Heirloom Beads and Bronze Plates of the Burmese Chin

Their links to the ancient Qiang people and Proto-Indo-Europeans originating in Anatolia/The Levant spreading West and East via the cultures of Yarmukian, Vinca, Cucuteni, LBK, Greece, Ur, Bactria, Hongshan, Daxi, Majiayao, Qijia, Shang, Zhou, Qin and Han Dynasties

6000 BC to the present day

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PART 8

The ‘House’ or ‘Ancestor’ Bead

This bead may well be of interest to mathematicians. We have four which we consider to be ancient in our collection (we do not show beads we think are 1900s reproductions). Two have twelve pentagons; two have ten pentagons. All beads are spheres and measure approximately 13mm in diameter. We have no reason to think that the beads were fashioned other than in the same time period but have no way of proving this other than typology. A similar bead with dodecahedron pentagons was discovered in Burma and is catalogued by Elizabeth Moore in her ‘Beads of Myanmar (Burma)’. Beck (1933) placed this bead design at Taxila, 300 BC to 200 AD but we believe he had no knowledge of the Chin beads and their much greater age.

Three of the beads are situated prominently on the necklaces at or near the bottom. The fourth bead is loose and was mixed up with others when the string broke. This loose bead is one of two which fluoresce under shortwave light. Interestingly, two of the necklaces are made up of zigzag, or mountain, barrel beads.

We must leave it to others more qualified than us to ascertain whether the two beads with a dodecahedron form is one of the earliest representations of this structure. The subject of platonic solids and Plato is too deep for us to investigate and come to a logical conclusion.

Trying to locate images of ancient dodecahedra to our proposed time period c. 2300 BC led us to the Pictish carved stone balls which may be as old as 5300 years. The authenticated ones such as those held by the Ashmolean Museum in Oxford do not have a dodecahedron form, but other researchers such as Robert Lawlor in ‘Sacred Geometry’ 1979 and Keith Critchlow in ‘Time Stands Still: New Light on Megalithic Science’ also 1979, published a photo of five stone balls, one of which resembled our bead configurations. The stone balls are much larger than the beads.

Having read the blog at www.neverendingbooks.org/the-scottish-solids-hoax we are left in doubt as to the authenticity of this photo which can be viewed at the website.

This could well place our beads with the complex arrangement of twelve pentagons in the running for the oldest-known representation of a dodecahedron on a spherical object.

We demonstrate that the pentagon symbol was evident on Shang Dynasty precious objects such as jade turtles and a similar icon used on oracle bone inscriptions. Notably, we show that the pentagon image is to be found on much earlier Hongshan Nieuheliang jade objects.

Figure 859(a)

Figure 860

Figure 861

Figure 859(b)

Figures 859(a,b). Chin necklace and beads
Figure 860. OBI: http://sunwinism.net/index.php?m=content&c=index&a=show&catid=35&id=8899
Figure 861. Drawing of bead from Elizabeth H Moore's 'Beads of Myanmar' 1993

Figure 862

The Hongshan jade turtle shown here (figure 862) from the Niuheliang burial site has identical shaped 'houses' on the shell. Possibly the design on the bead is meant to represent longevity. Turtles would have been observed living long lives.

Images: http://www.chinascan.org/archives/753/this-jade-turtle-shell-is-a-relic-of-the-hongshan-culture-that-existed-5000-years-ago-it-was-unearthed-at-jianping-liaoning-province

Figure 863 Figure 864

Figure 863. Jade turtle, http://www.qqma.com/product/38674352.html
Figure 864. Chin bead

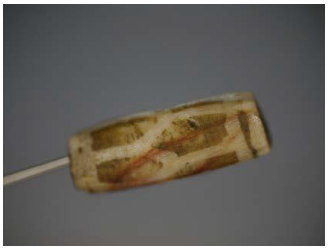


Figure 865. Two Chin beads with 'house' symbols

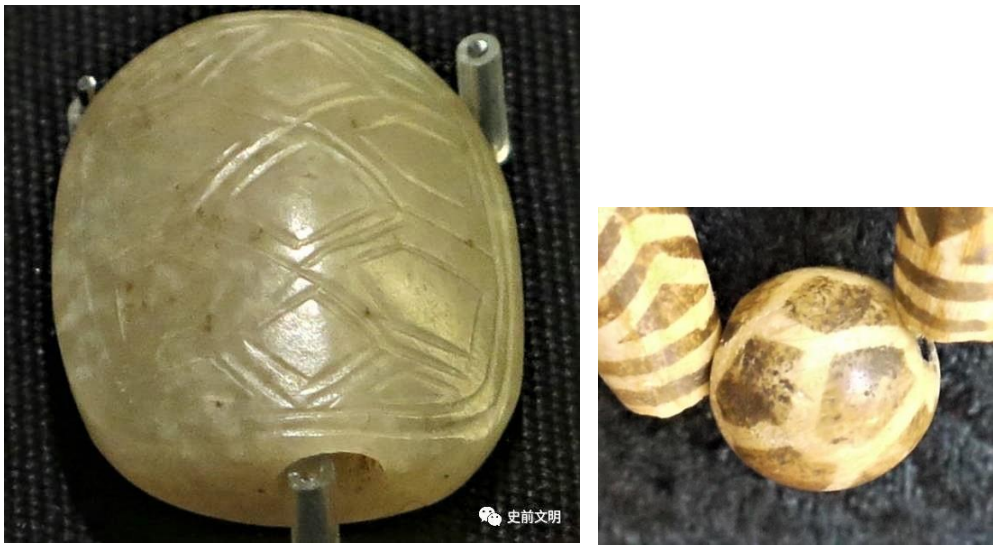


Figure 866. Shang Dynasty jade turtle c. 1200 BC depicting ‘house/ancestor’ and ‘lozenge’ symbols as labelled by us.
http://blog.sina.com.cn/s/blog_b343523f0102v0lr.html
Note the ‘house’ similarity with the image below (figure 867); jade carvings thousands of years apart.
Chin 'house' bead for comparison.

In figures 867(b)(c) we show jades with inscriptions on the plastron of turtle images. The blog presented the following explanation for them. This is reproduced in figure 867(a) below:

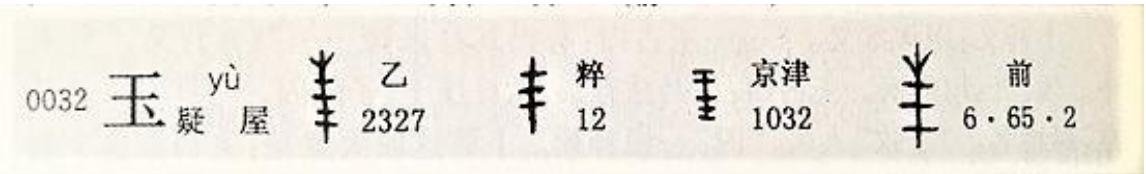


Figure 867(a). http://blog.sina.com.cn/s/blog_a3afa4c60102xvfx.html

As an indication of the different types of jade used to represent turtles, we show two carvings, reported as Hongshan, with rare inscriptions on their undersides (figures 867(b)(c). Note the replication of the ‘house’ or ‘ancestor’ image which we find on the Chin beads shown previously. Reminder: use caution with ‘Hongshan’ jades. The images were obtained from a very interesting piece on early jades at: http://blog.sina.com.cn/s/blog_a3afa4c60102xvfx.html

Figure 867(b)

Figure 867(c)

Figure 868. Oracle Bone 1610 in the British Library

Figure 869. Possible development of the symbol into modern Chinese language. https://pan.baidu.com/s/1pK9k2tt

Apart from the Hongshan jade (figures 862,867) it has been difficult to find any examples of this symbol appearing on any artifacts prior to the Shang Dynasty. However, it does resemble the pattern represented on the Shang jade which, as is well-known, was a material probably valued above all else. The outlines are very clear on the jades with the nearest representation to the Chin bead design being the much earlier Hongshan turtle. This indicates that the turtles in the area did have this shell pattern; a fact which we explore in greater depth later.

We are faced with a conundrum. We date the Chin beads to c. 2300 BC. They all appear to be contemporary. However, we are basing this on the beads and string configuration which may be an entirely false assumption. The question is: did the bead design precede the ones on the Shang jades and were based on the Hongshan design, which were in turn based on PIE symbols? It was important enough to appear on oracle bone inscriptions and made its way into the modern Chinese language.

The ‘Lotus’ or ‘Miao Shan’ Bead

This is a very ancient symbol. We have shown it to be prominent in Ur. The importance given to it by the ancient Qiang is evident in that it is attached to a very auspicious set of 78 beads. As with the fore mentioned ‘Leiwen’ bead (also attached to a very special set of 78 beads) we believe this bead to be a clan symbol. Associated with this symbol is Kuan-Yin, the leading lotus deity of China, dated by early scholars to the Chin T'ien epoch c. 2587 BC. Could the appearance of the Qiang be the origin of this story? The symbol appears on both sides of the bead.

Figure 870. Chin necklace and 'lotus' bead

Figure 871

Figure 872

Figure 873

Figure 874

Figure 875

Figure 876

Figure 877

Figures 871,873-875. Neolithic pottery spinning wheels. Qujialing culture 3400–2600 BC. Note the markings around the rim which are remarkably similar to Banpo pottery markings shown earlier in figures 843,844.
屈家岭文化时期纺织轮 http://bbs.sssc.cn/thread-4150836-1-11.html
Figures 872,877. Chin bead
Figure 876. Spinning whorls http://www.beijingmuseum.org.cn/other/content/2008-07/07/content_22576.htm

Figure 878

Figure 879

Figure 880

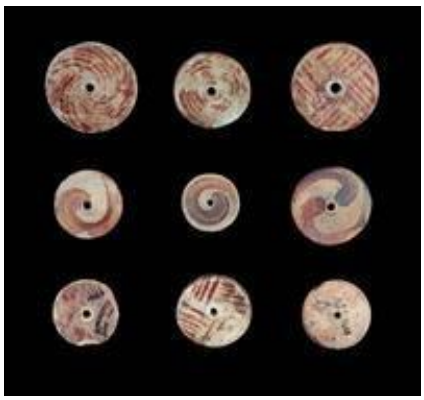
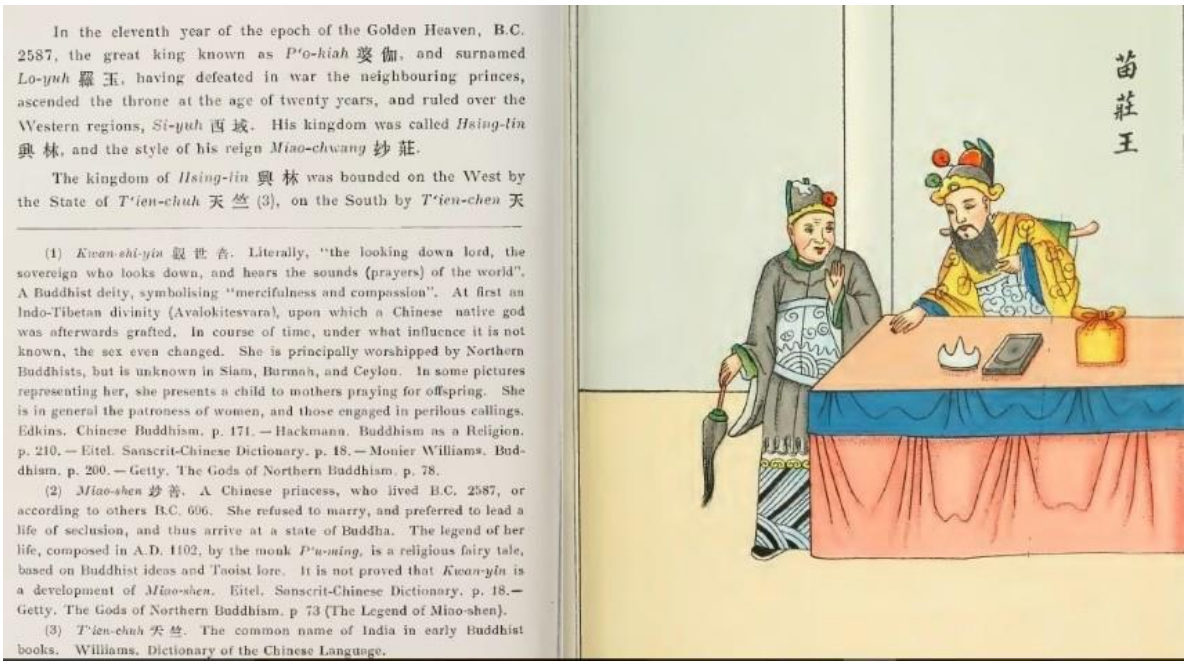


