; Civil War. Prosperity in the South.	Jewelry an important export. Japanese begin farina bead industry.

A SURVEY OF BEADS IN KOREA

Peter Francis, Jr.

Foreword

The Korean Bead Study Project was undertaken from 1982 to 1984. The project involved a research tour to Korea, which allowed for the study of beads in Korean museums and other institutions. While in Korea it was my privilege to serve as a representative of the Society of Bead Researchers.

This survey is only an introduction to beads in Korea. The field of bead research is still quite new, and no work on Korean beads has been done previously. Korean archaeology and related disciplines are also young. The first scientific excavation in Korea was conducted by S. Yagi of Tokyo Imperial University in 1908 [Sekino 1931:12]. As another example, the lack of a comprehensive geological survey for Korea limits our knowledge of the origins of bead materials, some of which have been used in Korea for centuries or even millennia.

Other factors make this survey less than comprehensive. The current political situation reduces information from North Korea as well as our ability to compare Chinese examples. My own shortcomings, beginning but not ending with ignorance of the Korean language, are also freely acknowledged.

Despite these handicaps, it is time to begin a study of Korean beads. It is hoped that this small contribution will serve as a point of reference for future work and spark interest in this subject.

Before thanking the many people who have contributed to this work, two aspects of the Korean language which are generally unfamiliar to non-specialists should be noted. Korean personal names have three parts: the family name is always written first, followed (in no order; sometimes hyphenated, sometimes not, and sometimes joined) by the personal name and the generational name. Some other Oriental societies (China, but not Japan) follow the same system; it is employed here. Secondly, Roman letters cannot precisely indicate Korean pronunciation and two transliteration systems are commonly used: the Ministry of Education's and the McCune-Reischauer system. This results in different spellings in English of the same word, such as Chi/Ji, Bark/Park, Lee/Yi, Daegu/Taegu and Eun/Yun.

The Korean Bead Study Project could not have been undertaken without the support of many people who arranged for the tour, provided information for the project, and freely gave of their time and talents to help make it a success. It is with great appreciation that I acknowledge their help.

First credit must go to Elizabeth Harris of the Society of Bead Researchers (SBR) and the Bead Society of Los Angeles (BSLA), without whose initial inspiration and constant encouragement the project never would have even begun. The Korean Culture Center of Los Angeles generously helped locate information. Gabrielle Liese of the Bead Museum and the Arizona Bead Society, Ken Howell and Albert Summerfield of the Northwest Bead Society, Vonda Lee Adorno of the BSLA, Bettjann Ronis-Raeburn of the Washington D.C. Bead Society, Robert Liu of the SBR, BSLA and *Ornament*, Karlis Karklins of Parks Canada and the SBR, and the Rev. Dr. Peter and Mrs. Francis of Lake Placid all materially contributed to the advance preparations for the tour.

In Korea especial thanks goes to Bong Hyong-Jong who sacrificed both time and energy to help me find and communicate with modern beadmakers. Han Byong-Sam of the National Museum in Kyongju, Ji Gon-Gil of the National Museum in Seoul, Lee Kang-Seung of the National Museum in Puyŏ, Mr. Eun of the King Sejong University Museum, Sue J. Bae of the Royal Asiatic Society, Mr. Kim of the National Museum of Kongju and his staff, and the staff of the National Folklore Museum in Seoul were all most generous in answering questions, permitting examination of their material, and taking an interest in the investigations. For information on modern Korean beads I am indebted to Park Che Chun, Kim Jae Eun of the Young Shin Company, Park Bong Hee and Chun Buyong Do.

INTRODUCTION

The unique geographic and historical positions which distinguish Korea have long been responsible for its independence. Although continually influenced by China, Korea has always remained an autonomous center of Oriental culture.

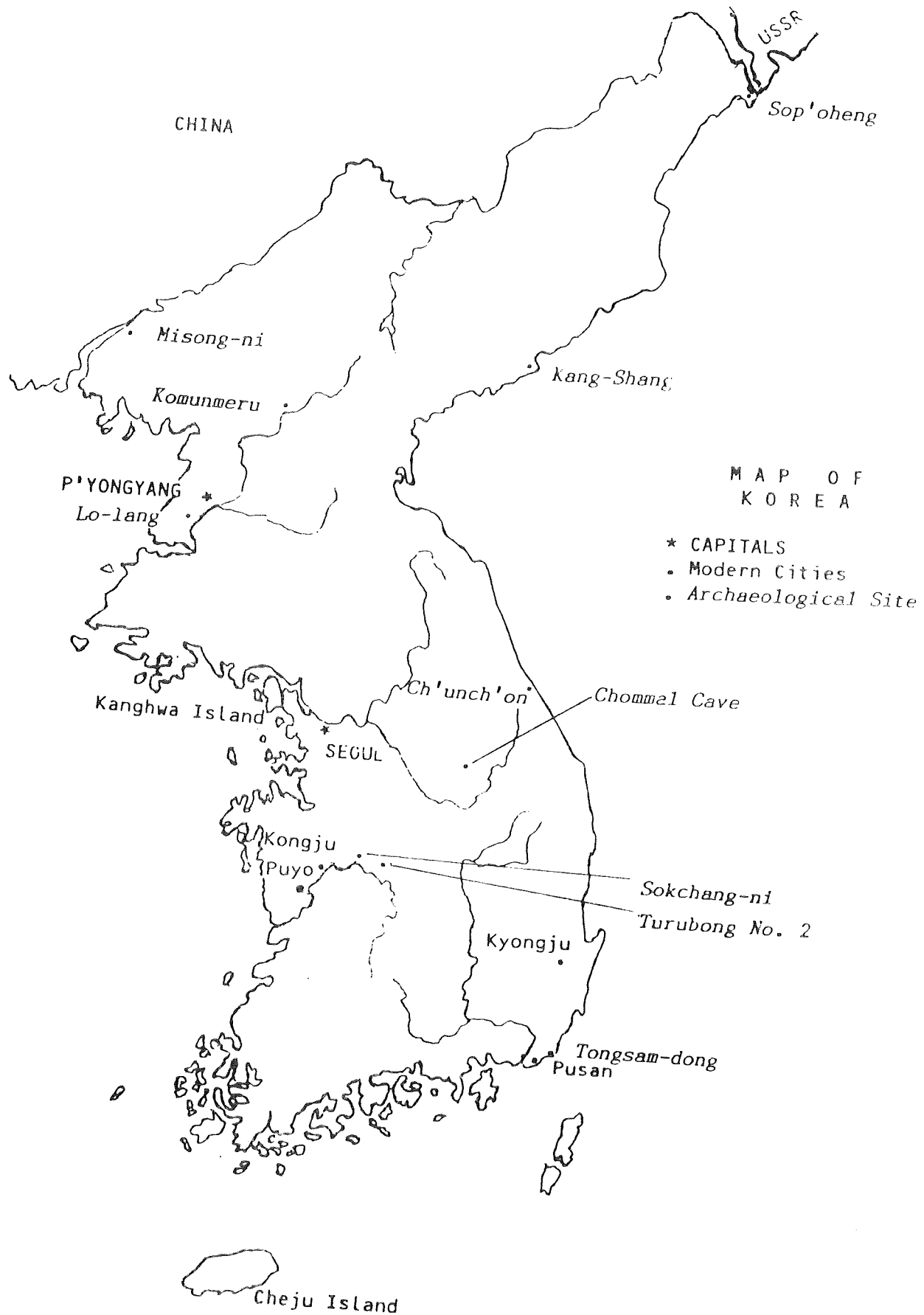
The Koreans are ethnically related to north-central Asians: Siberians and Manchurians. Their language is generally considered an Altaic (or Ural-Altaic) tongue, although this is not universally agreed upon [Pei 1949:30, 370]. The Republic of Korea (South Korea), with which we shall be primarily concerned, has an area of just short of 100,000 square kilometers, about the size of Portugal or Guatemala. It is among the most populous nations on Earth with some 40,000,000 people. The capital of Seoul ranks as one of the world's ten largest cities with more than 8,000,000 inhabitants.

In 1392, the reactionary Yi (Lee) Dynasty was founded, steeped in Chinese Neo-Confusianism. In their extreme conservatism the Yis shut their country off from most of the rest of the world and for centuries Korea deserved its title, "The Hermit Kingdom."

This lasted until Korea was rudely opened up to the modern world when the Japanese annexed the peninsula. The new masters instituted many reforms, including the introduction of archaeology. Most Japanese excavations in the colony were technically faultless, but their interpretations nearly always reflected Japanese cultural imperialism [Sansom 1929:5]. To their credit, however, the Japanese did conduct the first archaeological surveys, establish museums, and initiate the protection of cultural properties in Korea [Sekino 1931]. Korea was not liberated until the end of World War II, and soon thereafter was plunged into a bloody civil war of its own.

We mention these events to point out why it was not until the mid-1960s that Korean archaeology, practiced by the Koreans themselves, developed. Since then many of the myths perpetuated by the Japanese have been put to rest. There has also been a growing sophistication among the Japanese, who now realize that many of their cultural roots lie in Korea, resulting in considerable current interest in Korean art and archaeology in Japan.

Though of great importance to bead studies, archaeology is only one discipline which contributes to an understanding of beads. Other fields have also been drawn upon for this survey. Antiquarian interests of the last century have developed into the study of Korean art history. Several ethnographic collections, often rich in late Yi material, have been founded in Korea. There is also a thriving modern Korean bead and jewelry industry producing a wide variety of beads from a number of materials. Each of these have provided valuable data for our study.



SECTION ONE:

THE PREHISTORIC PERIOD

The Upper Paleolithic

It is generally agreed upon by prehistorians that the first objects of art were produced only by fully modern man, *Homo sapiens sapiens*, in the early Upper Paleolithic (the Late Old Stone Age), beginning about 40,000 years ago. Although claims of earlier ornaments in Europe have been made [Ballet 1917; Beck 1929:252; 1933:32], they have been rejected [Brown 1932:34] or refuted [Oakley 1965:15-16]. Only the earlier use of ocher for painting the body has many supporters [Edwards 1978; Wreschner 1980]. Studies in India confirm the European model of no art forms prior to the Upper Paleolithic [Francis 1981].

Consequently, the first issue that confronts us is the antiquity of Korean beads because extremely ancient examples of ornaments and other art objects have been suggested for Korea. These would date as far back as the Lower Paleolithic (Early Old Stone Age) more than 100,000 years ago and the Middle Paleolithic (Middle Old Stone Age), which ended about 40,000 years ago, the latter associated with Neanderthaloids.

These claims are pressed by Yi Yong-jo, who has reported art objects from Chõmmal Cave in the Lower Paleolithic, including perforated animal bones and small animal figurines [Yi 1982:40]. With material that he dates to the Middle Paleolithic Period he was quite explicit as to the antiquity and the uniqueness of what he has found at some cave sites:

The inhabitants of this period made portable art works which have never [before] been reported [elsewhere] in the world. Excavated art objects were the figures of human faces, fish, birds, bison, priscus, and pendants. They provide us with important sources of information about the way of life and beliefs of the period. They offer valuable clues to the overall interpretation of the Middle Paleolithic culture.

[Yi 1982:42]

More recently Yi has excavated Turubong Cave No. 2 and claims to have found sculptures in the round and pecked and engraved figures. He also reported 180 pendants of Cervidae phalanges (deer toe bone) perforated with an "eyelet," 135 of which well trimmed, most of which were made from the first or third phalange. This apparently conscious choice of material suggested to Yi that these pendants were part of a deer cult. There was also a perforated monkey mandible (*Macaca robustus*, reported as *Macana robustus*), but there were no pendants of tooth or shell [Yi 1983:26-7]. It is not clear when Yi dates Turubong Cave; only the word "Paleolithic" was used in the paper cited.

Similar reports of ancient art objects, though of a later date, have been made by Sohn Pow-Key (Song Po-gi). He found "engraved objects" and "chipped animal figures" at Sŏkchang-ni (Cave), whence he obtained a radiocarbon date of $20,830 \pm 1880$ B.P. (20,760 to 17,000 B.C.).

These claims have not been universally accepted. Kim Wŏn-yong has commented on the finds from Turubong 2 Cave:

Yi's efforts to reconstruct the lifeways of a particular paleolithic community should be encouraged as a methodological contribution. His claim, however, of the discovery from the cave of mobile art pieces such as scratched or pecked bone or stone resembling human and animal features, appears to be a hasty observation like the case of Song Po-gi, his teacher, with Sŏkchangni site.

[Kim 1981:25]

If Yi's claim of great antiquity for art objects in Korea were to be substantiated, it would force a reexamination of many assumptions about human development. There is nothing inherently wrong with this, but the burden of proof lies with those who claim extreme age for their finds.

Even if we remain skeptical about assigning a Lower or Middle Paleolithic date to this material, we still have evidence of early art objects from the Korean Upper Paleolithic. The date for Sŏkchang-ni is well within this period, as may be Turubong No. 2. Though Kim may be correct in saying that nonartifacts were hastily assessed as engraved or pecked art works, it seems less likely that 180 perforated deer bones (whether part of a deer cult or not) could have been mistaken.

In that case, Yi has uncovered the earliest ornaments yet found in Korea. These phalange pendants are similar to ornaments used by contemporary humans elsewhere in the world. Little more may be said on this point at present; we look forward to a future detailed examination and the publication of this material in full.

Following the Upper Paleolithic, from about 20,000 to 5,000 B.C., there is a hiatus of settlements during what would be the Korean Mesolithic, or at least there is a gap in our knowledge of them. This may be due to sea level changes, and Mesolithic sites might be under water. Conversely, the peninsula may have been partly or completely abandoned during this period; we do not know [Pearson 1980:15; Kim Wŏn-young 1981:26]. Because of this lacuna, we lack material with which to compare Korean Mesolithic ornaments from elsewhere [Francis 1981a].

The Neolithic Period

The Korean Neolithic, like the Neolithic elsewhere, ushered in revolutionary changes in the lives of the people. Here was the beginning of village life based on agriculture and the introduction of many crafts, including pottery. Innovation also extended to personal adornment.

The best dated Neolithic ornaments come from Tongsam-dong near Pusan in the far south. Radiocarbon dates for the site range from 6530 B.P. to 4600-4750 B.P. (4580 to 2650 or 2800 B.C.) [Lee 1978:35]. Imported shell artifacts and perforated animal canines which "appear to have been used as pendants" were found there [Kim Jeong-Hak 1972:44]. Also in the south is a Neolithic cave dwelling near Ch'ungch'on in which "one partly perforated tabular bead of agate" was uncovered; no radiocarbon dates are available yet for this site [Kim Wŏn-young 1964:16].

However, the most important evidence for Neolithic Korean beads comes from the northern part of the peninsula. Work during the last few years has uncovered a number of early beads and the first hints of indigenous Korean fashions: the use of jade and the fondness for long cylindrical beads. A tiny white jade bead (16 x 7 x 4 mm.) and a large cylindrical bead of unidentified stone (3.7 x 1.9 cm., with a bore only 3 mm. wide) were found in the cave of Misong-ni. The tiny jade bead was uncovered in the lower level and the cylindrical bead from the upper stratum [Henthorn 1966:75-6].

The largest and most varied group of Korean Neolithic ornaments comes from the shell mound at Sop'oheng, near Unggi station, close to the Soviet border. This included a cylindrical bead of nephrite jade and "some carved items which seem to have been amulets or talismans" [Henthorn 1968:4].

At Sop'oheng within a living area, dog and pig teeth pendants were found, as well as shell pendants which were carved to resemble teeth. There were also bangles of shell and clay, and finger rings of shell or pumice and clay. Most of the clay ornaments were so poorly preserved that they could not be properly evaluated. However, one cylindrical clay bead was estimated to have a length of three to five (or perhaps 3.5; the text is unclear) cms. There were also eight small jade and marble rings which may have been sewn onto clothing [Ibid.:6, 10].

The most unusual ornaments from Sop'oheng were five long carved bone pendants. (Figure 1) These are regarded as female representations; the one with the square head certainly looks anthropomorphic. Henthorn noted that on the figure on the upper left, "lines had been carved on the breasts on both sides giving them a wrinkled appearance" [1968:14], though for the other two figures he refers to "wings" rather than "breasts." [Ibid.:15; see also Eckhardt 1969:56-7].

A "kitchen mound," which was likely a Neolithic shell midden, near the Amur River in the far north, was investigated in the last century. Ornaments found there were made from animal teeth, an animal knee bone, animal hip bones, and tusks, the latter including one pendant shaped like a dagger [McGowan 1892:256].

To summarize the Korean Neolithic, we have more information on beads and other ornaments from the North than from the South. The only Neolithic beads in the National Museum in Seoul are faceted ones made of quartz, no doubt imports [Ji 1983]. Much more needs to be learned about this period; it would be interesting to know about the function of the unique female bone pendants. As far as the evidence takes us at the moment, the use of jade and the development of the long cylindrical style for beads were innovations which began in what is now the People's Democratic Republic of Korea (North Korea).

The Bronze Age

The Bronze Age marks the beginning of the use of metal. As such, it is an important phase in the histories of all people. There are still unanswered questions about the origin of the Korean Bronze Age. In the early twentieth century the Japanese believed that Korea had no Bronze Age independent of China. This has since been disproven, and it is now generally agreed that bronze was introduced by the Yemaek Tungus, an Altaic people from the north, who learned the technology from the Chinese, brought it into Korea, and assimilated with the Neolithic Koreans [Kim Won-young 1981:31]. Controversy exists over the dating of this period. North Koreans put its beginning at 2000 or 1500 B.C., while South Koreans do not date it any earlier than 1000 or 700 B.C. [Henthorn 1966:78; 1968:1; Kim Won-young 1981:31].

After the Koreans began to make bronze they achieved a remarkable technical accomplishment: alloying copper with zinc. Zinc boils and begins to evaporate at a temperature below that needed to melt copper, making it difficult to alloy the two metals. The earliest Korean bronzes contain significant amounts of zinc, which distinguishes them from Chinese bronzes, and the use of zinc continued into the Three Kingdoms period; some objects in the Flying Horse tomb have so much zinc that they are best classified as brass. Not only is this a technological feather in Korea's cap, but it also strongly suggests that the the Japanese originally got their bronze from Korea, not China [Jeon 1976:34-38].

Strangely, bronze was rarely if ever used for ornaments in Korea. Horse trappings, daggers, and mirrors (apparently developed from buttons) were common, but human ornaments are lacking, though they were frequent in contemporary adjacent cultures [Kim Jeong-Hak 1972:171-77].

The earliest Bronze Age material comes from stone cist coffin graves near Kang-Shang, which contained as many as 771 beads, eight pendants, two shell pendants and several stone rings; unfortunately no more details are available on these in Western languages [Ibid.:164].

The important developments we noted in the North Korean Neolithic--the use of jade and the long cylindrical beads-- are first recorded in the South in the Bronze Age. Whether this reflects the chronology of these developments or the patchiness of Korean archaeology is a question yet to be answered.

The earliest jade beads found in South Korea are two of cylindrical shape excavated from a dolmen on Jung-lo Island [Ji 1983]. They are very well made of light green jade. They measure 1.48 x .49 cm. and 1.40 x .49 cm., and were drilled from both sides. The regularity of their bores suggests a mechanized drill, probably powered by a bow [pers. invest.].

Similar "pipe-shaped ornaments" of amazonite (green microcline feldspar) were found in a dolmen at Ch'unjin-dong [Kim Jeong-Hak 1972:69]. Others made of glass were found at Nangmin-dong, but are apparently as late as the first century B.C. [Ibid.:111].

Development of the *Gokuk*

The most important bead developed in the Bronze Age is a distinctive pendant called *gokuk* in Korean, but more widely known by its Japanese name, *magatama*, or "crooked bead." It is shaped rather like a comma or cashew nut with a perforation through its "head." This Korean-Japanese ornament has received considerable attention from scholars, especially regarding its origin. It is usually thought to resemble animals or animal parts: teeth [Umehara 1926:32; Maesan 1972; Taddashi 1982] or shellfish or grubs [Blair 1976:52]. Kunz pointed out that the central design of the Korean flag resembles two combined *gokuk* [1913/1971:265].

A recent study of the *gokuk* suggests that it is a lunar symbol which may be traced through the Bronze Age [Han 1976; 1981:116; 1983]. In Han's view the ornament began as a half-circle pendant with two perforations (I have labeled this Type A), was replaced by a crescentric pendant with a "bite" taken from the straight edge and a single perforation (Type B), and then developed into the true *gokuk*. (Figures 3, 4)

Type A and B pendants were made of amazonite, while jade is used for the fully developed *gokuk*. A necklace with a Type A pendant and 33 other beads was uncovered *in situ* at Chang chia chia tzu [Han 1976:221; fig. 8; Taddashi 1982:195, fig. 5]. Type B pendants are very common at some sites; at Koejong fifty-odd were found [Kim Jeong-Hak 1972:133].

Examples of Type A and Type B pendants were examined in the National Museum, Seoul. A semicircular Type A pendant uncovered at Yoanghung-yi in North Korea, dating from the early Bronze Age, measures 4.05 x 2.53 cm. and is 0.92 cm. thick. It appears to have been drilled with a hand-held drill, as the bore is "wobbly" [Semenov 1964:18; Gorelick and Gwennitt 1981:24; 1983:383]. A crescentric Type B pendant from a west coast late Bronze Age cist tomb at Namsong-ni was nearly the same size as the first example: 4.0 x 2.2 cm., but was more swelled on the curved side with a thickness of 1.5 cm. The drilling is regular and may be ascribed to a bow drill. This specimen has a misplaced drill spot on one side, which may have been due to being drilled before it was shaped as Ji [1983] suggested, though this is an unusual beadmaking practice.

Han's theory that the *gokuk* was a lunar symbol fits the sequence of these pendants well and explains why the tooth-like forms usually associated with the *gokuk* appear late rather than early. It also suggests that the color green may have had some special relationship with this symbol because both amazonite and the jade which replaced it (as well as green glass in later times) were closely associated with the pendants. The development of the *gokuk* appears to have been Korean, with the Japanese borrowing their *magatama* from them. However, there is no explanation of why the two holed pendant lost a hole and came to hang at a 90° angle from its original position.

In conclusion, bead development during the Bronze Age was important for several reasons. We see the transition from hand-held to mechanically driven drills, and the development of the *gokuk*, which remains an important Korean ornament to our day. The use of jade increased as it replaced amazonite. There is also a striking absence of the use of bronze for ornaments. Some of these are developments of the Northern Neolithic, though they are currently better documented in the South.

SECTION TWO:

THE THREE KINGDOMS

Korea's written history began with notices in Chinese Han Dynasty works (B.C. 206 to A.D. 220). The Hans controlled much of northern Korea, and divided it into four provinces known in Korean (or Chinese) as Nangnang (Lo-lang), Imdun (Lint'un), Hyundo (Hsüant'u) and Chinpun (Chenfan). At the capital of Lo-lang Japanese excavations near modern P'yöngyang uncovered plain blue glass beads and rings, among many other treasures. As a result of this work it was confirmed that the spool-shaped glass objects, sometimes called "capstan beads," were reels to be worn dangling from the ear or through the ear lobes [Blair 1951:402].

Chinese control over Korea was minimal, and local affairs were usually handled by the Koreans themselves. By the first century B.C., three indigenous Korean kingdoms had emerged. Though independent of China, they all maintained steady relations with their large neighbor.

The earliest of these was Silla (pronounced *Shilla*) in the south-east with its capital at Kyongju, founded in 57 B.C. The north was dominated by Koguryö, with several capitals, established in 37 B.C. In the southwest was Paekche, founded in 18 B.C. with capitals near Seoul and at Kongju and Puyö. The Three Kingdoms, especially Silla, enjoyed long periods of prosperous growth. The Chinese received luxury goods from them: red jade from Suksin and pearls through Koguryö [Osgood 1951:221, 226; Weems 1962:39].

Ancient Korea was famous for its gold. It is not known when gold was first worked there, but it was no doubt before the first century A.D., and perhaps earlier than 1000 B.C. [Mills 1916:5]. Goldsmithing may have been brought by the Yemaek Tungus. The Chinese recorded that the Mahans (a southern tribe eventually conquered by Paekche) cared for neither gold nor silver but wore tattoos [Weems 1962:29-30]. The first Western reference to Korea is by the ninth century Arab geographer, Khordadbek, who said, "What lies on the other side of China is unknown land. But high mountains rise up densely across from Kantu. These lie over in the land of Sila [*sic*], which is rich in gold." [Mills 1916:8]

The wealth of the Three Kingdoms is evident from finds in the royal tombs of Silla and Paekche. The first of these was discovered in 1921 when a policeman saw children gathering glass beads at a construction site in Kyongju and later noticed gold sparkling in the soil. He alerted the authorities, and the Japanese excavated the tomb. It was spectacular. A body wearing a gold crown and a gold girdle, as well as other gold jewelry, and an estimated 20,000 glass beads were uncovered. The "Gold Crown Tomb," as it was named, put Korea on the archaeological map of the world [Umehara 1926; Kim and Kim 1966:176-88].

Other exciting finds followed in Kyongju and later in Kongju, where King Muryong's tomb was excavated. Besides gold and silver, beads of carnelian, rock crystal, jade, amber, jet/coal, pottery, and glass were found. All in all, this is a relatively small range of materials and indicates a careful selection of bead materials.

King Muryong of Kongju

Our discussion of Three Kingdom beads will begin with the two tombs of King Muryong (or Munyong) and his queen. As a powerful Paekche ruler he could afford the best in ornamentation; his tomb is so rich that a museum was built in Kongju just to house it. We have precise dates for him, which is often not the case with the more numerous Silla tombs. Muryong's reign began in 501, he died in 523, and was buried in 526. His queen died in 526 and was buried in 529 [Kim and Pearson 1977:306].

The mineral beads among Muryong's treasures included seven jade *gokuk*. Four had gold caps decorated with bezels or "hoops of granulation" which probably held small beads, colored glass, or stones [Han 1973:107]. There was but a single cylindrical carnelian bead in Muryong's grave; it had been grouped with the amber beads until my inspection, as it closely resembles amber and had been mistaken for it.