Figure 881

Images of spinning whorls and wheels from the middle reaches of the Yangtze
Figure 878. http://blog.sina.com.cn/s/blog_4948f92e0100cppq.html
Figure 879. http://www.360doc.com/content/15/0722/15/7224286_486654827.shtml
Figure 880. http://blog.sina.com.cn/s/blog_4948f92e0100cppq.html
Figure 881. http://www.beijingmuseum.org.cn/other/content/2008-07/07/content_22576.htm

This universal symbol, whose images are to be found far back in the depths of antiquity, links Chenrezig with the ancient Lotus Goddess of the past. Her existence, in various forms, can be traced as far back as 2500 BCE, when images of her were made during the great Mohenjo-Daro civilization of the Indus. Joseph Campbell writes of her, 'She is a special aspect or local development of the Mother Earth of old: the great mother goddess of the Chalolithic period, who was worshipped over a wide area of the world.'[14] The Mother Goddess, whose image has been found in caves in Uttar Pradesh, India, and carbon-dated to 20,000 BCE, is very ancient indeed. Her later association with the lotus can be seen from lands as far afield as the Mediterranean, the Black Sea and the valley of the Danube, replicating the features of an early Sumero-Semitic goddess of Mesopotamia and pre-Aryan times.

Figure 882. The Lotus goddess from 'Traveller in Space: Gender, Identity and Tibetan Buddhism' by June Campbell 2002. Source: Google books



In the eleventh year of the epoch of the Golden Heaven, B.C. 2587, the great king known as *P'o-kiah* 婆伽, and surnamed *Lo-yuh* 羅玉, having defeated in war the neighbouring princes, ascended the throne at the age of twenty years, and ruled over the Western regions, *Si-yuh* 西域. His kingdom was called *Hsing-lin* 興林, and the style of his reign *Miao-chwang* 妙莊.

The kingdom of *Hsing-lin* 興林 was bounded on the West by the State of *T'ien-chuh* 天竺 (3), on the South by *T'ien-chen* 天

(1) *Kwan-shi-yin* 觀世音. Literally, "the looking down lord, the sovereign who looks down, and hears the sounds (prayers) of the world". A Buddhist deity, symbolising "mercifulness and compassion". At first an Indo-Tibetan divinity (Avalokitesvara), upon which a Chinese native god was afterwards grafted. In course of time, under what influence it is not known, the sex even changed. She is principally worshipped by Northern Buddhists, but is unknown in Siam, Burmah, and Ceylon. In some pictures representing her, she presents a child to mothers praying for offspring. She is in general the patroness of women, and those engaged in perilous callings. Edkins. Chinese Buddhism. p. 171. — Hackmann. Buddhism as a Religion. p. 210. — Eitel. Sanscrit-Chinese Dictionary. p. 18. — Monier Williams. Buddhism. p. 200. — Getty. The Gods of Northern Buddhism. p. 78.

(2) *Miao-shen* 妙善. A Chinese princess, who lived B.C. 2587, or according to others B.C. 696. She refused to marry, and preferred to lead a life of seclusion, and thus arrive at a state of Buddha. The legend of her life, composed in A.D. 1102, by the monk *P'u-ming*, is a religious fairy tale, based on Buddhist ideas and Taoist lore. It is not proved that *Kwan-yin* is a development of *Miao-shen*. Eitel. Sanscrit-Chinese Dictionary. p. 18.— Getty. The Gods of Northern Buddhism. p 73 (The Legend of Miao-shen).

(3) *T'ien-chuh* 天竺. The common name of India in early Buddhist books. Williams. Dictionary of the Chinese Language.

苗莊王

Figure 883. Excerpt from ‘Researches into Chinese superstitions’ by Henry Doré, S.J. 1926. The book places the legend of Kuan-Yin, the leading lotus deity of China, to the Chin T'ien epoch c. 2587 BC. Others date her to the Zhou c. 696 BC.
Figure 884. Front cover of 'Chinese Superstitions' by Doré,

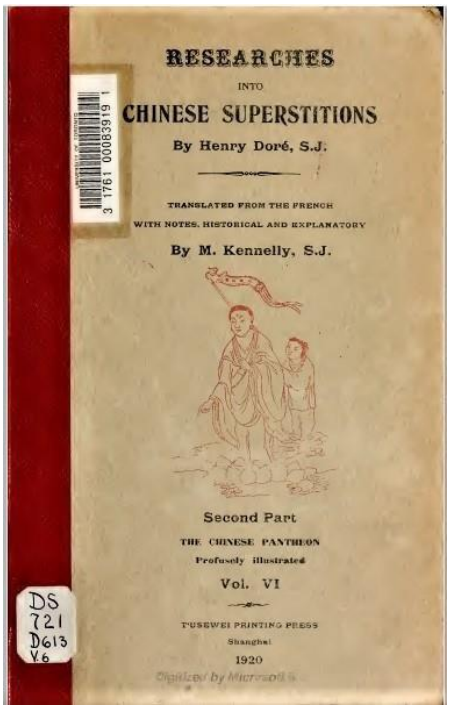


Figure 884

Fig. 37bis.

Typus Pulle seu Cybeles aut Indie Sinensium

The eighteen-armed Kwan-yin, rising from the sea, and attended by two Dalai-Lamas, re-incarnated reflexes of the goddess

ments," appended to the ancient corpus of the Rig Veda.* Here, in twenty-nine stanzas, she is celebrated and described. Most significantly, all the traits that are to characterize her in the still later, "classical" period of Hindu mythology and art, already are announced in this earliest hymn. Not improbably, she existed among the people long before the priests of the invaders deigned to grant her recognition. Ageless as the basic culture-forms of India itself, she comes down, as it were, from everlasting to everlasting, without essential change.

In this apocryphal hymn appended to the Rig Veda the Lotus Goddess is already called by her two classic names, Shrī and Lakshmī, and is associated in every possible way with the lotus symbol. She is praised as "lotus-born" (*padmasaṁbhavā*), "standing on a lotus" (*padmeṣṭhitā*) "lotus-colored" (*padmavarṇa*), "lotus-thighed" (*padma-ūrū*), "lotus-eyed" (*padmākṣī*), "abounding in lotuses" (*padminī, puṣkariṇī*), "decked with lotus garlands" (*padmamālinī*). As the tutelary deity of the rice-growing agriculture of native India, she is called, "The One Possessing Dung" (*karīṣiṇī*). Her two sons are Mud (*kardama*) and Moisture (*cikliṭa*), personifications of the ingredients of a rich soil. She is "honey-like" (*mādhavī*), and is said to grant "gold, cows, horses, and slaves." She wears "garlands of silver and gold." She bestows health, long life, prosperity, offspring, and fame. Fame personified is another of her sons.† She is "made of gold" (*hiran-*

* Khila, no. 8. Cf. I. Scheftelowitz, "Zeitschrift der Deutsch-Morgenländischen Gesellschaft," Bd. 75 (1921), pp. 37ff., where the hymn is translated and analyzed.
† The Hindu kings, besides being married to their chief queen and other wife-consorts, are said to be married to Shrī-Lakshmī, who is their kingly fortune and good luck incarnate. When this "Kingly Fortune" (*rāja-lakshmī*) forsakes them, under the ordinance of Fate, the king is doomed to lose his realm.

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As other divinities are represented in human form above their animal symbols, so this goddess Padmā, or Lotus, stands above or is seated upon a lotus. She is associated with this flower as invariably as is Vishnu with the Milky Ocean. The goddess "to whom the lotus is dear" (*padmapriyā*) is among the principal figures sculptured on the richly decorated gates and railings of the earliest Buddhist stupas—those of Sāñchī and Bhārhut (second and first centuries B.C.). In Figure 15, from Bhārhut, she is shown in one of her classic poses. Out of a jar filled with water, the vessel of abundance, five lotus blossoms stem, two supporting a flanking pair of elephants. From uplifted trunks the animals gently pour water over the broad-hipped patroness of fertility—Gajā-Lakshmī, "Lakshmī of the Elephants"—who smiles, and with the right hand uplifts her fully rounded breasts in a gesture of maternal benevolence.

The hymn attached to the Rig Veda addresses her: *prajānām bhavasi mātā*, "Thou art the mother of created beings"; and as the Mother she is called, *kṣamā*, "Earth." She is thus a special aspect or local development of the Mother Earth of old: the great mother goddess of the Chalcolithic period, who was worshiped over a wide area of the world, and of whom innumerable images have been found throughout the ancient Near East, in the lands of the Mediterranean, the Black Sea, and in the Danube valley. She is a sister, or double, of the well known goddesses of early Sumero-Semitic Mesopotamia; and thus she furnishes a clew to pre-Aryan linkages between India and the sources of our Western tradition of myth and symbol.

An archaic image of the goddess Lotus appears on a terracotta plaque from Basārh, dating from about the third century B.C. (Figure 16.) She stands on a lotus pedestal, with two lotus blos-

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Figure 885. Excerpt from ‘Researches into Chinese superstitions’ by Henry Doré, S.J. 1926

Further investigation into the 'Eye' bead

Although we locate the original symbol to the Ukraine 18000–15000 BC, we noticed similarities with turtle faces when viewing the beads from certain angles. They would appear to resemble images of turtles living in Neolithic China. The importance of the turtle to the ancient Chinese is borne out by their extensive use of carapaces for oracle bone divination, especially during the Shang Dynasty. All turtles shown here are from East Asia and China. The Sanxingdui head bronzes' eyes c.1200 BC remind us of this shape. The symbol was already ancient and could have been adapted by the Shang under PIE/Qiang influence.