The only other mineral bead in Muryong's tomb was a hexagonal rock crystal bicone with a blue-green glaze, probably done by adding copper and alkali to the surface and heating it. It is small and had gone unnoticed, strung along with the glass beads. Its significance lies in the distribution of glazed quartz beads, known from before 2200 B.C. in Egypt and Mesopotamia [Beck 1935:19], found later in the Roman-Arab period of Egypt [Dray and Myers 1946], early historic India [Beck 1941:11-13], and at about the same time in Persia, where this particular shape appears to be most common [pers. observ.]. Persia is not an unlikely origin for this bead, mute witness to far-flung trade.

"Amber" beads were found in Muryong's tomb; whether true amber or copal from the Korean Pine Tree has not yet been determined (see p. 28). There were eight barrel/bicone and three tubular amber beads [Han 1973:107; one shown is carnelian]. In Han China it seems likely that both Burmese and Baltic amber were imported [Yu 1967:116-7, 179-80].

There is also a black carbonaceous substance usually called "jet," though it may be another form of coal; we shall call it jet/coal. The tomb yielded 123 such beads. Thirteen are barrel or bicone shaped; Han calls them "jujube" from their resemblance to the fruit [1973:107]. Two are tabulars with irregular outlines and incised lines, perhaps representing lions. The rest are tabulars (discs perforated through the edge), one square and 107 circular-elliptical in outline, 64 of which were grouped into a graduated necklace. Though not now present on every specimen, it seems that all the round tabulars originally had a thin gold band wrapped around their edges and pierced through at the apertures. Conventionalized zoomorphic beads of "jet?" are also known from southern China (Annam) in Han times [Janse 1951:169].

Two cylindrical ceramic beads from the tomb are unusual. They are brightly glazed in red, green and white spirals, looking rather like barber poles. They are distinctive and attractive beads, but have no known parallels.

The great majority of Muryong's beads were of glass. By far the most numerous, numbering about 10,000, were small drawn beads (under 6 mm. in diameter) in a limited range of monochromes: light and dark translucent blue and violet, and opaque yellow, green and orange. These were sewn onto the royal garments.

The most sophisticated are the "gold-glass beads," made of three layers: an inner one of clear glass, a thin foil of gold (or tin for a silver effect), and a protective outer layer of clear glass. They were made from glass tubes which were pinched between two wires and rotated to form a constriction to separate them; some were not cut apart but left as pairs or series. About 200 gold-glass and silver-glass beads were found in the tomb, counting multiple tubes as single beads. They were obviously imports; they were probably made in Egypt as late as the Coptic period [Boon 1966]. A few are found in southeast Asia [Beck 1931:177; Lamb 1966:93], and they are also known from several Indian sites, leading some to conclude they were made there [Dikshit 1969: 56-8; Singh 1983]. This position is not tenable as India does not seem to have made the requisite clear glass at that time.

Two unusual translucent green glass pendants shaped like a human figure were found suspended from the queen's girdle. They are about 3 cm. long, perforated mid-way down, with facial details incised. The Kongju Museum staff believes they may represent the Buddha, though Buddhism was not recognized in Korea until a few decades after Muryong's death. They have otherwise been described as "a small boy with a shaven head" [Kim and Pearson 1977: 306]. Jenys mentions a perforated molded human glass figure from T'ang China (618 to 906 A.D.) [1965:132], and Ritchie analyzed three such figures without provenance given to him by Bishop White, who dated them to the fourth-fifth century and which may be Buddhistic charms [1937:218]. In neither case is it known whether these are identical to the Korean examples. Their unusual form, heavily crizzled glass, and precise dates in the Korean context may enable us to learn more about these pendants in the future.

Among the other glass beads is a large oblate (2.5 cm. in diameter) which is so heavily corroded that its original surface is not visible. There are also eight clear green glass beads of technical interest, as they were drawn into square tubes and cut into beads about 1.5 cm. long. At present, no parallels can be cited for any of these beads.

The Treasures of Kyongju

The beads found at Kyongju are of a greater variety than those from Kongju. The Kyongju material is not from a single tomb, but from many, the final resting places of generations of Silla royalty. Most of the occupants of these tombs have not been identified, so names based on their contents and only approximate dates have been assigned to the tombs. Excavation continues at Kyongju; to date all fourth century tombs have been examined. Here we shall detail only beads that differ from those found in Muryong's tomb, including some in the National Museum, Kyongju, strands discussed by Han [1973], and a strand gathered by the Japanese now in the National Museum, Seoul [accession # 14340].

Thirty-eight faceted quartz crystal beads with a *gokuk* pendant were found in the grave of Kum Ryong. They were drilled from one side [Han 1973:22], an unusual practice, as most stone beads, including others of crystal in the National Museum, Seoul, are drilled from both sides. Carnelian beads were found on a necklace from the tomb of King

Mich'u (262 to 285 A.D.) and on strand # 14340 in Seoul. In shape they are hexagonal bicones, cylinders and oblates. Cylindrical blue jade beads were also on the necklace from Mich'u's tomb [Han 1973:25].

Many *gokuk* were found at Kyongju, most of them of jade or imitation green glass. There seems to have been little distinction made in ancient times between these materials; the crown from the Gold Crown Tomb (displayed in Seoul) contains jade and glass *gokuk* side by side. Other materials for *gokuk* included crystal (King Mich'u's tomb), blue glass (Flying Horse Tomb, early sixth century) and amber (Tomb No. 98, which is possibly that of King Soji and Blue Flower, his young mistress, who were buried in 502 A.D. [Kim and Pearson 1977:312]).

As at Kongju, the most common beads were the small drawn monochrome glass beads. Colors found at both places were translucent blue and opaque green and yellow. At Kyongju there was also a black (colorant not identified) and dull opaque "India" red. In size the Kyongju beads ranged from very small (about 2 mm.) up to 2 cm. in diameter; the larger ones were dark blue beads apparently pinched off a tube.

A distinctive bead was made of very dark translucent blue, so dark that it appears opaque. It was not drawn, but made by winding glass around a mandrel. The mandrel was apparently iron, judging from the thin black perforation deposits [see Francis 1983a:202]. Most of these beads are oblates, while a few are barrels. All are decorated with yellow spots of glass and many also have yellow glass trailed around each aperture. These beads, which are relatively scarce, have no known parallels, but are interesting enough to warrant further examination. It has been suggested that they were Korean-made to imitate Western eye beads, but of this there is no proof [Yoshimizo 1980:103].

The most spectacular single bead found in Korea was uncovered from King Mich'u's tomb area. It is a bundled mosaic face bead with a face on one side and two ducks on the opposite side [Han 1973:26], a bead type made for several centuries in the Eastern Mediterranean. It was excavated by Yeungnam University in Taegu and will be housed in the Kyongju National Museum. Unfortunately, it was on temporary exhibition to Japan at the time of my visit, so was not available for inspection.

The Trade in Beads

The royal Silla and Paekche tombs were filled with luxurious treasures. Beads of glass, semiprecious stones, and fossil organic materials were valued highly enough to be well represented among the grave goods. Because beads are small, highly portable, relatively durable, and esteemed, they have been ideal trading commodities for millennia, and have much to teach us about past trading practices [Francis 1978].

The relations between Asian countries and between Asia and the rest of the world in the first millennium A.D. is a historical mystery. A study of the beads from the royal Three Kingdoms tombs is, therefore, an opportunity to contribute to our understanding of this problem.

It is clear that much of the glass in the tombs was imported, as it was obviously a luxury during the Three Kingdoms period. In addition to beads, glass vessels are found in the tombs and have long been recognized as Western, perhaps Syrian, in origin [Seligman 1938:556].

Most vessels were probably made in the Roman Empire or former Roman territories, including the Rhineland [Pinder-Wilson 1970:66]. Some pieces have been called Persian [Pearson 1980:18]; this ascription is unlikely for most of them, though one wheel-cut bowl in the Kyongju museum might have been made in Persia during the Sassanian period.

Among the glass beads, the most noteworthy imports are the mosaic face bead and the gold- and silver-glass beads. Both of these types were likely made in Egypt. Yoshimizu devotes considerable discussion to the mosaic face bead, concluding that it may have been a special gift produced by order of the Roman Emperor for the Silla King [1980:101]. While the bead is without doubt of Roman manufacture, there is no indication that Rome had ever heard of Korea at this time, and it probably reached Korea by a more indirect route, as we shall see.

The most numerous beads, the small drawn monochromes, must also have been imports. They are visually similar to beads found throughout the littoral states bordering the Indian Ocean and the western Pacific -- from southeast Africa to northeast Asia. In Asia they are especially numerous in Thailand and Malaysia [Lamb 1963; 1966], the Philippines [Fox 1977], Indonesia [Heekeren 1958; Harrisson 1963; 1968], and India, where at least some of them were made at the Indo-Roman trading post of Arikamedu [Francis 1984]. A study is currently underway to learn if their center of manufacturing can be identified [Francis n.d.a].

A few other glass beads may have been imported, but too little is known about them to hazard identifications. These include the figurine pendants, the square drawn tubes, and the blue beads with yellow eyes.

For the semiprecious stone beads, the picture is less clear. The carnelians and rock crystal beads resemble those made by the western Indian agate industry [Francis 1982b]. China has lapidaries as well, but the extent of their carnelian working is unknown. A fifth century Indian text states that carnelians are found in China [Finot 1896: 55], but a sixth century Chinese chronicle, the *Wei-shu*, notes that they were imported from India at the time [Hasan 1928: 127]. Carnelians and rock crystal are common enough that they may even have come from Korea. The one glazed quartz bead was clearly imported, possibly from Persia.

Among beads likely to have been made locally are those of amber, though more needs to be learned about these specimens in particular and amber in Korea generally. The jet/coal beads with the gold rims are probably Korean; coal has long been the primary fuel there, and the peninsula has long been famous for its gold.

The most vexing question on the origin of mineral beads concerns the most important bead material in Korean history: jade. "Jade" is a popular rather than a mineralogical term referring to two superficially similar but distinct minerals: nephrite and jadeite. There is much confusion regarding jade in Korea. Most of the Korean literature says that excavated jade is nephrite. However, authorities I interviewed, including some who had earlier identified nephrite in their works, made it a point to tell me that these beads were jadeite, not nephrite.

Traditionally, the Chinese employed nephrite from the Karakash and Yarkand River valleys in Turkestan (Sinkiang, now Qing Zang) and only began using jadeite from Burma in the late eighteenth century [Denman 1945: 117]. According to recent Japanese studies, Korean excavated jade is jadeite which had been imported from Japan [Woolley 1983:272].

Recently, however, a significant deposit of nephrite has been discovered in Korea itself near Chun'cheon. Analyses of Silla *gokuk* indicate that they were made of both jadeite and nephrite [Frey 1984; Rosenzweig 1984]. Perhaps the jadeite came from Japan and the nephrite from the Turkestan and Korean deposits. Much more analytical work needs to be done to clear up this problem. At the moment, however, it appears that during the Three Kingdom Period Korea was using jade from several sources, possibly including their own.

The evidence of Korean contact with the outside world is by no means limited to artifacts imported into Korea. There are several cases of Korean ornaments which have been found far from the peninsula.

The largest of these is an elaborate gold crown similar to the gilt-bronze crowns of the Koguryŏ kings found near P'yŏngyang. However, this crown was found at Tillya Tepe (Golden Mound) in Afghanistan. Though it has yet to be properly studied and published, it appears to date from between the first century B.C. and the second century A.D. [Kang 1983; Sarianidi 1980:32]. Since this would be much earlier than similar Korean crowns, Kang has suggested that the prototype of Korean crowns developed in Eurasia rather than in Manchuria or Korea.

Another typical Korean ornament found far afield is the *gokuk*. One of jade was found in the Swat Valley, Pakistan, and dated 1700 to 1500 B.C. [Stacul 1979:665, 672]. This is an extremely early date and this particular example is probably an intrusion. In Scythian burials at Pazyryk (U.S.S.R.) a felt hanging from the fifth tomb illustrates a *gokuk* hung on the neck of a horse, while an ibex on another felt piece has a *gokuk*-like shape on its flank. These tombs are dated to the second or third century B.C. [Phillips 1965:84-5; Talbot Rice 1965:39].

The evidence of the beads alone shows that Korea was in touch with much of the world: Rome and Sassanian Persia, the Russian Steppes, two regions of India, and, of course, China. Nearly all of this international commerce first passed through China. A look at a map will show why this was so. There were two routes by which goods could reach Korea: by land, on an extension of the Silk Road, and by sea, along the Indo-Pacific coast. China lay astride both routes. Thus, the exchange of exotic goods between Korea and the outside world was essentially the exchange of goods between Korea and China. It is no wonder that history shows that Rome, Persia, and India had never heard of Korea.

The relations between China and Paekche are instructive in this regard. Between A.D. 372 and 652 the Chinese recorded that Paekche sent diplomatic missions to their court on the average of once every 4.1 years, increasing in frequency to once every 2.3 years during the more stable Sui and T'ang Periods after A.D. 589 [Best 1982: 485]. The chroniclers recorded only official visits, and there must have been many more private commercial visits at this time. For example, when King Muryong died in A.D. 523, the Chinese heard the news, apparently from merchants, before official notification reached them [Ibid.:465].