Figure 886

Figure 887

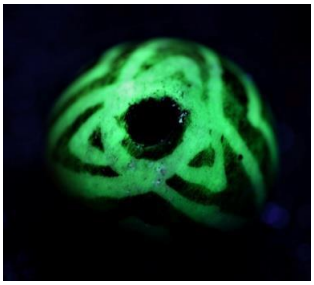


Figure 888

Figure 889

Figure 890

Figure 891

Possible similarities between the beads and turtles said to resemble those that lived in the Shang era, Mauremys species of the type currently living in the Anyang era, shown here.
Figures 886,888,890. Chin beads
Figure 887. http://www.asianturtleprogram.org/pages/map_project/ Volleyball_in_central_Vietnam_Mar 15/Volleyball_in_central_Vietnam_30Mar15.html
Figure 889. http://www.turtlesurvival.org/blog/1-blog/130-tsa-europe-assists-with-illegal-turtle-confiscations#.W3MUU-hKjIU
Figure 891. https://www.flickr.com/photos/domenicodezio/3877941436

There have been a number of limited attempts at identifying the turtle remains from the archaeological site at An-yang. Ping (1930) described an extinct terrestrial tortoise, *Testudo anyangensis*, based on an uninscribed shell from An-yang. Lindholm (1931) concluded that the turtle examined by Ping was, in fact, an aquatic turtle closely related to the living turtle *Ocadia sinensis*, and he renamed the turtle *Pseudocadia anyangensis*. Pope (1935), in his monograph on the reptiles of China, accepted Lindholm's redescription and included a lengthy discussion of the presumably extinct *Pseudocadia*.

In 1937 more of the An-yang turtle remains, including the specimen described as *Pseudocadia anyangensis*, were examined by Bien. He concluded that the differences between *Pseudocadia* and the living form *Ocadia sinensis* were not sufficient to justify the recognition of two species, and he placed the name *Pseudocadia anyangensis* in synonymy with *Ocadia sinensis*. In addition, Bien was first to recognize the remains of another living species, *Chinemys* (=*Geoclemmys*) *reevesi*, at the An-yang site. H. W. Wu (1943) identified the largest plastron (*Ping-pien* 184) as a third species, the tortoise *Testudo emys*.

Several American authors have made reference to the turtles from the An-yang site. Pope (cited in Carr, 1952) referred to the presence of *Pseudocadia* at An-yang. Possibly unfamiliar with the work of Lindholm and Bien, Auffenberg (1962) commented on Ping's original description of *Testudo anyangensis*, stating that the shell was definitely that of a freshwater turtle rather than that of a terrestrial tortoise as Ping had suggested (the same conclusion reached earlier by Lindholm). Auffenberg suggested that the An-yang turtle should be renamed *Clemmys anyangensis* (Ping). McDowell (1964), in a taxonomic revision of the turtle family Testudinidae (the family Emydidae of many authors), suggested that *Testudo anyangensis* Ping should be placed in synonymy with the living species *Mauremys mutica* based on the greater likelihood of its having occurred in the area near An-yang, and on the inadequacy of several characteristics used by Ping, Lindholm, and Bien in distinguishing *Mauremys* from *Ocadia*. *Mauremys mutica* would thus represent the fourth species represented at An-yang.

Ting Su (1969) has made the only attempt to date to identify the An-yang turtle shells quantitatively. By comparing ratios of various seams between epidermal scutes on a limited sample of

Figure 892. Excerpt from: Identification of the Inscribed Turtle Shells of Shang by James F. Barry in 'Sources of Shang History: The Oracle-bone Inscriptions of Bronze Age China' by David N. Keightley 1978. Source: Google books

Figure 893

Figure 894

Figure 893. Chin bead. It is a stretch of the imagination, but a possible argument could be made that the Qiang identified this symbol with the turtles living at that time.
Figure 894. https://www.iucn.org/news/viet-nam/201607/dna-surveys-offer-hope-viet-nams- critically-endangered-turtles

The ‘Moon’ Bead

The importance of the moon to the ancient Chinese is well documented. We speculate that the beads were used to calculate lunar movements. On each bead there are 7 waxing moons and on the other side there are 7 waning moons. 30 beads on the necklace. Whether waxing or waning would depend on the position of the bead. Sizes: 11mm to 13mm dia. Great hole wear is visible denoting ancient beads due do the hardness of the material resisting string-wear for so long.

Figure 895

Figure 896

Figure 897

Figure 898

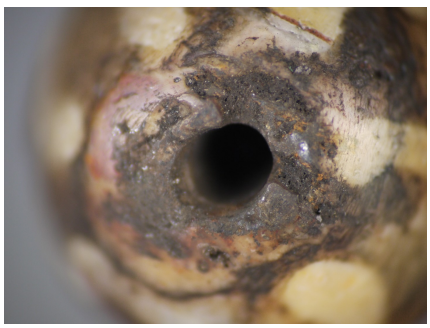
Figure 899

Figures 896,898. 精致灰陶响铃, delicate grey pottery ball. The artifact that could be considered as some type of calendar with waxing/waning moons. bbs.sssc.cn/thread-6495792-1-63.html
Figure 895,896,899. Chin 'moon' beads

Above: Yangshao culture pot with moon symbols 5000-3000 BC. Neolithic Gallery, Sanmenxia City Museum, Henan, China. Compare the design with the moon beads shown below.
https://www.flickr.com/photos/101561334@N08/16265223874/in/album-72157649143132774/







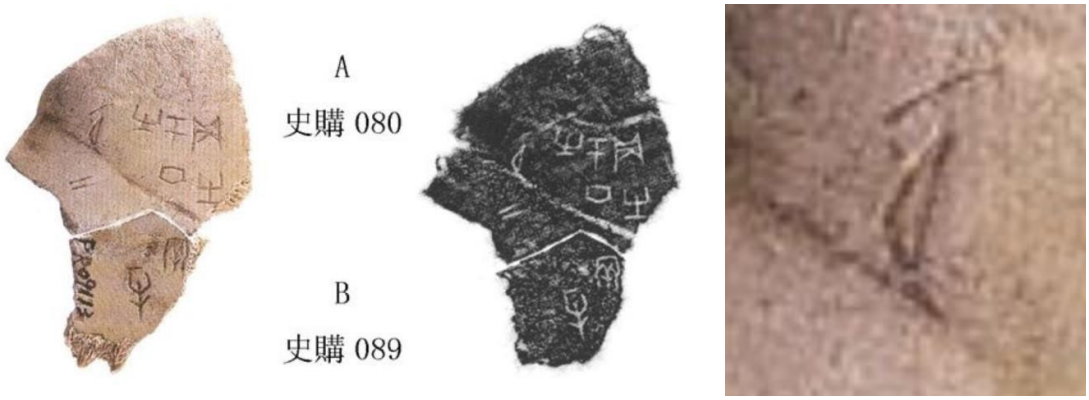



Figure 900

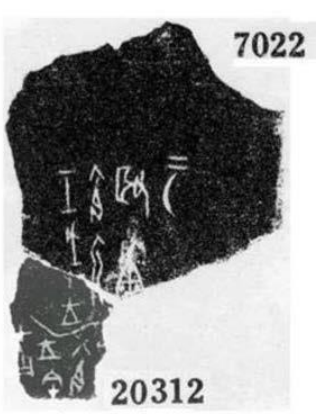


Figure 901

Figure 902

Figure 903

Examples of OBI for the moon.
Figure 900. http://www.xianqin.org/blog/archives/1954.html/comment-page-1
Figure 901. http://www.xianqin.org/blog/archives/2974.html
Figure 902. Chin bead
Figure 903. http://hanziyuan.net/#home (previously http://chineseetymology.org)

Figure 904. Moon necklace with 30 beads

Figure 905. Oracle bone inscriptions representing the moon.
http://blog.sina.cn/dpool/blog/newblog/mblog/controllers/ exception.php?sign=B00301&uid=125 9295385

Figure 906. Table of oracle bone inscriptions depicting the moon. Source: the Humanum.arts website

From time immemorial, the moon has been worshipped by humans. In 'The Religion of Babylonia and Assyria' Theophilus G. Pinches, LL.D wrote in 1906:

> Sin or Nannara. The cult of the moon-god was one of the most popular in Babylonia, the chief seat of his worship being at Uru (now Muqayyar 1) the Biblical Ur of the Chaldees. The origin of the name Sin is unknown, but it is thought that it may be a corruption of Zu-ena, * knowledge-lord,' as the compound ideograph expressing his name may be read and translated. Besides this compound ideograph, the name of the god Sin was also expressed by the character for '30,' provided with the prefix of divinity, an ideograph which is due to the thirty days of the month, and is thought to be of late date. With regard to Nannar, Jastrow explains it as being for Narnar, and renders it 'light-producer.' In a long hymn to this god he is described in many lines as * the lord, prince of the gods, who in heaven alone is supreme/ and as ' father Nannar.' Among his other descriptive titles are ' great Anu ' (Sum. ana gale, Semitic Bab. Anu rabil) another instance of the identification of two deities. He was also 'lord of Or/ c lord of the temple Gisnu-gala/ 'lord of the shining crown/ etc. He is also said to be ' the

mighty steer whose horns are strong, whose limbs are perfect, who is bearded with a beard of lapis-stone, 1 who is filled with beauty and fullness (of splendour) Besides Babylonia and Assyria, he was also worshipped in other parts of the Semitic east, especially at Harran, to which city Abraham migrated, scholars say, in consequence of the patron-deity being the same as at Ur of the Chaldees, where he had passed the earlier of his life. The Mountain, of Sinai and the Desert of Sin, both bear his name. According to king Dungi (about 2700 B a), the spouse of Sin or Nannara was Nin-Uruwa, 'the lady of Ur.' Sargon of Assyria (722-705 B.C.) calls her Nin-gala.

Figure 907

The original 1915 caption for figure 907 was: "Worship of the Moon God. Cylinder-seal of Khashkhamer, patesi of Ishkun-Sin (in North Babylonia), and vassal of Ur-Engur, king of Ur (c. 2400 BC) (British Museum). Source: Donald A. Mackenzie, Myths of Babylonia and Assyria (1915), p. 50 [1][2], Messrs. Mansell & Co.

Figure 908. Chin moon beads. Note extreme hole wear, depicting great age of quartz-like hardness

Following on from the Ur connections, much more of which is explored later in this study with reference to Woolley's works, some remarkable similarities in Chin folklore and Biblical accounts are recounted here:
http://www.burmalibrary.org/docs22/1901-Census_of_India-Burma-pt_I-tu.pdf
Census of India, 1901. Volume XI i: Burma. Part I. Report by C. C. Lowis of the Indian Civil Service, Superintendent, Census Operations p124

> 5. The Siyin fable about the origin of the various tribes and clans in the Hills is peculiar, in that it corresponds to our fable of the Tower of Babel. “The Siyin fables runs: Many centuries ago all the Chins lived in one large village, somewhere south of Haka. They all spoke the same language and had the same customs. One day, at a big council, it was decided that the moon should be captured and made to shine permanently. By this means a great deal of unnecessary expense and bother would be saved in lighting. In consequence the construction of a high house (tower) was begun which should reach up to the moon. After years of labour the house had got so high that it meant many days of hard marching for the people working on the top to come down to the village to get provisions. It was therefore decided that as stage upon stage was built it should be inhabited, food, &c., being passed up from stage to stage, from below. In this way the people inhabiting the different stages gradually got out of touch with one another. From the very little intercourse the Chins of each stage had with one another, they acquired different manners, languages and customs. In the end when the structure had all but been completed, the nat in the moon was so enraged at the daring of the Chins, that he visited them with a fearful storm of rain, wind, thunder and lightning. During this storm the tower collapsed. It fell from south to north. The people inhabiting the different stages were consequently strewn over the land and built villages where they fell. Hence the different tribes and clans varying in customs and manners. The stones and building materials which formed this huge tower now form the Chin Hills.

We shall assume that most people are familiar with the Biblical account of the Tower of Babel, and refer to discoveries at Etemenanki, especially following media programs during 2017.