Chinese influence was strong in Paekche, and Muryong's tomb goods show major southern Chinese influence [Best 1982:485]. Soon after his death, the Paekche capital was moved from Kongju down the Kum River to Puyŏ, to facilitate maritime connections with China [Ibid.:466].

The movement of goods from the West to China is well known; it went through Persia and Turkestan to China proper over the Silk Road. The commercial routes with India are not so well documented, but the first

Indo-Chinese contacts were probably maintained along the Silk Road. During the early Han Period (last two centuries B.C.), Indian agate beads, including etched carnelians, found their way into China [Chinese Exhibition 1974:73], though the only identified Han object in India is a crossbow mechanism found at Taxila (now in Pakistan) [Cammann 1958]. Centuries later, "jewels" were among Indian goods brought into Chinese Turkestan, as the documents in Kharosthi discovered by Stein attest [Agrawala 1957:25].

Asian sea trade also began to expand in the first millennium A.D. The decline of Rome brought a halt to Indo-Roman trade, and India embarked on its own *drag nach dem Osten*, establishing trading colonies in Southeast Asia and Indonesia [Majumdar 1979; Prakash 1963:242].

Although the evidence is extremely scanty, one instance shows how this trade was to affect Korea. A Japanese chronicle, the *Nihon shoki*, says that in A.D. 543 Paekche sent the Japanese court gifts from Funan in Southeast Asia. Funan was one of the earliest and wealthiest of Indian colonies. The presents, which may well have included beads and other ornaments, were probably made in India, shipped to Funan whence the Chinese bought them, and then taken to south China. There Koreans secured them and eventually sent them to Japan [Best 1982:466].

Great distances, many hazards and even more unknowns were constant threats to long distance travel at such an early date. Yet the beads from the royal Paekche and Silla tombs remain as evidence of a vast international exchange network in which Korea participated.

Beads Made in the Three Kingdoms

Because the majority of beads in the Paekche and Silla royal tombs were bought or received as gifts from outside Korea, we have thus far been considering imported beads. Nonetheless, some beads were locally made and they are of considerable interest.

Three kingdom craftsmen were outstanding in their handling of gold; crowns, girdles and other jewelry show skill and sophistication in their execution. Korean jewelers had mastered the arts of gilding, of repoussé and, most impressively, of granulation. Among the attractive gold beads from this period are two necklaces of long thin hexagonal and octagonal bicones and a necklace of melon beads with central zones, all of which were found in Muryong's tomb.

The Koreans probably manufactured the jet/coal beads and the amber beads; both materials are soft and easily worked. The most difficult material which the Koreans had to work with was jade.

Although there are no accounts of ancient Korean jade working, we may legitimately draw parallels from Chinese methods. Even the Chinese written sources are few, partly because jade working methods were kept secret and partly because ancient scholars of China had no interest in recording the activities of laborers. However, the illustrated manual *Yü Tso-T'u* by Li Ch'eng-yüan furnishes us some details about early Chinese jade working [Loh 1976].

First, an abrasive was pounded, sifted and moistened. From ancient times quartz (yellow sand) was used. Garnet (red sand) and corundum (black sand) date from either the twelfth and late nineteenth centuries

[Loh 1976:2] or T'ang times (A.D. 618-906) and the twelfth/thirteenth century [Mowry 1981:53]. Early texts say that a circular knife of wrought iron (*k'un-wu*) was used as a saw; by the middle ages this was replaced by a wire saw set into a bamboo frame. The saw and abrasives sliced the jade into slabs so it could be examined for color and flaws. The slabs were then carved on a lathe powered by bamboo pedals driving different sized iron or steel discs; a shield protected the workers' faces. The task of perforating was done on a horizontally mounted bow drill; beads were clamped into bamboo sticks to free both hands of the workers for this operation.

To polish a bead after it had been cut, a paste of jewel or sand dust was smeared on the bead and it was then put against rotating discs on the lathe. According to the size of the bead or other object, the discs were made of wood, dried gourd rinds, or small leather plugs (in descending order). A final polish was done with another application of paste against leather-covered wooden discs.

The foregoing account is similar to that reported early in this century when Canton was the center for jade carving. There corundum (black sand) was used for the abrasive, while at Peking quartz, garnet, and corundum were all used; no abrasive was used for perforating beads, however. In busy Canton up to ten spindles at a time might be attached to a single lathe. A jade piece three or four inches long took a year to 18 months to complete; such large pieces were only made to order on a commission basis [Hildburgh 1907].

Although jade was traditionally the most important Korean bead material, the most important technologically was glass. The recent discovery of the remains of a small kiln near Kyongju is the first evidence that Korea was a member, albeit only a minor one, of the fraternity of glassmaking nations. Earlier authorities had claimed that Korea made glass, but these conclusions were only deductions [Blair 1951; Jeong 1976: 38-9; Francis n.d.b].

However, the discovery of what appears to be a glass kiln is an entirely different matter. A villager noticed some unusual remains near Kyongju and contacted Han Byong-Sam, who subsequently examined them and collected waste glass to have it analyzed. Through his kind permission the evidence and the results of the analyses appear here.

The kiln was small and circular, approximately one meter around. The top portion has disappeared, but it was probably originally a low dome. The fuel used was "charcoal," that is, coal. We can judge by the size of the kiln that only one or two workers were accommodated at a time.

Three pieces of green glass cullet, two translucent, and the other appearing black in reflected light, were analyzed. The first two pieces in Table One were analyzed by the Tusan Glass Company of Seoul, and the third sample was analyzed by the Korean Institute of Science and Technology, Seoul. (See Table One on the following page)

T A B L E O N E

Analyses of Glass Cullet from an Old Silla Kiln, Kyongju, Korea

Sample #	Color	SiO ₂	Al ₂ O ₃	CaO	MgO	Fe ₂ O ₃	FeO	K	Na ₂ O	Mn ₂ O	TiO ₂	Total
1.	green	53.09	16.22	23.32	Tr.	1.13	5.09					97.93
2.	black	58.15	19.70	19.82	0.10	0.83	1.21					98.28
3.	green	54.1	12.9	22.2	1.06	5.46		1.36	0.64	2.39	0.39	100.54

[Analyses courtesy of Han Byong-Sam]

PLATE ONE

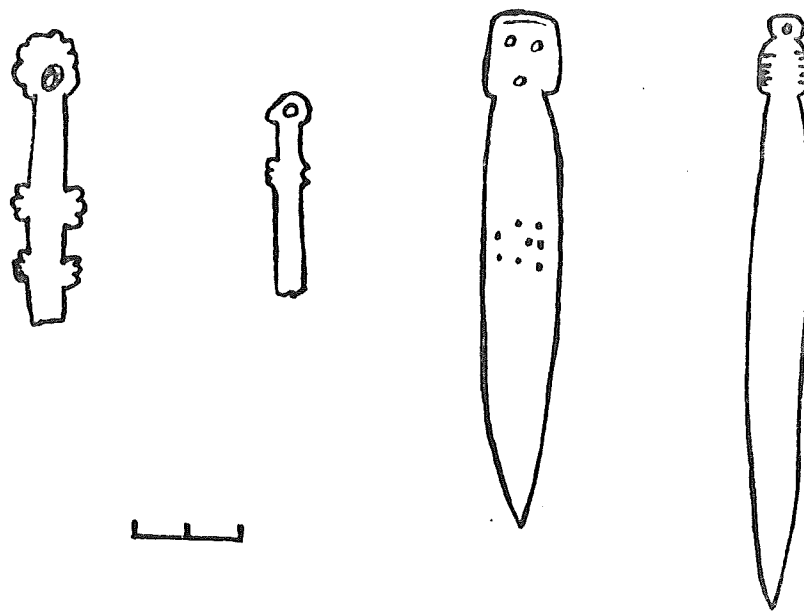


Figure 1: Anthropomorphic bone pendants. Neolithic Period from Sop'oheng shell mound. After Henthorn 1978: fig. 12. Scale = 2 cm.

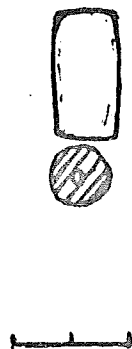


Figure 2: Jasper cylindrical bead. From Misong-ni, Bronze Age. After Kim Jeong-Hak 1972: fig. 38.14. Scale = 10 cm.

PLATE TWO

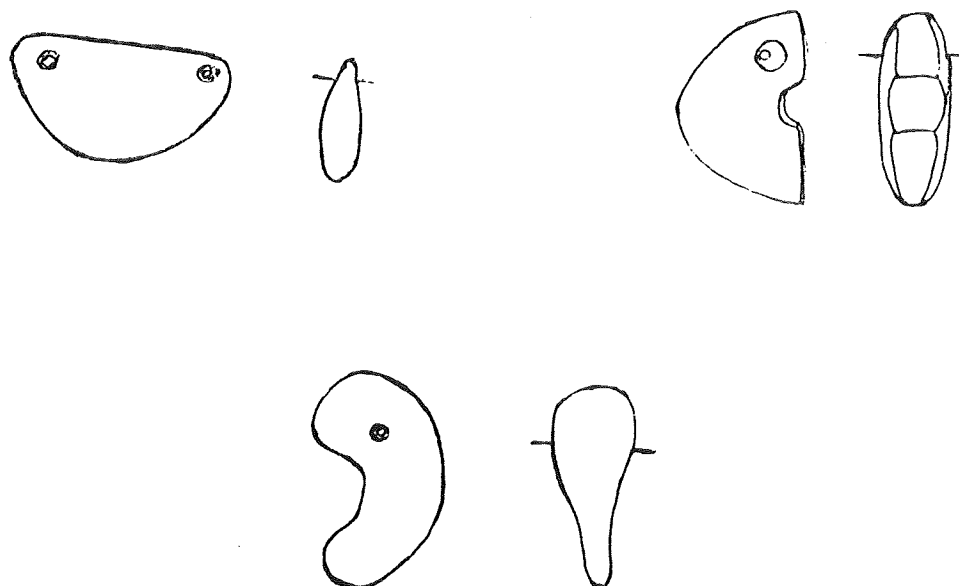


Figure 3: Development of the Gokuk according to Han Byong-Sam. Upper left, Type A. Upper right, Type B. Lower left, full gokuk. After Han 1976: figs. 1, 9, 6.

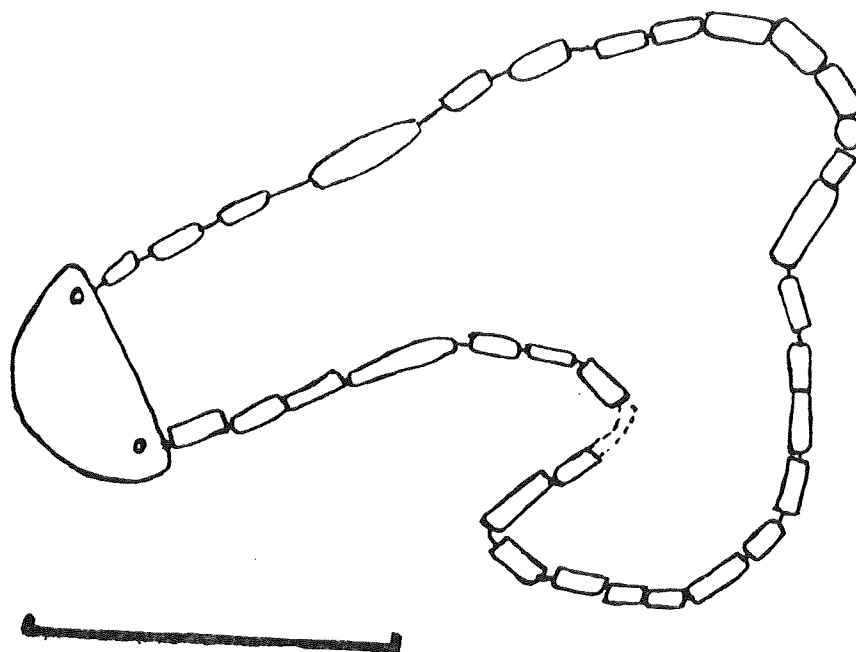


Figure 4: Type A gokuk and cylindrical and other beads found in situ at Chang-chia-chia-tzu. Early Bronze Age. After Han 1976: fig. 8. Scale = 10 cm.

PLATE THREE



Figure 5: The top-hat and associated beads. Just behind the ears are two beads or buttons denoting special rank. On the head band at the center of the forehead is an oval bead. The top-hat is held in place with a long strand of tubular and round beads and a central lenticular disc bead.

PLATE FOUR



Figure 6: The Red Coral tassel with a piece of copal/amber, two jade and gold butterflies, and a piece of branch coral. King Sejong Museum.