> As an Assyriologist, I don't deal in the Bible, and I am not a religious person, but in this case, I can say there is an actual building which does seem to be the inspiration for the Biblical narrative. Assyriologist Dr. Andrew George, a professor of Babylonian at the University of London, is referring to a sixth-century BCE stone tablet with a carving of a ziggurat – a terraced step pyramid common in Mesopotamia. The ziggurat is flanked by a figure identified as King Nebuchadnezzar II and an inscription that reads, "Tower of Temple of Babylon." The 2.600-year-old tablet was discovered a century ago. What took so long to connect these seemingly obvious dots?
> Quotation and figure 909 source: http://mysteriousuniverse.org/2017/05/stone-tablet-may-be-proof-that-tower-of-babel-was-real/

Figure 909

During the reign of king Hammurabi (1792-1750), Babylonia was the leading power of Mesopotamia. In his age, there were ziggurats in lesser towns like Qatara, Aššur, Sippar, Kish, Borsippa, Nippur, Uruk, Larsa, Ur, and Eridu. It would be very strange if the capital of the world would be the only city without a ziggurat. It may be noted that the creation epic Enûma êliš with its reference to the building of the Esagila (and the implication of the existence of the Etemenanki), had already been written.
http://www.livius.org/articles/place/babylon/etemenanki/

Pwen chúk chow, *n*, ... A flood. The deluge. (*a*)
Pwen chúk chow, klúng = To have a flood.

(*a*) NOTE.—Chins have traditions of a great flood or deluge, which occurred, they say, a very long time ago, and was coeval with the origin of their race. These stories of course in no way correspond with the Jewish one; but they are worth mentioning. Each tribe has its own version, which varies a good deal in details. Thus, the Hakas' story runs, that after continuous rain for three months the whole of the hills became submerged and all people, excepting a brother and sister, perished in the floods. These two saved themselves by getting into a large earthen jar which floated about, and when the waters subsided the jar settled on the *Mún Ktlang* mountain, which is about 10 miles from Haka. The couple then set about selecting a site to build a house on. After wandering about they eventually settled down on the site of the present village of Haka, where they built themselves a house, and this was the founding of Haka. They lived on roots and berries, and one day the man shot a dove, which the Chins say, was specially sent by the great Spirit of the heavens, for on opening the crop of the bird, it was found full of all kinds of grain, such as rice, millet, and other grain now found in the hills, and vegetable seeds. The man with the help of his sister, whom he had taken to himself to wife, made a field and sowed the seeds so providentially provided them by the dove. In due time the grain was harvested and the whole of it was sown again, none of it being used for food. In this way, in the course of a few years, their food-supplies rapidly increased and they had abundant now to eat. The woman wove garments to

Still another legend of the flood gives the following as the story of the origin of the various tribes. After the brother and sister had escaped from the deluge they married and had a son. The Spirit dwelling in the heavens now told the man that if he would sacrifice his child, the result would be an immediate increase in the inhabitants of the hills; he would thus become powerful and the head of a great race. The father thereupon took his son to the forest and there he sacrificed him to the Spirit, at the direction of whom the body was cut up into small pieces and a piece of each placed in hollows of trees and cavities of rocks. From each of these spots sprung a tribe who founded villages and thus, according to the word of the Spirit, the man became the head of a great race. The Chins get their characters according to which part of the body of the child they have sprung from; thus, the Hakas arose from the head and brains and for that reason are the cutest of the tribes and may be said to have ruled all the rest. Those who sprung from the hands became skilled in cultivation and various handicrafts, such as villages who make iron implements, or brass ornaments for the hair, or who are potters, or those who manufactured the ornamental pipes, powder-horns, and tobacco flasks; those who make baskets, rain coats, rain hats, and mats, and so on. Those who sprung from the loins and legs were noted for their strength and powers of endurance, and so on.

All Chin legends are of a very vague and fragmentary character, and every Chin gives a different version adding embellishments of his own and drawing on his own imagination to fill in any *hiatus* that may exist in the original legend.

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Figure 910

The Great Flood also features in Chin folklore. The excerpts (figure 910) are taken from A.G.E. Newland's Practical Hand-book Language of the Lais, which has been referred to previously. Note the reference to the dove in the first excerpt and sacrifice of first child in the second excerpt. Both are remarkably similar to Biblical references; however, the Chin story ends with the sacrifice actually taking place.

A five-thousand-year-old stone monument shaped like a lunar crescent has been found near the Sea of Galilee. The crescent shape, and the fact that it is located next to an ancient town named Bet Yerah (‘House of the Moon God’) leads researchers to suggest that the structure was dedicated to the Moon God, Sin, although its actual function is unknown.

Figure 911. A 5000-year-old crescent moon idol near the Sea of Galilee. http://www.ancient-origins.net/news- history-archaeology/massive-5000-year-old-monument-dedicated-moon-god-found-near-sea-galilee

Dating of Beads

Dating of beads is very difficult and following convention we refer to: Classification and nomenclature of beads and pendants by Horace C Beck, 1927. Our research may indicate that designs on the beads could well have an indication of time periods and cultures. We do not think that Horace Beck had seen any pumtek beads at the time of his classification of beads. The following is an excerpt from 'Etched Carnelian Beads' by Horace C. Beck, F.S.A. (read 16th March 1933):

> The first appearance of etched beads is in the earliest period at Kish and in the Royal tombs at Ur. In both cases they cannot be later than 2750 B.C. and they may be earlier. The beads found at Mohenjo-Daro are pretty certainly the same

date. From the rareness of such beads at both Kish and Mohenjo-Daro it is suggested that they were imported into both countries, but from the comparatively large number that have been found at Ur I think it is possible that they were made there. In any case there is no direct evidence of them elsewhere at such an early date.

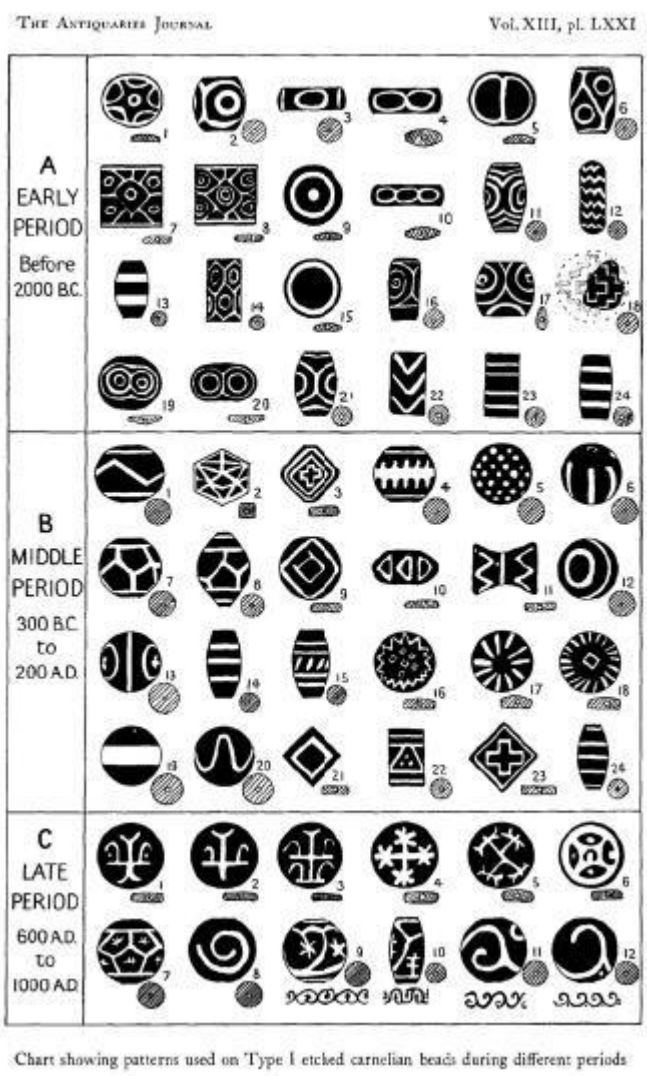


Figure 912. Beck's standard chart for beads

Also, from 'Etched Carnelian Beads' by Horace Beck we find several bead designs that appear on the Chin beads. Several of the 'Beck' beads with the same motifs are made of agate and not carnelian.

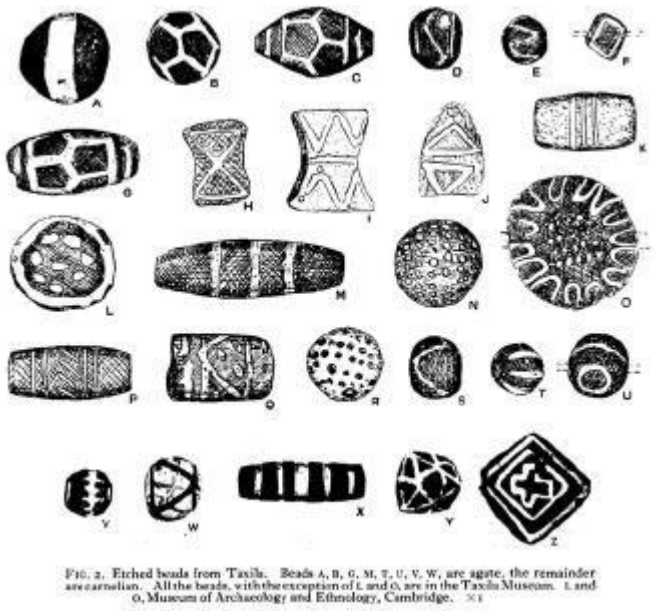


FIG. 2. Etched beads from Taxila. Beads A, B, G, M, T, U, V, W, are agate, the remainder are carnelian. All the beads, with the exception of L and O, are in the Taxila Museum. L and O, Museum of Archaeology and Ethnology, Cambridge. ×1

Figure 913. Etched beads from Taxila by H. Beck

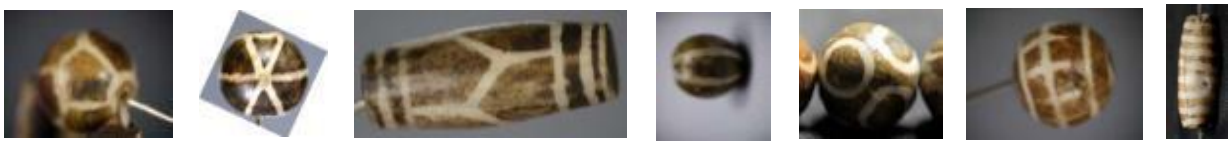


Figure 914. Many Chin bead symbols can be found in Beck's examples from Taxila

Typology plays a particularly important part in the identification of beads. According to Daniella E. Bar-Yosef Mayer in 'Towards a typology of stone beads in the Neolithic Levant,' Tel Aviv University, Tel Aviv, Israel, Journal of Field Archaeology 2013 VOL. 38 NO. 2 129:

> As with other types of artifacts, the basic tools available to the archaeologist are typology and technology, which can be enhanced by additional methodologies: actualistic or experimental studies focusing on the replication of beads using ancient techniques in order to assess the processes involved in bead manufacture; micro-wear studies, which provide data on manufacturing processes and on how the beads were used; and ethno - archaeological research, which speaks to what

> beads mean to their wearers in different societies and how they are manufactured and used. Study of the archaeological context of the beads is also critical as exemplified in the recent discovery of beads and pendants in foundation deposits in Neolithic Cyprus (Vigne et al. 2012: S3). Various disciplines contribute to the investigation of the raw materials from which beads are made, including zoology, botany, mineralogy, and metallurgy.
>
> According to the Oxford English Dictionary, typology is defined as, ‘‘a classification according to general type, especially in archaeology, psychology, or the social sciences,’’ but in an archaeological context typology most often addresses specific physical characteristics of the artifact, such as size, proportions, overall geometric shape, and the shapes of crosssections. Physical characterization may help in the understanding of both the technology used for producing the artifact and the chronology of production and use. Pioneered by Petrie (1899) and expanded upon by others (e.g., Amiran 1969; Bordes 1979), the use of typology has been contested by some archaeologists (Bisson 2000; Hayden 1984; Read 1974, 1989). The aim of this paper, however, is not to debate the perceived usefulness (or lack thereof) of typology in general, but to determine if a bead typology can further the interpretation of their spatial and chronological contexts and aid in our understanding of these artifacts. Stone beads are the focus of the case study below.