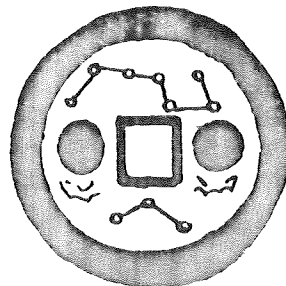
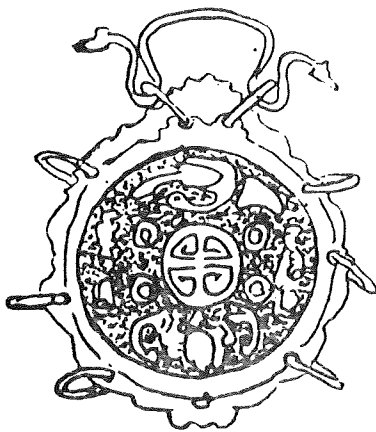


Figure 7: Left: coin charm holder (chantelaine), 6.2 cm. in diameter. Right: coin charm, 2.5 cm. in diameter. After Hutchins 1977: fig. 1, 3.

An analyses of this glass shows that the Koreans were not experts at making glass, a situation which is not surprising. It appears that Lamm's dictum that people who excel in making ceramics seldom excel at making glass and vice-versa applies to Korea [1939:2593]. The heavy amounts of alumina (Al_2O_3) and lime (CaO) are not only unusual, but the lime, at least, is detrimental to the glass. An excess of lime in glass produces a condition variously known as "glass disease" [Honey 1937:218] or crizzling [Kaplan and Mendel 1962:80]. The glass begins to crizzle and becomes opaque or cloudy soon after it is made.

The large quantities of lime and alumina found in this glass were no doubt introduced as impurities. If not impurities in the samples, this suggests that local sands may have contained a great deal of non-siliceous material. The green color of the glass was also accidental, caused by the presence of iron, which is a virtually universal impurity in sands. It is not clear, however, how the dark green/black color was achieved with relatively small amounts of iron.

The extremely low level of alkalis (potassium, K, and sodium, Na) is a further indication of an unfamiliarity with glassmaking. Though no alkalis were recorded in the first two samples, the total of ingredients is slightly less than one hundred percent, leaving a bit of room for them, but not much. With the scant data at hand, it is difficult to guess what the source of the alkalis may have been.

An important question must be raised: what were the Koreans making with this glass? Though none of the material found at the kiln indicates the use to which the glass was put, we can say with some confidence that one glass product which should be identified as Korean-made glass is the *gokuk*.

The glass *gokuk* found in the royal tombs could have been made very simply. A bit of hot glass withdrawn from the kiln would form a drop shape when held in the air. As the shape appeared, the drop would be placed on a flat heat-resistant surface and given a slight twist to produce the turn of the "tail." While the glass was still slightly plastic, the "head" of the *gokuk* would be pierced with a metal rod or a wire, usually round in cross section, but in at least one case square in section. The glass *gokuk* are all flat and slightly pitted on one side; it is at this side that the piercing tool obviously emerged.

The ascription of the *gokuk* to local production is based on the following four points:

1. Virtually all other glass objects from the royal tombs can be ascribed to foreign manufacture. Except for a few beads and Jeong's yet unsubstantiated claim that glass vessels resemble Korean ceramic vessels [1976:38-9], all the glass objects are known to have originated elsewhere.

2. The *gokuk* is a distinctively Korean (and Japanese) object. Korea was technically superior to Japan at this time, and there are simply no other places which would have made them.

3. The making of the *gokuk* was technically simple enough to have been within the abilities of the inexperienced Korean glassmakers. No special techniques such as blowing or drawing were needed, and no evidence of such techniques have surfaced. Moreover, no special colorants were necessary, as the common green of glass was exactly what the Koreans needed to imitate jade.

4. The analyses of the cullet from the kiln shows that the glass was unstable and subject to much weathering, particularly to glass disease from the overabundance of lime. The *gokuk* uncovered from the tombs are all heavily crusted, though the other (foreign) glass is not.

Three other glass objects from the royal tombs might possibly have been products of the Korean glassmakers. In descending order of probability they are: a.) The large wound bead from King Muryong's tomb which is also heavily crusted, b.) The blue *gokuk* from the Flying Horse Tomb, assuming the Koreans had learned to color glass blue, and c.) A small eggplant-shaped glass vial in the girdle of the Gold Crown Tomb which may have held medicine or tinder [Kim and Kim 1966:187]. Blair discussed a dark translucent blue bowl with bubbly glass from the Gold Phoenix Tomb which she thinks might have been a local product; she also cited the *gokuk* as probable local products [1951:403].

Korea's entry into the world of glass beadmaking was less than an Earth-shattering event. The Koreans never mastered the craft, but this does not discredit them. After all, they had set out on an unexplored path because of the importance of a particular bead to their aesthetic world-view. Since a number of glass *gokuk* were found in King Muryong's tomb, Paekche and Silla may have both made glass, although Paekche could have received them as state presents from Silla.

Beads and the Social Order

Finally, we must consider the social implications of bead use in Korea. Our remarks here are generally applicable not only to the Three Kingdoms Period (57 B.C. to A.D. 713.) but also to the succeeding United Silla (713 to 935) and Koryŏ (935 to 1392) Periods, though there is less archaeological data on the latter two eras. The culture of each of these periods shared many basic characteristics, including Buddhism as a state religion (after 537), similar dress, though often reformed, and a love for necklaces and beads.

Unfortunately, nearly all of our information, whether historical or archaeological, concerns royalty. The ornaments of the common men and women are hardly known. About 150 rectangular pit graves of commoners dating from the third to the seventh centuries A.D. excavated in the southeast near Ussan included some glass beads and *gokuk*, but not in great numbers [Kim Wŏn-Young 1964:16-7]. The commoners probably imitated royal fashion as best they could, though on a lesser scale.

Beads were clearly esteemed. The great numbers found in royal tombs, the trouble of setting up a glass bead industry, and the expense and prestige of beads imported from afar are self-evident. In the tombs beads were worn as necklaces, girdles, and in skirt-like arrangements, and were sewn onto clothes. Both men and women wore beads, although they were most favored by women [Kim Chewom 1948:25-8]. Careful excavations of Tomb No. 98 and the Flying Horse Tomb have preserved the original position of the beads at the National Museum at Kyongju.

During the Three Kingdoms Period, mining, especially of gold and silver, were of great importance. As we have seen, Korea was famous for its gold. The precious metal ornaments in the Royal Tombs are a

further indication of the importance of mining. It would appear that the Koreans were more fond of gold than were the Chinese, who generally favored silver.

Another valuable Korean product was the pearl. We first hear of pearls being imported by China from Koguryŏ in the north [Weems 1962:I, 39], though it is likely that they were actually secured from further south, where the fishing is still centered, especially on Cheju Island, done principally by women. The Mahan peoples of the southwest, prior to being absorbed by Paekche, were fond of pearls and wore them in their ears, around their necks, and sewn onto their garments. When the Mongols invaded Korea in the thirteenth century they are said to have taken the women from the men and the pearls from the women [Weems 1962:I, 222-3].

Beads were clearly symbols and embodiments of status and wealth in ancient Korea. Because of this, the use of beads was severely affected when the regulation of clothing and other luxuries came into effect. The Koreans adapted sumptuary laws, which had long been established in China, to their own situation, just as Japan did. These laws regulated what people could wear, the size of houses, and the ownership of various possessions in accordance with their status in society [Shively 1965:162, n. 36].

Korean royalty, apparently beginning with the Silla King Pup-heung in 520, long considered it necessary to dictate how the people should dress. Pup-heung divided his officials into ranks, each one of which was entitled to wear a certain color and/or hat style. He also instituted the use of the tall silk hat and the ivory identification tablets to be carried by court members [Weems 1962:I, 79]. These official fashion edicts continued down to the twentieth century, and in time they became centrally important to the bead story, as we shall examine presently.

SECTION THREE:

THE UNITED SILLA AND KORYŬ PERIODS

Unification of the Korean peninsula was first achieved in 668 when the Silla Kingdom absorbed the Paekche and Koguryŏ Kingdoms. Nearly three centuries of Silla hegemony followed until 935 when the northern Koryŏs conquered Silla. Culturally, these two eras represented no break from the Three Kingdoms Period, and it can be assumed that bead use changed very little during this time [Han 1983]. Unfortunately for us, there is scant evidence from which to draw conclusions concerning beads in Korea during this period because the historical and archaeological data on bead use are rather scarce.

A number of beads have been uncovered from Buddhist stupas (shrines) dating from the late old Silla and Unified Silla periods. These show some continuity with older beads, yet are distinct from earlier types. They include forms already familiar to us: cylindrical jade beads from the pagoda of Songrim Temple and glass and crystal *gokuk* from several sites. There were also beads which had not been seen earlier, such as drop pendants made of amethyst.

The glass beads from the pagodas were made by the winding process. Light opaque blue oblate beads were found at the Bunghwan Temple dating from the seventh century. Another type of bead was made by coiling glass to form a corded or spring effect. Light yellow beads in this style were found in the ninth to tenth century Seungan Temple. Blair called attention to these beads, but her dating for them (fourth to seventh century) appears to be too early; the beads she illustrated had not been excavated but were in private hands [1951:403-4, fig. 4].

The chronicles of the Koryŏ Period furnish us with information about the dress codes of the time. We have noted that the Silla King Puhung decreed dress styles to be worn by members of his court in the year 520. Officially dictated costume styles continued into the Koryŏ Period. In 961 Wang-so ordered court dress to be colored (in ascending order of rank) blue, deep red, red and purple [Weems 1962:I 147]. In the thirteenth century the Mongols forced the commoners to wear blue, the color of the east; white had been preferred before [Ibid.: 222]. In 1370, almost at the close of the Koryŏ Period, the first Chinese Ming Emperor, Chu Yüan-chang, gave one of the last Koryŏ kings, Wang-uk, a suit of clothes [Ibid.:263]. This new style became very popular with the Koreans and was soon to be universally adopted.

After the United Silla Period, we are unable to make any definite statements concerning beads. For the present, the Koryŏ period (935 to 1392), while famed for its celadon pottery, must remain a blank in the bead story. The production of glass beads appears to have stopped altogether, a situation which continued into the succeeding Yi Period. Although Blair felt that some glass must have been produced, she wrote, "I doubt if the history of glass in post-Silla times can be clearly outlined." [1951:428]

SECTION FOUR:

THE YI DYNASTY

Korea's nickname of "The Hermit Kingdom" was well deserved during the half-millennium of the Yi (Lee) Dynasty, 1392 to 1910. Contacts with the outside were almost exclusively limited to China; only very late was some trifling commerce grudgingly allowed with some Western powers.

From 1637 to 1876 Korea's isolation was virtually complete. Under such circumstances, societies stagnate, and inertia and a slavish imitation of the past characterized Yi Korea. Weems summed up this period by saying that: a.) the government became "vicious" and the people adopted "vices" in retaliation, b.) tradition became the "absolute dictator of thought and action," c.) alien Chinese ways were ever more strongly embraced, d.) any urge to recover native Korean cultural creativity was lost, e.) commercial enterprises failed to develop, and f.) landlords and officials exploited rather than developed the country [1962:ED 127].

These were certainly not conditions conducive to a flourishing bead industry. The bead wealth of the preceding era had largely been based on imported goods or was foreign inspired; local bead industries were never large and what there may have been received no encouragement from the Yis. The Yis reverted to neo-Confucianism, and discouraged the exuberance and cosmopolitan outlook of Buddhism. The Yis cultivated scholarly and literary attitudes. Their outlook was "austere, almost puritanical" [Govt. Korea 1957:20].

Interestingly, the emphasis on things Chinese caused the Koreans to preserve Chinese customs so well that even in the twentieth century one could visit Korea and see how the medieval Chinese dressed. The Chinese fashion which had become popular in 1370 under King Wang-uk was universally adopted when the Yis came to power, and though the Chinese soon began wearing Manchu clothes, the Koreans did not. Thus, Hulbert could write in 1905, "In this respect the Koreans today are really more Chinese than the Chinese themselves." [Weems 1962:I 263].

As we have seen, no glassmaking can be traced for the Koryŏ period, and this is true for the Yi period as well. A recent communication by an American who has resided for many years in Korea and has been interested in Korean handicrafts for a quarter of a century echoes Blair's comment cited earlier. He wrote, "I have been unable to find any references to specific Yi Dynasty glass items." [Matielli 1983]

We have thus far painted a bleak picture. Gone was the lavishness of the Three Kingdoms Period, replaced by a conservative, puritanical, even reactionary mood. Glass production disappeared; court patronage vanished. Necklaces, earrings, bracelets and girdles were no longer worn. We might easily be excused for thinking that bead use completely ceased in Korea for 500 years, but this was not the case.

The bead story, which might seem so empty, is really obscured rather than completely blank. After all, Yi Korea was prosperous and free, save for the invasions of the Japanese under Hideyoshi (1592-99) and by the Manchus (1625 and 1636). Though the arts were no longer sponsored by the palace, the loss of patronage diffused them through the country and crafts developed into a "peoples' art" [Govt. Korea 1957:20]. Even more importantly, bead use took on new directions, entirely different from those of the past and unlike those encountered in most other parts of the world. Yes, beads were there, but we must develop a new understanding of the situation before we can appreciate them.

The following passage illustrates these changed circumstances. It was written by an eyewitness, an American missionary who spent fifteen years "among the top-knots," and concisely summarizes the Yi attitude toward jewelry:

A small ornament (indicating her rank, I suppose, as I have never seen any other woman wear one) was worn on the top of the [queen's] head, fastened by a narrow black band. Her majesty seemed to care little for ornaments, and wore very few. No Korean woman wears earrings (except young girls in the north, who wear a large silver hoop), and the queen was no exception, nor have I seen her wear a necklace, a brooch, or a bracelet. She must have many rings, but I have never seen her wear more than one or two of European manufacture, set with not so many nor so large diamonds as numbers of American women of moderate means and station often display.

[Underwood 1904:90]

In this passage Underwood, perhaps unwittingly, reveals the essence of Yi jewelry. It was never worn either for ostentation nor personal enjoyment. The ancient function of jewelry as outward marks of status became paramount and was completely regulated by the crown. Jewelry was now subsidiary, a handmaiden to the approved modes of dress. Beads, always an important part of jewelry, were never independently used but served a greater aim: the approved dress styles.

Thus, in order to understand Korean beads in the Yi Period it is necessary to understand Yi costume. Some elements of this costume were remarkably old. The men's top-knot was supposed to have been introduced by Wi-Man in 193 B.C. [Osgood 1951:233]. We have already seen how dress codes were established during the Silla and Koryŏ Periods. The twists and turns in dress codes and sumptuary laws are recorded in the Korean chronicles. We shall take account of these developments by studying the chronicles which were translated and edited by Hulbert early in this century (references are to the two volume edition edited by Weems 1962).

Blue, having been established for commoners' clothes by the Mongols, and red and black were the predominant colors for clothes until about 1800 when white was again used. In the early 1500s King Yi Tu established light blue clothes for ancestor worship [Weems 1962:I 329-30].

One of the great costume reformers was Hyo-jung T'a-wang or Yi-Ho (1649-1659). He forced first the soldiers and then other citizens to shorten their sleeves and skirts (they were often made of silk for coolness) and reduce the size of their hat brims. He also imposed a new version of the hat, and established embroidered panels to be worn on the costumes of his officials: storks for civil workers and tigers for the military [II 144]. In 1660 Yi-Yun ordered that the women of the four classes wear red, blue, white, and black, while the men had to cut their collars square or with various curves. Hulbert commented at this point: "These things sound childish, but in those days they meant life and death." [II 146].

King Ch'ông-jong T'a-wang (Yi Sun; 1777 to 1801) promulgated several reform-minded sumptuary laws. Silk was forbidden to all except high officials and the much-revered elderly. Women were prohibited from wearing elaborate and richly ornamented wigs, which could cost as much as furnishing a house. Only the women of the royal court were allowed to wear this false hair, and then only for mourning [II 186].

The matter of dress became especially critical at the end of the last century. Internal and external forces attempted to reform Korea, the last Oriental nation to seek "modernization." Pak Yûng-hyo, a mayor of Seoul, tried to modernize dress by limiting the length of sleeves, men's hat strings, and girdles [II 234]. His work, however, was overshadowed by a traumatic event.

On 8 October 1895, Queen Min was assassinated by a group of Japanese agents directed by Ambassador Miura. Min was the real power of the Korean throne; her death ended the pattern of rule by in-laws, which is considered to have characterized late Yi politics [Quinones 1980: 507-11].

Following Min's murder, the Japanese established a rump cabinet headed by Kim Hong Chip, which immediately passed laws regulating the length and cut of sleeves, the length of the hat brim, the color of coats, the length of pipe stems, the number of servants for sedan chairs, and more. The reforms might have been complied with, as many had before, but the Japanese went too far by trying to outlaw the men's top-knot [X.Y.Z. 1896:271].

The top-knot was the mark of a man. Its abolition soon raised public ire to fever pitch. Obedient officials who cut their own top-knots were run out of the towns they had been appointed to rule, while those who disobeyed were fired from their posts. Soon the country was ungovernable, and on 11 February 1896 King Ko-jong left the palace and sought asylum in the Russian legation. There he issued edicts, including one that proclaimed that the manner of dress was trivial and the people could dress as they pleased. The country rallied behind him and the Kim Hong Chip cabinet fell "utterly and instantly." [X.Y.Z. 1896:271-2].

The Japanese continued to meddle into Korean affairs, and in 1910 annexed the peninsula by force. Among their first reforms was to abolish long sleeves. But they had learned their lesson: they dared not touch the top-knot, and other reforms were introduced only gradually [Weems 1962:II 268]. Time eventually caught up with Korean fashion. Today the old clothes are seen only rarely, even in rural areas. This trend was evident just after the Korean War; the top-knot had been almost completely abandoned by then [Osgood 1951:234].

This somewhat lengthy excursion into Korean costume is vital as a background for the understanding of Korean beads. To study beads in the Yi period we must be able to picture Korean costume. Fortunately, there are excellent collections of Yi costumes for our reference; those of the National Folklore Museum and the King Sejong University Museum have been consulted with this end in mind.

Beads and Yi Costume

Korean men and women both wore a long-sleeved coat (the *chogori*), men with baggy pants (*paji*), and women with a full skirt (*chima*) [National Folklore Museum n.d.:31]. But for both sexes the center of grooming attention was the hair. Women wore large, long thick pins, which were often elaborately decorated, in their hair. Men wore the top-knot.

When a boy was a boy in old Korea he wore his hair in a pigtail, either in two [Underwood 1904:167] or one [X.Y.Z. 1896:265] long braid down their back, which foreigners often mistook for a girl's coiffure. When a boy became a man, often at his engagement, a three inch patch of hair on the top of his head was shaved and his long tresses were drawn up and tied into a knot which stood up several inches above his head. Around this top-knot the *mang-kun*, a net or wide ribbon made of human or horse hair, was tied, never again to be removed. X.Y.Z.'s sardonic account says of this arrangement, "This ribbon is drawn very tightly, and it has always seemed to me to [be] an excellent device to stop circulation of blood and insure a headache and keep out ideas generally." [1896:265].

Over the top-knot a stiff open cap in the shape of a truncated cone might be worn. These lacquered caps were originally the privilege of scholars and soldiers, but in time every man who could afford one donned it.

Over the cap was the true Korean hat, resembling the Western stove-pipe hat, but made of lacquered silk, bamboo or horsehair. It was very fragile. The hats were ranked by their material, silk being the most prestigious. There is disagreement as to whether horsehair was next most valuable, followed by bamboo, hemp and flax [X.Y.Z. 1896:266] or whether bamboo was considered superior to horsehair [Osgood 1951:139].

The makers of these hats were among Korea's most esteemed artisans [X.Y.Z. 1896:266]. The selling and manufacturing of headbands and hats were controlled by guilds which jealously protected their rights to deal in these objects. Similar guilds were organized for nearly all products manufactured in Korea. Although the guilds could enforce their monopoly among the Koreans, they were powerless against Japanese and Chinese merchants [Gifford 1895]. Korean guilds were no doubt formed after Chinese models [Latourette 1934/1964:498-500]; some guilds in Korea kept records much better than their Chinese counterparts, and date back more than two thousand years [Crane 1926:12].

Again, it is difficult to resist quoting the witty and informative but anonymous X.Y.Z. on the subject of these hats. The following passage also shows why the top-knot is of interest to those who study beads:

From a utilitarian point of view, this hat is about the poorest piece of head-gear I have ever encountered -- worse even than our stove-pipe hat; it is so flimsy that it affords but little protection against the sun of summer and still less against the cold of winter; if it gets wet it is ruined, and being easily broken or crushed, must be most tenderly treated. Being so light and the crown being so small to come down over the head, it would of course fall if not fastened on, and therefore is tied by ribbons or strings of beads attached on each side to the crown and brought down and tied under the chin. These strings are often of large and fine amber beads, and with very high officials, quite long and often tied in a loop at the side of the face with long ends hanging, presenting a very imposing and supposedly ornamental appearance.

[X.Y.Z. 1896:266]

Indeed, the use of beads on the hat strings was so widespread that they may be said to have replaced the usual role played by necklaces, though in this case worn by men. The hat string beads were primarily made from low-hued, natural "masculine" materials: amber, ivory, horn, "tortoise shell," and wood. Glass is seen occasionally; a strand in the King Sejong University Museum collection dated to the sixteenth or seventeenth century has glass beads, as does a stand I purchased in Kyongju. In both cases the glass imitates amber; we can only wonder where the beads were made.

The arrangement of most hat strings followed a simple pattern. Long, thin tubular beads, often made of bamboo culms (sections), were interspersed with small oblates. At the point where the two strands met, a larger disc shaped bead was placed. (Figure 5)

Amber beads have always been important in Korea. We have already noticed its ancient use among the materials from the tombs of the Three Kingdoms Period. Though there are no known amber deposits in Korea, the Korean love for the material is evident from the amber imitations so often encountered, such as amber colored glass.

We should, however, take particular note of the use of a type of copal in Korea. What is usually labeled as "amber" in ethnographic collections is actually a recent resin gathered from the Korean Pine Tree (called *seoul* in Korean, whence the name of the capital). This "amber" is typically light in color, quite bubbly, and has a higher specific gravity (is more dense than) true amber [Eun 1983].

In addition to the hat strings, other beads were worn on the men's heads. The top-knot itself often had an amber or jade bead attached to it [X.Y.Z. 1896:265]. Just behind the ears perforated discs or buttons were sewn onto the headband. Royal family members were entitled to wear these buttons made of smooth green jade, while other noblemen wore them respectively made of smooth white jade, smooth gold, carved gold, carved white jade, and "tortoise shell." [Osgood 1951:140]. An oval or crescent shaped bead of amber, "tortoise shell," or horn could be worn in front of the headband [X.Y.Z. 1896:265]. The proprietors of an antique shop in Kyongju kindly showed me a top-hat still in its shaped papier-mâché box. The bead for the front of the headband for this set was made of amber glass, triangular in section, with a V perforation in the back.

Boys' pigtails also required particular beads, as they were commonly worn by being laid along a wide ribbon and were held in place by long barrel shaped beads, flat on the side lying against the hair. Some of these pigtail beads in the National Folklore Museum appear to be made of amber or copal. However, several that I saw in antique shops were made of an artificial material which was white and crumbly inside and red on the surface. This may be the material sometimes called "composition," made by pressing and gluing bits of sawdust, bone or other powdered substances together.

Men did not have the exclusive use of beads; women also used them, though sparingly and with unerring good taste. Small cloth caps were worn on special occasions, and always by brides. Beads were sewn onto these caps or otherwise attached to them. This was not the craft of beadwork, as it consisted of sewing on individual isolated large beads. The wealthy wore amber, coral, jade, turquoise, and carnelian; glass, "tortoise shell," and "composition" were also employed.

The most universal woman's accessory was the hair pin. Expensive ones were elaborately decorated with flowers, butterflies and other jewelers' whimsys. Jade, coral and amber beads were often attached to these pins.

Another important dress accessory which occasioned excuses to wear beads were tassels. The single tassel (the *No Rai Gae*) was worn on the coat, and the triple tassel (the *Dae Sam Jak*) was attached to the belt. Two important styles of triple tassels are the "Heavenly Peach," which holds three pairs of peach-shaped beads made of malachite, coral and amber, and the "Seven Treasures," which contains gold, silver, emeralds, crystal, jade, agate, pearl, and *magwoe* (a mineral supposed to emit fire-like rays).

Perhaps the most sumptuous of these silk tassels is the "Red Coral" with its pairs of red, blue and white tassels. Against the red tassels is suspended a large, unshaped piece of amber. The white tassels hold a fine branch of deep red coral. The center blue tassels hold two butterflies made of cut-out jade pieces topped by butterfly shaped gold plates. The gold plates are further decorated with beads of coral, carnelian, malachite, jade, and agate. (Figure 6)

We shall close this section with a few miscellaneous notes of bead use in Yi Korea. Beads were used to adorn some accessories held in the hand which were necessities at the court, including fans and the ivory identification tablets for officials. A shamen's cap in the National Folklore Museum is completely covered with dark translucent blue wound glass beads, perhaps the closest to beadwork recorded in this period; Korean shamen were very often women. At least two types of seeds were used for beads in old Korea: the King Sejong University Museum displays a strand of beads made from *okee* fruit (or acorns; *Quercus dentata*), and in an antique shop I was shown a strand of large globular Job's Tears (either *Coix lacryma-jobi* var. *monilifer* or *Coix gigantea*) [see Jain and Banerjee 1974:39].

Beads and Buddhism

Buddhism was the Korean state religion until the Yis rose to power, at which time it was replaced by neo-Confusianism. Although officially discouraged, Buddhism survived as folk piety in the countryside and never disappeared. This is significant for us because of the Buddhist use of the rosary and of amulets associated with Buddhist beliefs.

On the walls of some Buddhist temples charts containing a devotional work, "The Classic of the Rosary," were affixed. These small posters included a representation of the rosary and an explanatory text. One copy of the "Classic," which had been paid for by a maiden named Pak to bring blessings to herself and her family, was published in the last century [Anonymous 1895]. This particular copy was judged to be old because of the obsolescence of some of its Chinese characters.