An De Waele and Ernie Haerinck, Ghent University, Belgium in: Etched (carnelian) beads from northeast and southeast Arabia 2006 state:

> As to the typology and chronology of etched beads in general there are three major studies at hand by H.C. Beck (1), E.C.L. During Caspers (2) and particularly by J. Reade (3). However, these were published decades ago and included almost no beads from northeast or southeast Arabia. Most of the finds from these regions were only found in the1980s and 1990s.

We propose that the Chin beads fall into this un-researched category.

The following quote and map image (figure 915) are taken from: Study on the etched carnelian beads unearthed in China by Deyun Zhao Department of Archaeology, College of Art and History, Sichuan University, Chengdu, Sichuan 610064, in 'Chinese Archaeology 14 (2014)'. The great importance of Northwest China is fully investigated in our study of the Chin beads.

Figure 915

Distribution of the carnelian beads unearthed in China 1. Qongkok Cemetery, Nilka County; 2. Dalongkou Cemetery, Jimsar County; 3. Bozdong Cemetery, Wensu County; 4. Chawuhu (Charwighul) Goukou Cemetery, Hejing County; 5. Yultuz bagh, Xayar County; 6. M10, Pamir; 7. Loulan Ancient City; 8. Khotan; 9. Niya Site; 10. Shang Sunjiazhai, Datong County; 11. Maquan, Xianyang; 12. Yimen Village, Baoji; 13. Xiasi, Xichuan County; 14. Batatai Cemetery, Qujing; 15. Shizhaishan Cemetery, Jinning County; 16. Lijiashan Cemetery, Jiangchuan County; 17. Guangzhou.

> Etched carnelian beads originated in the Indus Civilization; this kind of ornament and its manufacturing techniques were spread to the whole Eurasia Continent. The etched carnelian beads unearthed in China can be classified into four types, the comparisons of which to their foreign counterparts may reveal their different sources and diffusion routes. The etched carnelian beads and their glass

imitations unearthed in China had influences to the making of the glass "eye beads" in China. Etched carnelian beads are a special kind of beads which are artificially etched. In the past, scholars including A. F. Belllasis, N. G. Majumdar, Ernest Mackey, and H. C. Beck have studied the manufacturing process of carnelian beads and classified them into three types based on their designs: red beads with white decoration, white beads with black lines, and red beads with etched black lines (Niharika 1993: 13–4). In 1972, Dr. Xia Nai (Tso Ming) identified a carnelian bead unearthed at Shizhaishan Cemetery in Jinning County, Yunnan Province. He compared this bead with other specimens collected in Khotan and Xayar, Xinjiang and studied them (1974), which drew special attention among academics. Before his research, Chinese academics were unclear about the origins of the beads and often treated them as common agate ornaments. Following Xia's research, a number of carnelian beads have been identified from the archaeological finds, most of which having clear provenance associated with burials. This information laid a solid foundation for subsequent studies and was used widely as archaeological evidence for cultural communications between China and abroad.

The types of carnelian beads un-earthed in China

At least 55 carnelian beads of the pre-Han periods or Han Dynasty unearthed in China have been identified to date. Most of these beads are found in northwestern China or in Yunnan and Guangdong Provinces, only a few from the Central Plains (Figure 1). All beads are red colored with etched white designs, and of them, 40 are published with pictures. Only a few unearthed carnelian beads are dated later than the Han Dynasty, and found in areas of Xinjiang, Qinghai and Tibet. The earliest carnelian beads found in China so far are dated to the early half of the first millennium BCE. By contrast, carnelian beads had already appeared in the Indus Valley and Mesopotamia by the third millennium BCE (Mackay 1933). In addition, no sign of carnelian bead manufacturing is ever found in China. The 16 carnelian beads found in the Lijiashan Cemetery at Jiangchuan are likely imported goods since their drilling technology is utterly different from traditional Chinese drilling on jade and agate.

Therefore, we believe that the carnelian beads unearthed in China are all imported from other regions, and are indications of early cultural exchanges. Based on current research, carnelian beads originated in the Indus Valley and later disseminated widely in the Near East and Southeast Asia as a result of trade in Eurasia. Nonetheless, those found in the Near East bore distinct local design styles (Aruz 2003), and beads found in Southeast Asia were made of materials different from those in the Indus Valley. These show that in addition to trade products, technologies were also disseminated. Manufacturing was likely present in Southeast Asia as well as the Indus Valley (Theunissen 2000). This is important in understanding the origin of carnelian beads found in China. Up to this point, these beads have not been analyzed. As a preliminary analysis of the origins of these beads, all we can do is to compare them with those found outside China based on types.

Origins of the carnelian beads found in China by Deyun Zhao

Wari-Bateshwar

The following passage concerns ancient beads found in Bangladesh. As shown in figures 916,917 a common symbol appears to be the 'house' or 'ancestor' design as named by us. The Wari- Bateshwar beads could have been made two thousand years later than the 'first-generation' Chin beads.

In Wari-Bateshwar, two types of silver punch-marked coins have been discovered. One type is Janapada or pre-Mauryan silver punch-marked coins. In the subcontinent the Janapada coins were circulated from ca. 600 BC to 400 BC. The discovery of Janapada coins places Wari-Bateshwar back to the Sodosha Maha Janapada (ca. 600-400 BC) kingdom of Indian subcontinent. In recent archaeological excavation evidence of human settlement has been discovered which bears the character of Chalcolithic culture. In Wari-Bateshwar the most important discovery of the chalcolithic culture is black and red ware and evidence of pit-dwelling. Archaeological studies on semi-precious stone beads and other

artefacts found in Wari-Bateshwar indicate people of this land have a rich history of craftsmanship as old as around 2,500 years.

Plenty of semi-precious stone beads are found and unearthed from Wari-Bateshwar and some of those are even identical to the artefacts found in Southeast Asia and other parts in the Indian subcontinent. This suggests that the place was a rich trade centre, which was also one of the second earliest urbanisation sites in the subcontinent.

Archaeologists observe that abundance of beads as found over the years, their varieties, uniqueness of designs, and technical excellence in producing those subsequently lead to assume that the beads were produced locally and there was a rich production centre or industry there. It's not a matter of joke as production of beads of such qualities requires the finest technology, skill and excellence in aesthetic even today. The discovery of plenty more of beads during excavation ultimately substantiate craftsmanship of the people of this land 2,500 years ago," said Prof Sufi Mustafizur Rahman, who led the excavation team from the archaeology department at Jahangirnagar University (JU).

"The rate of the beads found in the area suggests that the place used to produce those and it was also a rich trade centre," Prof Rahman added.

Such is the opinion of Prof Dilip Kumar Chakrabarti, noted Indian archaeologist and head of south Asian archaeology, Cambridge University, who says in the book Ancient Bangladesh that Wari-Bateshwar is the Sounagora emporium described by Ptolemy in 2nd century AD.

http://www.thedailystar.net/news-detail-31153

Figure 916

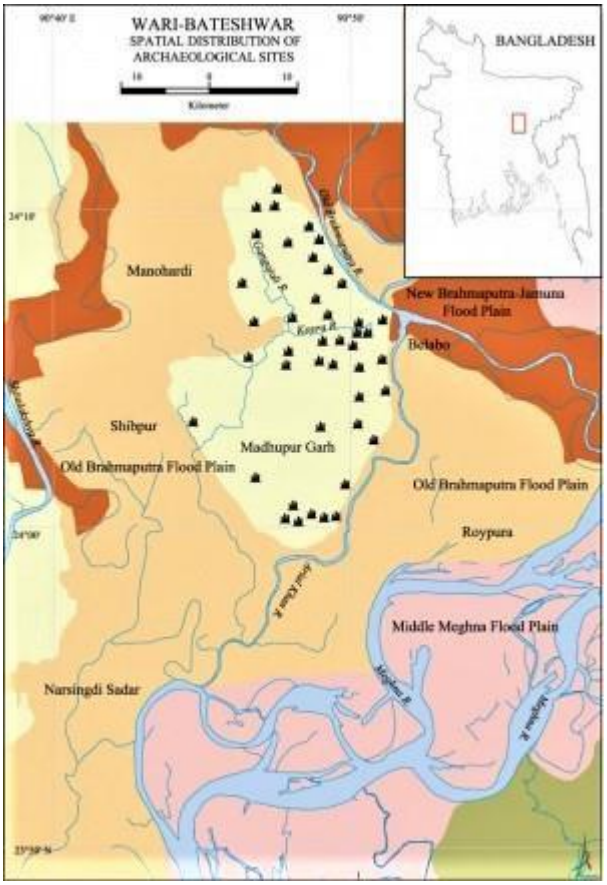


Figure 917

Figure 918

Figures 916-918. http://www.thedailystar.net/news-detail-31153

The Symbols in the British Isles c. 3000 BC

We now turn our attention to the far western reaches of the symbols - the British Isles, where there are many outstanding examples of artwork bearing comparison with the Chin artifacts. As the symbols are also present on vessels some of which are identical to Majiayao culture artifacts, this surely cannot have come about by mere coincidence. See also the Orkney Brodgar Stone shown in figure 349 (a,b).