The text says that the Buddha taught King Paruri the use of the rosary, which was divided into twelve parts. One bead was for Sakya Muni Buddha, two were for the Bodhisattvas, six for the Paramitas, eight for the guardians, 33 for the heavens, 28 for the animals of the constellations, five for the Kings of Heaven, two for places on Earth, 18 for the Hells, two for the benefactors, and one for the person saying the rosary.

The list is somewhat erroneous, as it totals only 106 beads. While a Buddhist rosary normally has 108 beads, the Koreans traditionally use 110 beads, as illustrated on the chart. Of the two extra large beads, one had a swastika on it and was placed at the beginning of the strand and the other was plain and put at the midpoint. Furthermore, the text and the chart do not tally: the chart has 20 Hells in place of 18, eight Bodhisattvas instead of two and no identifiable localities on Earth.

Despite these discrepancies, the "Classic" is interesting to read. The names of the Hells are naturally highly descriptive: the Hell Where One Continually Exists, the Hell of Pulling Out the Tongue, the Hell of Nailing the Body to Iron Beds, the Hell of Melted Copper, and so on in a similar vein. The bead for the disciple who used the rosary is number 42, and immediately precedes the Hells. The text also makes comments on the materials used for the beads:

Now you can calculate that on repeating the rosary once you will obtain ten fold virtues. If the beads are of lotus seeds you will obtain blessings a thousand fold. If the beads are of pure crystal you will obtain blessings ten thousand fold. But if the beads are made from the Bodhi tree (*Ficus Religiosa*) [*sic*] even if you only grasp the Rosary the blessings that you obtain will be incalculable.

[Anonymous 1895:25]

Another use of beads associated with Buddhism were what are commonly called "coin charms" in English. These consist of perforated metal discs resembling Chinese coins which are usually fastened to an

elaborate holder or chatelaine. The charms may have been in use during the Koryo Period, but they were elaborated during the late Yi Dynasty. They were officially and privately minted exclusively in Seoul and were primarily used there. Most of them were made of yellow brass. Copper, lead and white brass were next most popular, while silver and bronze ones were rare (Hutchins 1977:12-13). (Figure 7)

The charms attracted the attention of numismatists in the West soon after Korea became accessible. Ramsden originally identified fifteen types of coin charms, dividing them primarily by shape (butterfly, bat, weight, fan, octagonal, scalloped, etc.). Later, Starr classified nine types of the chatelaines, including openwork, solid plates, and holders that looked like large coins themselves [Starr 1917:42-4, 68-70].

A most interesting study of these coin charms was done by Hutchins, who attempted a psycho-social evaluation of them in the Korean context. She correctly stressed that they were not amulets, although she would have more accurately called them talismans rather than by the general term, "charm." The Koreans call them *pyolchon* or *pyolton*, names which mean "special or separate money" [Hutchins 1977:13]. We cannot agree, however, with Hutchins' reluctance to call these coin charms a form of jewelry [Ibid.:14].

Hutchins' analysis shows that the coin charms were talismans designed to bring their owner the *obok* (the five blessings of life): *su* or longevity, *pu* or wealth, *kangnyŏng* or health and peace, *yu hoŏk* or cultivation of virtues, and *no chongmyŏng* or natural death (as opposed to violent or lonely death) [Hutchins 1977]. What is striking in this analysis is that most of the symbolism associated with the coin charms is Buddhist in nature. The charms are another example of popular art-cum-superstition which flourished in Korea even though it ran counter to the official Yi philosophical position.

Summary

The Yi Period was hardly a high point in the story of beads. The Yis did not set out purposely to abolish the use of beads, but they could hardly have done much better had they tried. Their xenophobic attitude shut Korea off from other ideas. The loss of court patronage for the arts meant that many crafts, apparently including glassmaking, either languished or disappeared altogether. The officially prescribed dress made no use of the ordinary modes of wearing beads such as necklaces or similar strands.

Yet beads survived. New and particularly Korean uses for them were found, and they became vital components of Korean costume, though their roles were much different from those which they had played in earlier centuries in Korea or in other parts of the world. Beads were also utilized by the "underground" religions: Buddhism and shamanism.

There may well be a lesson for us here: the widespread love of beads triumphed over a strong authoritarian regime which was apathetic toward beadmaking and even hostile toward some traditional bead roles. It is another instance of the universal appeal of these small ornaments.

SECTION FIVE:

THE MODERN PERIOD

Korea was forcibly ushered into the modern era when Japan annexed it in 1910, to remain part of Japan's Asian Empire until 1945. Unhappily, new troubles came in the wake of Independence, including a sanguinary war and the division of the country. Since then, the Communist North has become ever more isolated, a modern Hermit Kingdom, complete with a ruling dynasty, while South Korea has enjoyed unprecedented economic growth.

The Japanese developed Korea unevenly. Although they built up Korean industry, they did so only to monopolize it. Korea was a colony to be exploited, yet so underdeveloped that any new industry was innovative. As a result, different interpretations of the period exist. Osgood has said, "Everything possible was done to further industry and trade. Japanese industrialists were encouraged to develop the country. . ." [1951:281]. Others, however, have concluded that although the Japanese invested heavily in Korea they only tried to mass-produce crafts, which resulted in a "miserable stagnation. . . The development potentialities of designing were forgotten and neglected by the foreign masters, who did not allow the arts to do more than maintain platitudinous repetition of past mediocrity." [KNCUNESCO 1960:397]

The Korean glass bead industry may be considered a case history in the Japanese industrial policy toward the Korean colony. Little had previously been known of the Korean glass bead industry except that it was operating in the mid-1970s [Howell 1982]. It was assumed that the industry had recently been begun by the Japanese at this time [Francis 1983b:5], but its history is somewhat older and more interesting.

During the early colonial period, Japanese glass beads were sent to Korea for "finishing," which apparently meant stringing. In 1927 five Korean youths were sent to Japan to learn beadmaking. The group included Park Che Chun, then thirteen years old. When Park returned to Korea in 1934, he opened the first modern Korean glass bead factory at the age of twenty, producing mostly beads for hat strings [Park 1983].

Park trained a number of assistants, including Kim Jae Eun, who opened the Young Shin Company in 1965 to succeed Park's factory. This is the oldest of ten such units now operating, most of them in villages near Seoul.

Glass beads made in Korea are formed by the lamp-winding process. The method for making beads has been essentially unchanged since Park was taught in Japan in the 1920s; Kim could recall no modifications that had been introduced in the process during his lifetime.

The glass itself is made in a modern glass factory in Ch'ongju in the form of uni- or multicolored canes which are sold to the beadmaking units. Fifteen or twenty canes of the same or different colors, each about 15 cm. (6 inches) long, are bundled together and tied with a wire. This bundle is then heated at an air-forced petroleum flame. As the glass melts, it drops onto a coated copper wire which is rotated by the worker with the hand not holding the glass. The refractory coating on the wire consists primarily of pulverized quartz mixed with perhaps as many as 30 other chemicals.

Once the beads are built up on the wire they are shaped by being rotated in a short wooden trough or are pinched into special shapes with metal tools. The beads are cooled in different ways: smaller ones are often quickly quenched in water; larger ones are placed either in a box filled with fine sand or merely rested on the work table.

To make a large number of small beads very quickly, a wire is suspended above the work table with one end attached to an upright post and the other end hung over a pulley and held down with a weight. The worker holds the glass in one hand and with the other hand spins the wire. This technique is quick, and the spinning wire helps the beads attain a spherical shape.

The methods described here are similar to those used in traditional Japanese glass beadmaking. The bundled canes of glass heated over a lamp to make wound beads is still used by traditional Japanese beadmakers [Takahashi 1983 a]. The technique of forming many small beads along a suspended wire was in use in Medieval Japan (Takahashi 1983 b:65).

The Koreans produce a wide variety of glass beads. Some are excellent imitations of stones, including malachite and jade in green, blue, pink, and "mutton fat" white. Multicolored swirled glass is popular, especially a "butterscotch" pattern. The Young Shin Company made pressed cabochons, some with metallic coatings, a few years ago, but the demand for them has waned. Several special shapes are made: birds and double-toothed interlocking beads, and, of course, the *gokuk*.

Besides the making of beads by lamp-winding, one company, O Sac Cho Jah of Seoul, manufactures tiny beadwork ("seed") beads. Most Korean glass beads are sold domestically; Japan is the largest foreign customer. Selling is never done directly by the manufacturer, but through trading companies.

In addition to glass, other bead materials are employed in Korea. One of these is the survival of an old home craft practiced by Korean women. Multiple strands of silk are wound around a core (traditionally of wood, but now of plastic) to cover the entire surface of the bead. After the beads are covered with silk, they are dyed in a wide range of colors.

Another unusual bead made in Korea is the product of Japanese technology. These beads are hand-made from a special mixture of flour (farina) and a binder or glue. After the mixture of farina and binder is shaped by hand into crude oblates, barrels, leaves, *gokuk*, etc., it is colored and the beads are set to dry in the air for a few hours, becoming quite hard.

The farina bead industry is a unique phenomenon. It was introduced from Japan in the early 1960s and still remains under Japanese control, because the formulation of the flour and binder are secrets, and these raw materials can only be imported from Japan. The Koreans learn to make these farina beads by attending sessions at the Flour Flower Institute in Seoul. After completing the course, they set up beadmaking workshops in their homes. There are an estimated 500 to 1000 units presently operating.

The farina beads are relatively expensive, perhaps because only 20 to 30 can be made by a worker in an hour. A strand with only a dozen beads may sell for several times what a strand of silk-wound or glass beads would cost. The market for farina beads is entirely domestic. They have found favor with young women, especially university students.

Korea's "economic miracle" is a product of many factors, most importantly a skilled, hard working, and loyal work force. Much of Korea's economic boom is fueled by exports. Foreign markets can be penetrated by producing small valuable labor-intensive items, and jewelry fits this bill rather well. A Korean jewelry export drive is in progress, and Korean jewelry is winning favor for its distinctive look [Ahrens 1984:32-3].

In 1981 exports of Korean jewelry totaled \$U.S. 49,700,000. The U.S.A. was the biggest customer (\$20; all figures in millions), followed by West Germany (\$6.6), France (\$4.0), Britain (\$3.6), Japan (\$3.1), the Netherlands (\$1.9), and ten other countries [Buyers' Guide 1982:65].

Some of Korea's exports are products which have used since antiquity such as pearls, which are still dived for by the women of Cheju Island. Other materials and techniques are of relatively recent introduction. Fine enamel work is now being done there, but this is a newly acquired art.

A number of minerals are cut into beads in Korea. However, buyers of such beads must exercise caution and understand precisely what materials are offered for sale.

Korea jade is quite popular, but most jade sold in Korea and all that is specifically called "Korea jade" or "new jade" is neither nephrite nor jadeite, but bowenite, a form of serpentine [Woolley 1983:273]. Amethysts are common; many of the amethysts cut in Korea are apparently Japanese synthetics, which are mineralogically indistinguishable from natural gems [Federman 1984]. Recently, however, Korea has begun to mine good quality local amethysts [Precious Stones Newsletter 1984:3]. A stone called "smoky topaz" is also popular. There is no such thing as a smoky variety of topaz; this term refers to smoky quartz, and is likely a synthetic as well [Nassau 1980:956-7]. Carnelian, crystal, agate and other stones are also cut into beads. Though the prices are not especially competitive with India or even a secondary market such as Thailand, the quality is high.

There are also bead industries making beads of plastic, shell, horn, bone, and wood. Unfortunately, the limited time available did not allow for investigations into these industries.

All this activity seems to touch the Korean woman in the street only lightly. Few women seem to wear beads, though they are more popular with the younger set than with their mothers. The situation reminds

one of the queen that Underwood met or the peasant women of Sŏndup'o village on Kanghwa Island (in the Han estuary) described by Osgood. He tells us that her hair is rolled into a bun and held in place with a thick brass pin at the back. She also wore another pin:

The smaller silver one beside [the brass pin] is essentially an ornament, and her only one. She may, however, use it to clean her ears, and it is said in all seriousness that a woman may stick her husband's testes with it if his sexual vigor lags.

[Osgood 1951:34]

SECTION SIX:

FINAL REFLECTIONS

There are many avenues by which one may approach Korean beads. Historical and techno-social approaches have been employed here, but our desire for "facts to piece the story together" need not blind us to the sheer beauty of much of Korea's bead heritage.

The early archaeological finds at Kyongju were a revelation to those who had been taught that Korea had always been a cultural backwater. The "high technical excellence and . . . artistic beauty" of the finds were immediately recognized [Sansom 1929:5]. The form of Korean beads and the ways in which they were employed are typical of Korean aesthetic values. In contrast to Chinese art, which has been called "majestic in scale and perfect in technique," or Japanese art, characterized as "small in scale but elaborate and artificial in form," Korean art is considered to be "of natural and plain beauty" [Yi Chong-sok 1974:58]. Korean art has been further described as being human in scale, harmonious with nature, using light and quiet colors and avoiding self-conscious cleverness and over-decoration [Choi 1981:61,64].