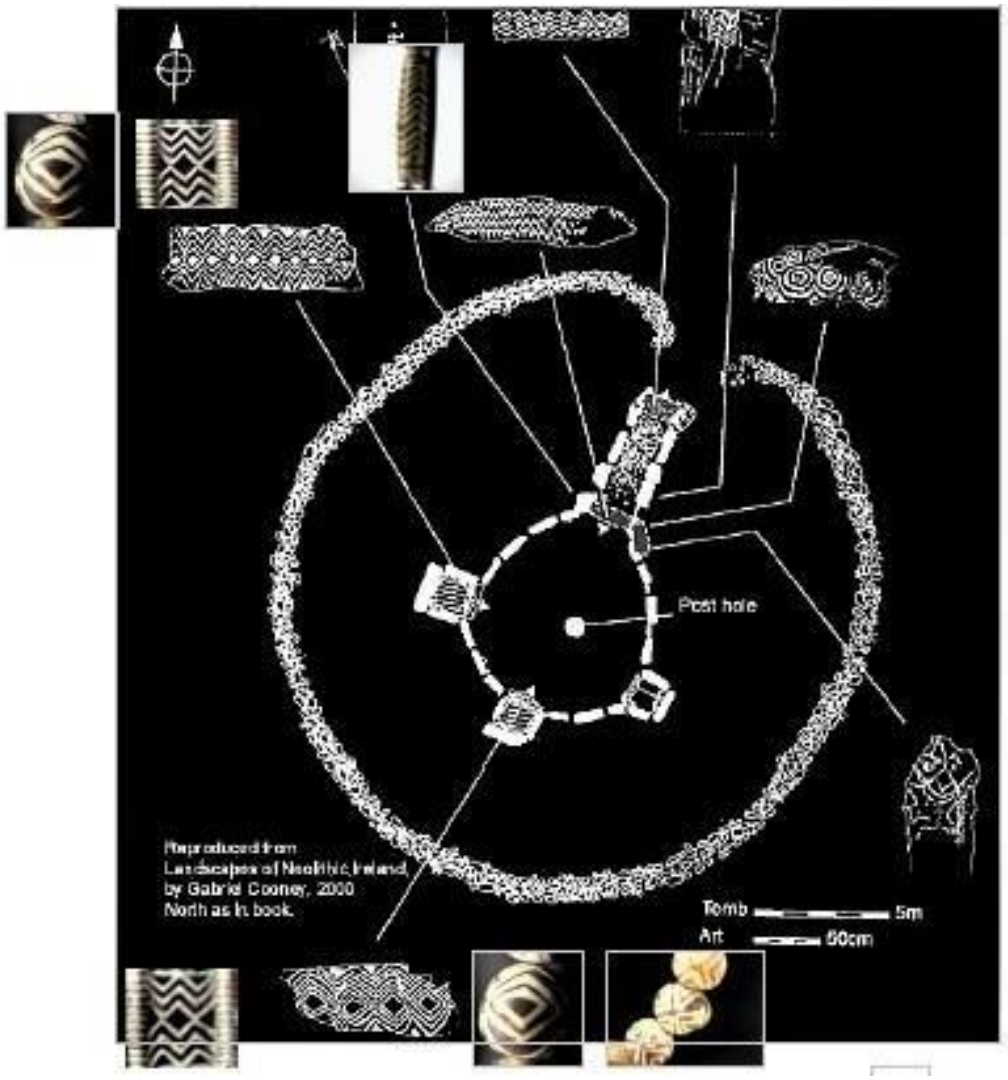


Figure 919. Reproduced from Landscapes of Neolithic Ireland by Gabriel Cooney 2000. With Chin beads and bronzes added by the authors for purposes of comparison.

Figure 920. Fourknocks, Ireland. https://www.knowth.com/newgrange-kerbstones.htm

Figure 921

Figure 922

Figures 921.922. Neolithic carvings from Newgrange, Ireland, c. 3000 BC
Images: http://blog.mythicalireland.com/2017/04/painting-with-light-three-most-highly_13.html

Figure 923

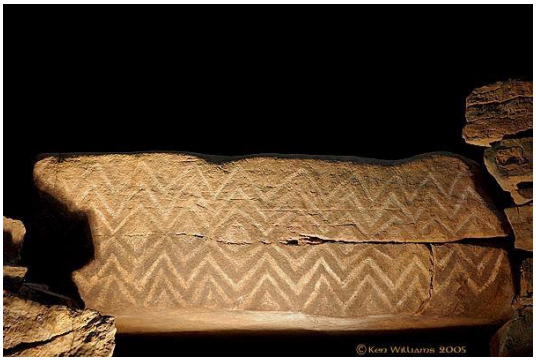


Figure 924

Neolithic tomb at Fourknocks, County Meath, Ireland which, considering the symbols, could be those to be found at Çatalhöyük 3000 years earlier.
Figure 923. https://www.tripadvisor.com/LocationPhotoDirectLink-g186628-d2305032-i189743717-Boyne_Valley_Tours-County_Meath.html
Figure 924. https://cianmcliam.smugmug.com/Ancient-Ireland/Rock-Art/Megalithic-Art/i-G7dFPjP

Figure 925

Figure 926

Figures 925,926. Neolithic tomb c. 3000 BC at Fourknocks, County Meath, Ireland
http://www.megalithicireland.com/Fourknocks.ht

It can be seen that great importance was placed upon the symbols (with Chin bronzes for illustration). Starting in the Ukraine 18000–15000 BC, evolving in the Levant area and travelling to the British Isles by 3000 BC.

Figure 927

Figure 928

Figure 927. Clandon Barrow Lozenge, fourth or third millennium BC. Dorset County Museum, UK https://www.silentearth.org/dorset-county-museum
Figure 928. Folkton Drum 2500–2000 BC. Ancient Britain by T. Rice Holmes 1907

Figure 929

Figure 930

Drinking vessel, West Kennet Long Barrow, England dated prior to 2500 BC
Figure 929. http://www.celticnz.co.nz/Clandonwebsitefiles/Clandon1a.htm
Figure 930. https://www.pinterest.co.uk/pin/495677502709704174/?lp=true)

Figure 931. Gold discs Tedavnet, County Monaghan, Ireland c. 2200 BC. https://arthistoryleavingcert.com/pre-christian-ireland-2/bronze-age/

The Berbers

Berber is a generic name given to the indigenous tribes of North Africa by the Greeks, who referred to all North Africans as “barbarians” or foreigners. The diverse indigenous people of North Africa refer to themselves as Amazigh (pl. Imazighen), meaning “noble ones.” Ethnically Caucasian, they are close to the Semites. Their language, Tamazigh, of the Afro-Asiatic group, uses Arabic, Hebrew, Latin, or Tamazigh letters. The Berber live in ten North African countries, including the Maghrib nations and Egypt. Most Berbers converted to Islam and adopted Arab/Islamic traditions. The majority of Berber live in Morocco and Algeria in the regions of the Atlas Mountains and the Sahara Desert.

Berber carpets containing symbols passed from mother to daughter over the millennia show that they carried these images on their trek from their origins in the Levant.

The Berbers share the M84 Semitic DNA marker, originating in the Levant, with the Chin population. This subject will be explored in greater detail later.

Reference the Berber carpets, we relied heavily upon the magnificent book 'Berber Carpets of Morocco: The Symbols Origin and Meaning' by Bruno Barbatti, 2008.

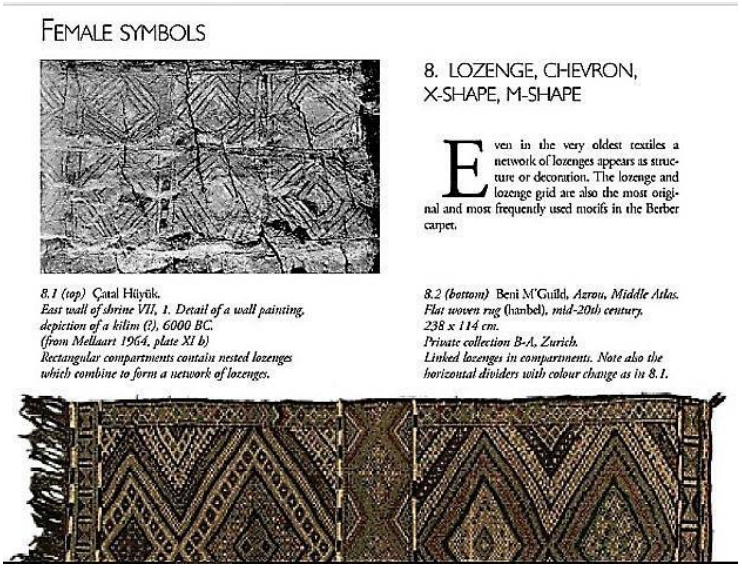


Figure 932

As we have remarked upon earlier in the study, the Berber symbols resemble the wall markings at Catalhoyuk as shown by James Mellaart. Figure 932 is from Bruno Barbatti, 2008 (via Google books)

Figure 933

Figure 934

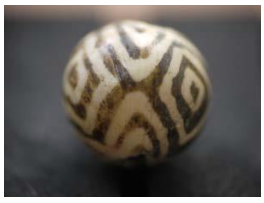


Figure 935

Figure 933. Berber carpet. https://www.pinterest.co.uk/ pin/239394536422723394/
Figure 934. Berber carpet. https://www.pinterest.pt/ pin/565483296956950459/?lp=true
Figure 935. Chin belt and bead

Let us take a closer look at this Berber carpet. The resemblance to the Chin bronze belt pieces is striking, even down to the detail of the sides where the method of fastening the bronzes together is portrayed on the material. Is this not from a long-remembered image, separated by 8,500 kms?

Figure 936(a). Detail from the carpet (figure 934) with Chin bronze pieces shown for comparison

Figure 936(b). There is approximately 8,500 kms distance from Tunisia to Myanmar. Image: Google maps

The Phoenicians were known to trade as far north as the British Isles, and may have had trading posts along the coast of Portugal, Galicia, Asturias and Cantabria, which would have brought a mixture of Near Eastern (J1, J2, E-M34, T, G2a) and Berber (E-M84**,** R1b-V88) lineages to the region, as is observed today https://vieilleeurope.wordpress.com/2016/01/11/the-african-dna-of-europe-e-v13/

We have references to long-distance trade in the third millennium BC, and probably much earlier. The following images depicting a Bronze Age Beaker vessel from Wiltshire, England, is on display at the Wiltshire Museum (figure 937). There is a striking similarity to the Berber carpet and Chin bronze piece shown in figure 936(a) and to the Fu Hao ‘kneeling man’ jade figure shown in figure 1. Does this resemble a belt-like pattern?

Recently a large-scale study was carried out into the Beaker people, with their pottery at its height 2750–2500 BC across western and central Europe, dying out by 1800 BC. ‘The Beaker phenomenon and the genomic transformation of northwest Europe’ by Iñigo Olalde et al. 2018.

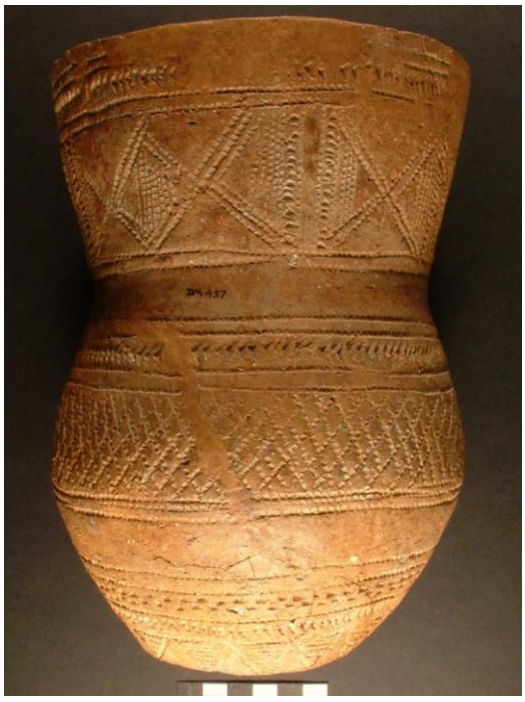


Figure 937. Bronze Age vessel, Wiltshire, England. The Wiltshire Museum

Not only do the Berbers share symbols found on our journey, but this DNA link (E-M84) ties in with the Levant people and Burmese Chin E-M84 haplogroup links. See later for more in-depth information. The following quote explains the connection:

> Tartakovsky concludes that E1b1b1c1a (M84) were part of the Jewish community during the conquest of Canaan and are therefore descendants of ancient Canaanites. The greatest contribution to world civilization of the Canaanites is the invention of alphabetic writing. Today this land corresponds to Israel, Jordan, and Syria ("The Near East"). Subclade e1b1b1c1 (M34) likely originated in the late period of the Upper Paleolithic (7,000 to 10,000 years ago). Archaeological and textual evidence supports the idea that the early Israelites were in fact themselves Canaanites. Coffman-Levy outlines different sub-sects of the Canaanites in her article. My family's oral tradition is that the family was a descendant of one of the tribes of Israel -- the tribe of Judah. My grandfather told this to my father, and I assume my grandfather had this told to him by his father. The ancient Israelites themselves were formed from a heterogeneous mix of tribal and ethnic groups, both Semite and non-Semitic in origin, according to Coffman-Levy. Thus, heterogeneity was there from the very beginning.
> E1b1b1c1a (M.84) - Migration to Spain: Judy Simon with the Y-DNA project believes that my family is descended from a line that migrated to Iberia ~700 years ago and then escaped east to Europe to escape persecution in Spain. E1b1b1c1 is found in Iberia, especially the northern part of the peninsula, where it reaches levels of 4% among Portuguese and Galicians. It could have spread there with farmers who migrated from the Near East not long after the Ice Age, or with Sephardic Jews who settled in Spain before the Inquisition. But the haplogroup's absence among Moroccan men indicates that it did not flow across the Strait of Gibraltar.
> http://chelm.freeyellow.com/biterman.html

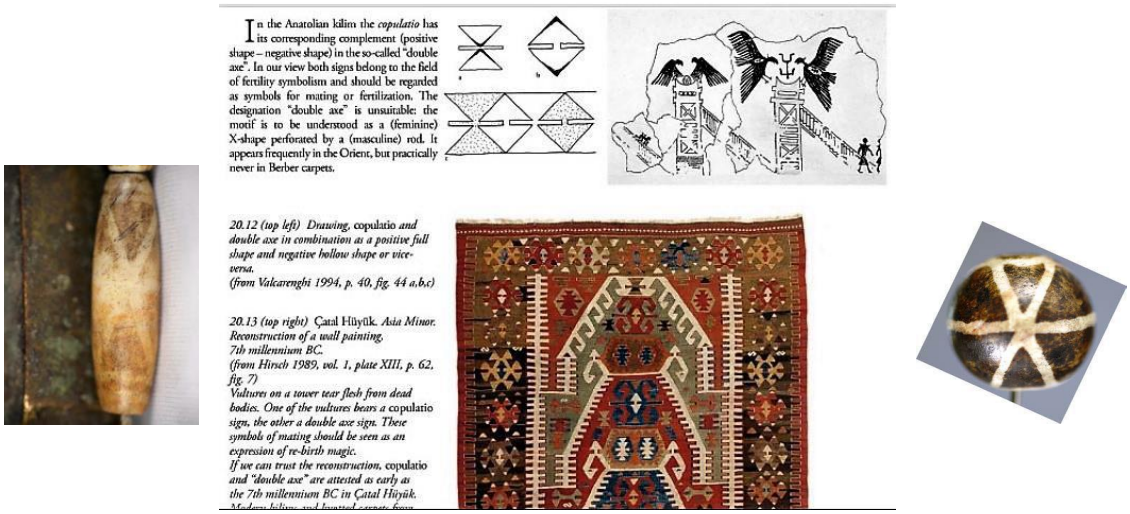


Figure 938. The Blombos Cave symbol makes its appearance on Berber carpets. Image from 'Berber Carpets of Morocco: The Symbols Origin and Meaning' by Bruno Barbatti via Google books. Chin beads for comparison.

Figure 939. The symbol enlarged, Bruno Barbatti via Google books

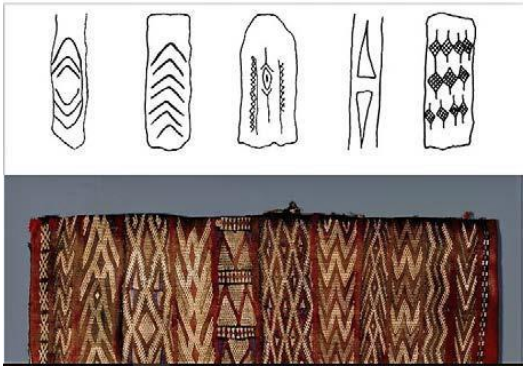


Figure 940. Familiar symbols. Bruno Barbatti via Google books

Figure 941. Berber carpet with some of our Chin symbols https://www.pinterest.co.uk/pin/403213591451126 57/

Figure 942. Berber carpet designs from: Signification des Symboles Amazigh - berbères https://www.youtube.com/watch?v=1v-ubSLntCk

On obtaining the beads and investigations

In 1991 I purchased 40 bead necklaces directly from a Burmese Haka Chin family. Little was known of the origin or composition of these beads, and they were put aside until 2012 when a check on the internet showed that they were very popular within the Chinese community. They had become known as 'Chin Heirloom Beads' and had been turning up in markets in India since the early 1980s. We believe that the Chin retained the most treasured of their necklaces until the very last moment. Returning to the family later in 1991 found them to be gone.

With my Thai-born wife Rachada, whom I met in 1990, I have investigated these beads, discovering startling similarities with designs dating back to Chinese Neolithic times – up to 6000 years ago, through Hongshan, Daxi, Qujialing, Qijia, Machang/Majiayao cultures to the later Shang, Western Zhou and Han Dynasties. Interestingly, the origins of the motifs appear to go back much farther in time, and we have traced them back to Paleolithic Europe, and one design back to the Middle Stone Age, c. 77,000 BC. We then discovered these designs followed a route to China, from Anatolia/The Levant, Predynastic Egypt, Mesopotamia, The Indus Valley, Bactria, The Tarim Basin in Xingiang province, China. Meanwhile, the motifs also moved westwards and are frequently found on Neolithic pottery, bronze artifacts and megaliths.

From the same family, I also purchased 57 heavily embroidered belts decorated with very worn bronze plates. These have proved very interesting in that they consist of patterns also replicating Ukrainian, Anatolian and Levantine motifs, dating 18000–6000 BC, through the same countries named above to result in them being, in many instances, identical to Neolithic Chinese pottery designs dating to Xinglongwa, Zhaobaogou and Hongshan cultures. Visually, these bronze pieces would appear to be very ancient. They are non-magnetic. It is proposed by us that the bronze pieces could have been assembled in an armor formation, possibly ceremonial. A vast amount of time would have been used to assemble such a collection of worked bronze and indicate that persons of great importance would have worn it. We have compiled mock-ups for review. The belts are in their original condition for expert analysis. Although unlikely, we asked the question: could they have been made in Europe or West Asia and taken to China? Comparisons were made from museums in China, USA, UK and Europe as well as Chinese forums and the internet. Baidu.com was of particular use in discovering images for comparison, as were forums such as bbs.artron.net. Due to the nature of using the Chinese Baidu search

engine it was not always possible to pinpoint exact sources of images, however we believe all sources of images used are duly credited. We also had to be very careful when using any suspect sites by using the 'cache' process and translations provided by Google Chrome.

Professor E H Moore (SOAS) published a document about Chin beads in 1993 entitled ‘Beads of Myanmar (Burma) Line Decorated Beads Amongst the Pyu and Chin’. We have frequently quoted from this. Similar beads have been recovered from Myanmar Samon Valley sites dating to the second century BC.

The round beads measure 6mm–15mm, square beads up to 25mm, and long beads up to 50mm. The bronze pieces average 20mm x 22mm in size. We have taken thousands of images of the beads including using stereo microscope and Dinolite. These images are available on flashdrive.

Today the collection is still intact, albeit with half the necklaces broken up due to string breakages etc. By the law of averages, there must be a substantial number that do not date back to the Machang phase culture of c. 2300 BC. Indeed, we are able to see far inferior workmanship on some of them compared to the very fine work on the most ancient beads.

We propose the original so-called first-generation beads (第一代邦提克珠) were made in China – probably by the ancient Qiang, using motifs that they had brought with them during the Indo-European/Indo-Iranian migrations eastwards. When the Qiang migrated to Burma they took the beads with them.

Reasons:

(a) Many of the beads fluoresce green under 254nm SW light. This (from extensive research) indicates uranium traces in the silicon. There are vast amounts of uranium in China, whilst almost unheard of in Myanmar. This does not mean that beads which do not fluoresce are not originals. This is adequately depicted by our examples of using Triassic petrified wood under shortwave light. Made from very hard material (Mohs 7), close-up views of holes show groove wear. Ancient drilling techniques, including hole-pecking, were used. Contemporaneously, this technology was in use in the Indus Valley culture at Harappa for example. In an earlier section we provided a flavor of the debates in the 'Bead community’ questioning whether beads are authentic or modern. This debate will be expanded in the next chapter. As shown, the acknowledged bead expert Horace Beck places similar work to 2750 BC at the latest.

(b) Under stereo microscope, the beads appear to be made from the petrified araucarioxylon species. The only reference we could find of this species in Myanmar was from the tertiary, 2–5 million years ago (see Prakash: Some More Fossil Woods from the Tertiary of Burma, 1980). Opalized palm wood was disproved as a source of material. See later for investigations into source material.

(c) Chinese araucarioxylon, as per the Arizona species, can date back 225 million plus years. The beads comprise materials requiring a process taking tens of millions of years: Opal -A → opal -CT → quartz (reference CL Stein ' Silica Recrystallization of Petrified Wood ' 1982). Note: see Senkayi et al later.

(d) We suggest that we have linked the bead designs to ancient Chinese cultures dating back 6000 years. This includes Daxi, Machang, Majiayao and the Shang, Western Zhou and Han Dynasties. Designs have been found on pottery, bronze, jade and oracle bones. Further, we have traced these motifs from the Blombos cave in South Africa c. 77,000 BC, and to Anatolia/Levant, the Danube civilization c. 6000 BC and much earlier in the Ukraine c. 18,000 BC. These motifs then can be followed through Egypt, Chalcolithic Mesopotamia, Luristan, The Indus Valley, Bactria to the Xinqiang area of the Tarim Basin mummies, although not appearing to leave many traces of symbols there. Importantly, the Burmese Chin have a strong DNA link (E-M84) with its origins in the Levant. The marker has been dated to 7391 ybp MRCA.
Similar designs to the beads and bronze pieces, found on Stentinello pottery (c. 5740 BC) were described as 'quite complex' by J. Ammerman, Albert "Early Italian Pottery" Expedition Magazine 25.2 (January 1983), Expedition Magazine, Penn Museum, January 1983.

(e) Clothing and symbols used by the modern Chin in Myanmar are similar to some bead, pottery and jade designs used by the ancient Chinese and represented on the beads. The Qiang who inhabit the Sichuan area of China embroider their clothing with similar designs to the 'Chin' beads and bronze wear. The Berbers who migrated from the Levant c. 8000 BC also have identical motifs on their rugs to those on the beads and bronze pieces.

(f) The beads would have been extremely difficult to manufacture and decorate. They appear to be fashioned from silicified wood, and then surface decorated but not engraved. This jade-like material containing uranium could have given off far more Qi energy than gold and most suitable for Feng Shui purposes (Ur = 92 + SiO2 =22 total 122 hydrogen atoms opposed to gold's 79). Possibly our calculations are wrong but why choose this difficult material to make the beads? Nonetheless, we believe the ancient Qiang and Neolithic people were more attuned to nature than modern humans. White quartz is bountiful, whereas 'white silicified wood is rare'.
’白色木化石较少见。’ Chinese source: Translation from: http://baike.tztart.com/view-203.html

(g) The Qiang of today inhabiting the Yunnan area of China worship white quartz stones. They place these on the roofs of their houses and around fireplaces. The importance of the white quartz is deeply embedded in Qiang history dating back many thousands of years. The stone must be white, black denoting evil. This material is very similar to the beads' white quartz-like composition. In Qiang legends a 'wooden bead goddess' helped them defeat their enemy (the Ge) by sending them snowballs from heaven. The Qiang used this white stone as to forge weapons to defeat the Ge (羌戈大战 : The Qiang/Ge war). Not only was the 'quartz' stone used for weapons but also striking fire and for tools for farming etc. Examples of weapons probably used are given using the authors' own collection of quartz/petrified wood arrowheads as well as collections from museums/internet.