Certainly these descriptions are appropriate for the bulk of Korean beads and jewelry. To the list we would only add "originality and a unique Korean flavor." The long history of the *gokuk*, including the establishment of a glass industry merely to produce them, is an example of the tenacious grasp in which Koreans have always held their own cultural heritage. Developing new ways to employ beads when the old ways were denied (in the Yi Period) attests to the specific Korean genius as much as to their love of beads.

The story of beads in Korea does *not* parallel the story of beads in other nations. This is due in part to the unique historical development of Korean culture and demonstrates the limitless uses to which beads can be put.

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- Abrasives, 16
- Acorns, 28
- Aesthetics, 35
- Afghanistan, 15
- Agate, Indian, 14
 - modern bead cutting, 33
 - neolithic bead, 7
 - seven treasures, 28
- Alkali in glass, 19
- Altaic language, 3
- Alumina in glass, 19
- Amazonite, cylindrical beads, 8
 - gokuk*, 9
- Amber, 10, 16
 - beads on hairpins, 28
 - on hat string, 27
 - on tassels, 28
 - beads on women's caps, 28
 - colored glass, 27
 - Korean copal, 27
 - in Muryong's tomb, 11
 - pigtail ribbon beads, 28
- Amethyst, drop pendants, 22
 - Korean deposits, 33
 - synthetic, 33
- Amulets, early, 7
- Archaeology, Japanese, 3
 - Korean, 3
 - Research on beads, 3
- Arikamedu, 14
- Bamboo beads, hat strings, 27
- Bangles, neolithic, 7
- Beadwork, 28
- Blair, D., 20, 22, 23
- Blue Flower, 13
- Bodhi* tree, 29
- Bone, animal, carved, 7
 - deer 5, 6
 - modern bead cutting, 33
- Bowenite, 33
- Brass, coin charms, 30
 - hairpin, 34
- Bronze, coin charms, 30
 - ornaments, lack of, 8
 - technology, 8
- Bronze Age, dates, 8
- Buddhism, charms, 12
 - rosary, 29
- Bunwhang Temple, 22
- Burma, jade, 14
- Buttons, bronze, 8
 - for men's heads, 27
- Chang-chia-chia-tzu, 9
- Canton jade carving, 16
- "Capstan bead," 10
- Carnelian, 10, 13
 - beads on tassels, 28
 - beads on women's hats, 28
 - Mich'u's tomb, 12-13
 - mistaken for amber, 11
 - modern bead cutting, 33
 - source of, 14
- Cervidae phalanges, 5, 6
- Chatelaines, 30
- Cheju Island, pearls, 21
- China, aesthetics, 35
 - bronze from, 8
 - coins, 29-30
 - colonization by, 10
 - human figure pendants, 12
 - India relations, 16
 - influence of, 3, 15, 23
 - jade carving, 16-17
 - jade source, 14
 - lapidaries, 14
 - Paekche relations, 15
 - silver valued, 21
 - sumptuary laws, 21
- Ch'ommal Cave, 5
- Ch'ong-jong T'a-wang, 25
- Ch'ong-ju, 32
- Chun'cheon, jade, 15
- Ch'ungch'ŏn, 7
- Ch'unjin-dong, 8
- Chu Yüan-chang, 22
- Classic of the Rosary, 29
- Coin charms, 29-30
- Coix* sp., 28
- Commoners, beads, 20
 - dress, 22
 - modern, 33-34
- Composition, 28
- Copal, Korean, 27
- Copper coin charms, 30
- Coral, beads on caps, 28
 - on hair pins, 28
 - tassel, 28
- Crystal (quartz), 10
 - faceted beads, 12
 - gokuk*, 12
 - modern bead cutting, 33
 - rosary beads, 29
 - seven treasures, 28
 - source of, 14
- Cylindrical beads, 11, 27
 - earliest, 7, 8

- Dae Sam Jak*, 28
 Deer toe bones, 5, 6
 Dress regulations, 21, 22, 24-5
 Drilling, hand-held, 9
 mechanized, 8
 misplaced hole, 9
 one side only, 12

 Ear reels, 10
 Earrings, Yi period, 24
 Egypt, gold-glass, 12
 Embroidered panels, 25
 Emeralds, 28

 Fans, beads on, 28
 Farina beads, 32-33
Ficus religiosa, 29
 Finger rings, neolithic, 7
 Five Blessings, 30
 Flour Flower Institute, 33
 Flying Horse Tomb, bronze, 8
 glass *gokuk*, 13
 objects preserved, 20
 Funan, 16

 Gilding, 16
 Glass, amber colored, 27
 analyses, 18-19
 beadmaking, modern, 32
 beads on hat strings, 27
 beads on shaman's cap, 28
 beads on women's caps, 28
 blue, 13
 corroded beads, 12, 19-20
 cylindrical beads, 8
 drawn monochromes, 11, 13
 distribution, origin, 14
 earliest in Korea, 10
 eye bead, dark blue, 13, 14
 glass disease, 19
 gokuk, 19-20
 gold-glass, 12, 14
 human figure pendant, 12, 14
 jade substitute, 13, 32
 Japanese began, 31
 kiln near Kyongju, 17
 Korean industry, 31-32
 Korean made, 13, 17-20
 mosaic face bead, 13, 14
 Persian wheel-cut, 14
 post-Silla, 22
 Rhineland vessels, 14
 Silla and Koryŏ, 22
 Syrian vessels, 13
 Yi period, 23

 Glazed quartz bead, 11
Gokuk, amber, 13
 blue glass, 13, 20
 blue jade, 13
 crystal, 12, 13, 22
 design, 15
 development, 9
 farina, 32
 glass, 13, 19-20
 jade, 11, 13, 22
 Korean made, 19-20
 modern glass, 32
 outside Korea, 15
 Gold, buttons, 27
 Korean gold working, 16
 in Muryong's tomb, 11
 ornaments, 20-21
 seven treasures, 28
 Silla famous for, 10
 Gold Crowns, 15
 Gold Crown Tomb, discovery, 10
 girdle of, 20
 Gold-glass, 12, 14
 Gold Phoenix Tomb, 20
 Granulation, 16
 Guilds, 26

 Hair pins, 26, 34
 Han Byong-sam, glass kiln, 17
 on *gokuk*, 9
 Hermit Kingdom, 3, 23
 Hideyoshi, 24
Homo sapiens sapiens, 5
 Horn beads, on hat strings, 27
 modern, 33
 Hulbert, H.B., 24, 25
 Hutchins, C.S., 30
 Hyo-jung T'a-wang, 25

 India, agate beads, 14
 China relations, 16
 colonizing SE Asia, 16
 drawn monochromes, 14
 gold-glass, 12
 Indonesia, 14, 16
 Ivory, beads, hat strings, 27
 I.D. tablets, 21, 28

 Jade, beads on hairpins, 28
 beads on women's caps, 28
 blue, 13
 buttons, 27
 carving, 16-17
 earliest, 7, 8

- Jade, cont.
 gold capped *gokuk*, 11
 Korean deposits, 15
 mineralogy of, 14
 red, 10
 seven treasures, 28
 sources of, 14
 tassels, 28
 Three Kingdoms, 10
 Jadeite, 14, 15
 Japan, aesthetics, 35
 annexes Korea, 3, 25, 31
 assassinate Queen Min, 25
 beadmaking techniques, 32
 bronze from Korea, 8
 excavations in Korea, 10
 farina beads, 32-33
 gifts from Paekche, 16
 industrial policy, 31
 invasion by Hideyoshi, 24
 jade source, 14
 Korean beadmaking, 31
 magatama, 9
 sumptuary laws, 21
 synthetic amethyst, 33
 Jeon, S-w, 20
 Jet/coal, 10, 16
 Korean origin, 14
 Muryong's tomb, 11
 Jewelry exports, 33
 Job's tears, 28
 Jung-lo, 8

 Kanghwa Island, 34
 Kang-Shang, 8
 Khordadbek, 10
 Kim Hong Chip, 25
 Kim Jae Eun, 31
 Kim Wŏn-yong, 6
 Koejong, 9
 Koguryo, 10, 15, 21, 22
 Ko-jong, King, 25
 Kongju, 10
 Museum, 11
 Korea, aesthetics, 35
 costume, 23, 26
 ornaments abroad, 15
 Korea jade, 33
 Koreans, more Chinese than the
 Chinese themselves, 23
 Koryo dynasty, 22
 Kum Ryong, 12
 Kunz, G.F., 9
 Kyongju, 10, 12

 Lamm, C.J., 19
 Lead coin charms, 30
 Li Ch'eng-yüan, 16
 Lime in glass, 19
 Lo-lang, 10
 Lotus seeds, 29

Macaca robustus, 5
Magatama, 9
Magwoe, 28
 Mahan tribe,
 gold and silver, 10
 and pearls, 21
 tattoos, 10
 Malachite beads, 28
 glass imitation, 32
 Malaysia, 14
 Manchu, clothes, 23
 invasion, 24
 Manchuria, 3, 15
 Mesolithic, 6
 Mich'u, Silla King, 12-13
 Min, Queen assisnated, 25
 Misong-ni (cave), 7
 Miura, Japanese ambassador, 25
 Mollusc shell, 7
 carved in tooth shape, 7
 modern beads, 33
 Mongols, 22
 established clothes, 24
 Mosaic face bead, 13, 14
 origin, 14
 Muryong, Paekche King, 11, 20
 news of death in China, 15

 Namsong-ni, 9
 Nangmin-dong, 8
 Nephrite, 14
 in Korea, 15
 New jade, 33
Nihon shoki, 16
No Rai Gae, 28

Obok, 30
 Ocher, 5
 Okee fruit, 28
 Ornaments, earliest, 5
 O Sac Cho Jah Co., 32
 Osgood, C., 31, 34

 Paekche, 10, 22
 China relations, 15
 gifts to Japan, 16
 Pak Yŭng-hyo, 25

- Paleolithic, Lower/Middle, 5
 Park Che Chun, 31
 Pazyryk, U.S.S.R., 15
 Pearls, sold to China, 10
 source and use, 21
 Pendant, anthropomorphic, 7
 dagger shape, 7
 Persia, glass, 14
 glazed quartz, 11
 The Philippines, 14
 Pigtailed, boys, 26
 ribbon beads, 28
 Plastic beads, 33
 Pottery beads, 10
 glazed, Muryong's tomb, 11
 Pup-heung, 21, 22
 Pusan, 7
 Puyŏ, 10, 15
 Pyŏlchon/pyolton, 30

 Quartz, see Crystal
Quercus dentata, 28

 Ramsden, R.A., 30
 Red Coral Tassel, 28
 Repoussé, 16
 Republic of Korea, size, 3
 Rhineland glass, 14
 Roman Empire, glass, 14
 Indian trade, 16
 Korea relations, 14
 Rosary, 29

 Scythians, 15
 Seoul, glass beadmaking, 32
 mints coin charms, 30
 named for tree, 27
 population, 3
Seoul (Korean pine tree), 27
 Serpentine, 33
 Seungan Temple, 22
 Seven Treasures, 28
 Siberia, 3
 Silk wound beads, 32
 Silla, 10
 Silver, 10, 20-21
 in China, 21
 coin charms, 30
 hairpin, 34
 seven treasures, 28
 Smoky quartz, 33
 "Smoky topaz," 33
 Sohn Pow-Key, 6
 Sŏkchang-ni (cave), 6

 Sŏndup'o village, 34
 Songrim Temple, 22
 Sop'oheng, 7
 Southeast Asia, 16
 Starr, F., 30
 Strand # 14340, 12, 13
 Suksin, 10
 Sumptuary laws, 21, 25
 Japanese imposition, 25
 Swat Valley, 15
 Synthetic stones, 33
 Syrian glass, 13

 Tassels, 28
 Taxila, 16
 Teeth, animal, 7, 9
 dog, 7
 pig, 7
 Thailand, 14
 Tillya Tepe, 15
 Tomb No. 98, contents, 20
 occupants, 13
 Tongsam-dong, 7
 Topaz, 33
 Top-hat, described, 26
 reform, 25
 strings for, 27
 Top-knot, described, 26
 established, 24
 guilds of makers, 26
 Japanese forbid, 25
 string for, 25
 "Tortoise shell," beads, 27
 beads on women's caps, 28
 buttons, 27
 Trade in beads, 13 ff.
 Turkestan (Qing Zang), 14
 Kharosthi documents, 16
 Turquoise beads, 28
 Turubong No. 2 Cave, 5, 6

 Ural-Altaic, 3

 Wang-so, 22
 Wang-uk, 22
 Weems, C.N., 23
 Wei-shu, 14
 Wigs, 25
 Wi-man, 24
 Wood, beads on hat strings, 27
 beads, modern, 33
 Women, fish for pearls, 21
 making silk wound beads, 32
 modern bead wearing, 33-4

X.Y.Z., 25, 26, 27

Yemaek Tungus, and bronze, 8
goldworking, 10

Yi Dynasty, 3, 23
coin charms, 30
costume, 24
jewelry under, 24

Yi Ho, 25

Yi Tu, 24

Yi Yun, 25

Yi Yung-jo, 5

Yoanghung-yi, 9

Yong Shin Co., 31

Yoshimizu, 14

Yü Tso-T'u, 16

Zinc bronze, 8

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