(h) Most Chinese anthropologists agree that the Burmese Chin are descendants of the Qiang. This is echoed by Western and Burmese anthropologists:

.... Gin Za Tuang, nevertheless, maintains that the Chin ancestors were Ch’iang, but he mentions nothing about the Ch’ing. Gin Za Thang simply follows Than Tun’s and G. H. Luce’s theory of the origin of Tibeto- Burmans and other groups of humans, believed to be the ancestors of the Southeast Asian peoples. According to Professors Than Tun and Gordon Luce, the Ch’iang were not just the ancestors of the Chin but of the entire Tibeto-Burman group, and they

‘enjoyed a civilization as advanced as the Chinese, who disturbed them so much that they moved south’ (Than Tun 1988: 3). Regarding this, Professor Gordon Luce says: 'With the expansion of China, the Ch’iang had either the choice to be absorbed or to become nomads in the wilds. It was a hard choice, between liberty and civilization. Your ancestors chose liberty; and they must have gallantly maintained it. But the cost was heavy. It cost them 2000 years of progress. If the Ch’iang of 3000 BC were equals of the Chinese civilization, the Burmans [and the Chin] of 700 AD were not nearly as advanced as the Chinese in 1300 BC (Cited in Than Tun 1988: 4).

Source: http://www.chro.ca/index.php/resources/articles/325-the-origin-ofthe-chin

(i) Enemies of the Shang, the Qiang were taken prisoner and became experts at oracle bone production (Nicola Di Cosmo "The Northern Frontier in Pre-Imperial China" In Michael Loewe, Edward L. Shaughnessy 'The Cambridge History of Ancient China: From the Origins of Civilization to 221 B.C.' Cambridge University Press. p. 908.) The symbol for the Qiang is represented many times on Oracle Bone Inscriptions.

(j) We have noticed close similarities in Native American rock art and patterns on the beads. Symbol for medicine man identical with diamond eye beads. Hopi Indian links – Petrified Forest houses built of araucarioxylon, identical pattern on a N. A. bead etc. Some Anasazi pottery designs are exact replicas of pottery from Chinese Neolithic times, and are also represented by modern Qiang clothing designs.

Noteworthy of mention is the awe in which the Qiang and the Native American Indians hold petrified wood. In her book 'Fossil Legends of the First Americans ' Adrienne Mayor notes: 'Petrified logs of immense size were identified as the bones of Yeitso, a monster of Navajo myth; or as giant arrow shafts of Shinarump, the Wolf-god of Ute myth. On the Navajo Reservation in northeastern Arizona a few years ago, paleontologists were excavating the bizarre, five-horned skull of a Pentaceratops, a twenty-five foot -long dinosaur of the Late Cretaceous with the largest skull of any land animal. An old Navajo man came up to see what they were doing. Taking one

look at the creature, he uttered two words, “Monster Slayer,” and walked away.' There are many dinosaur remains in Arizona and legends state that the petrified logs, used as arrows by Gods, were used to slay the dinosaurs. Something attracted both cultures, especially the Qiang, to use this very difficult material to fashion such small items as the beads. China famously has many dinosaur remains.

(k) The very delicate work involved in manufacturing the beads meant that highly skilled artisans were employed. The time-consuming process and attention to minute detail, the material used, led us to search for possible sources of a factory or workshop, in ancient China, capable of carrying out the work. Most importantly, inscribing the beads with images familiar to the people. Glover speculated that there was an as yet undiscovered center of manufacturing etched beads (footnote 69, Ian C. Glover, The Southern Silk Road, The Silk Roads. Highways of Culture and Commerce. ed. Vadim Elisseeff.)

(l) Victor Mair in 'The horse in late prehistoric China: wrestling culture and control from the Barbarians’ 2003 associated the Qijia culture with the Qiang and argued that the horses of the Shang came from this culture which learned horse breeding as well as bronze metallurgy from the West.

“Recent research has demonstrated that copper and arsenic bronze metallurgy, with its origin in the ancient Near East, was probably transmitted from the Qijia culture in northwest China to the Erlitou culture, the predecessor of Erligang and Yinxu sites (Li 2005). Not coincidentally, archaeologists have found numerous domestic horses in the Qijia sites. In view of the geographical proximity of the Qijia culture to the possible origin of the Qiang, the possible horse provider dwelling to the west of the Shang dominion, it is conceivable that the Qiang might have acquired horses from the Qijia people”.
Wan, Xiang, "The Horse in Pre-Imperial China" (2013). Publicly Accessible Penn Dissertations. Paper 720.

Therefore, the creators of the remains attributed to what we call the Qijia culture might have been the ancient Qiang living in the Gansu-Qinghai area."The Qijia Culture of the Upper Yellow River Valley by CHEN Honghai in A Companion to Chinese Archaeology" edited by Anne P. Underhill.

(m) We propose the ancient Qijia workshop near the pre-dynastic capital site of Zhouyuan, as explored by Zhouyong Sun, or a similar undiscovered workshop, to be capable of this work. Sun: Reconstructing Manufacturing Technology and Technological Organisation at the Qijia Jue Earring Workshop in Western Zhou (1046–771 BC) China. Sun states: 'The Qijia workshop exemplifies the use of natural resources in the local environment, in an operation based on principles of production efficiency, from raw material procurement to final manufacture.'

Brief conclusions (a fuller conclusion is to be found at the end of the study):

Source of material for the Chin beads: Triassic age or earlier, araucarioxylon species silicified wood (or similar), in quartz-like state. Number 22 on the list of Chinese petrified wood sites satisfies this, with reference to the physical location of Zhouyuan (Figure 944). This is explored in depth later. However, we do not exclude Jurassic age araucarioxylon as the source of material.

Technology: as shown in his paper, Sun clearly explains that shaping and drilling hard objects from scratch was achievable with excellent results. See figures 947 and 948 for examples.

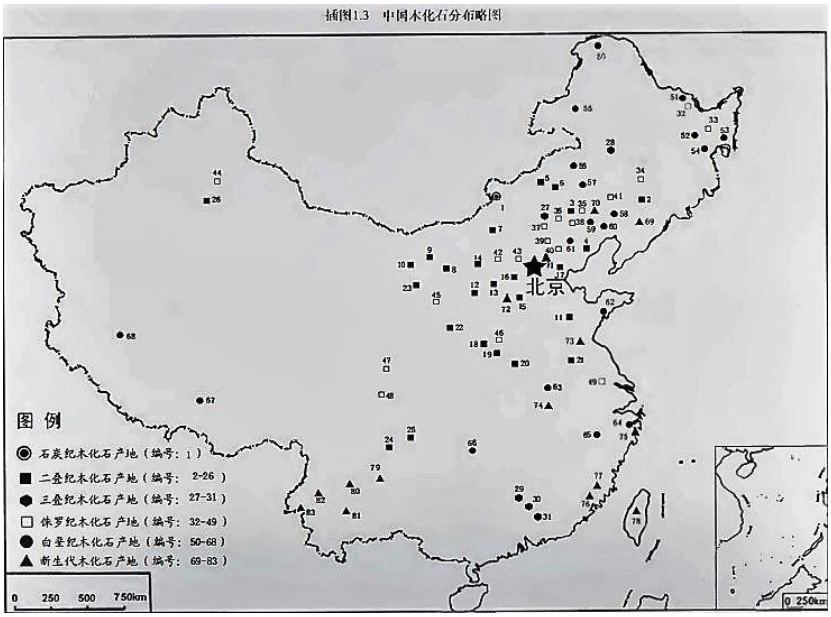


Figure 943. Petrified wood deposits in China, Shenzhen Urban Management Bureau, Botanical Gardens Shenzhen, Shenyang Institute of Geology and Mineral Resources Ministry of Land

During our research we were able to obtain images of silicified wood in the Hami Cultural Museum. We had always suspected that the Junggar Basin region (near to the Tarim Basin 'Caucasian' mummies) could have provided an alternative supply of silicified wood of ancient age i.e. Jurassic or earlier (nr. 26 on map above shown in figure 943). As explained in depth with an alternative theory elsewhere in this document, the Liaoning area is also a great source, and with all the events taking place from 5000 BC in the Chifeng district, is our favorite. Of course, it is possible that a source of silicified wood of araucarioxylon or similar species was located by the ancient Qiang near to their bases in Qinghai and Gansu where the Majaiyao culture replicated many of the symbols on their pottery. As will be shown later in the Bronze artifact locations section, the area also produced much of the first bronze pieces and the Chin bronze belts could have been made there.

We suggest that the line-etched beads which are the subject of this study are not the same as those described by Beck, Mackay et al. The Chin beads were chosen for their original white color (see Qiang and the white stones/quartz in this study) and the black was added to the surface. Other beads show a white substance was used to fill in the lines with the black as a

background filler. However, what remains is evidence of the quartz-like base with black additions. Beck stated in 'Etched Carnelian Beads' 1933: 'Owing to the fact that the white portions of beads of type I not infrequently flake out, leaving a shallow groove, these beads are often thought to have had a groove cut and then to have had a white material inlaid. This is not the case; the reason that the white flakes away is that the chemical change made by the process alters the coefficient of expansion of the white portion, and continual changes of temperature set up a strain which in some cases is sufficient to make it break right away from the base.'
Note: this description may account for the improved methods used to make the Chin beads.

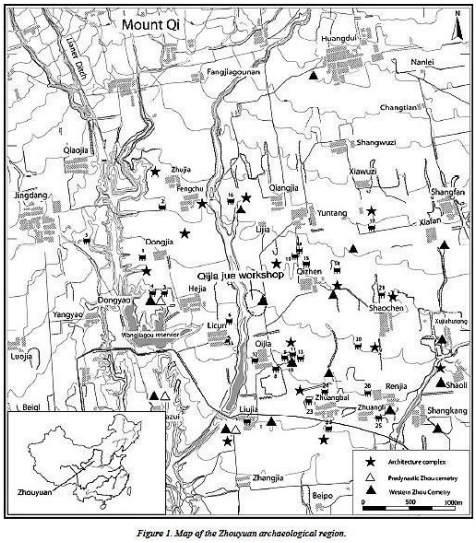


Figure 944

Figure 945

Figure 944. The Qijia workshop (Zhouyong Sun)
Figure 945. Map of Xinjiang (travelchinaguide.com)

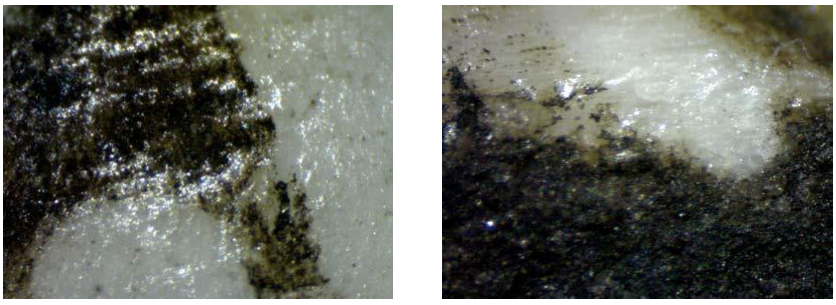


Figure 946. Bead surfaces under 40x magnification by stereo microscope.

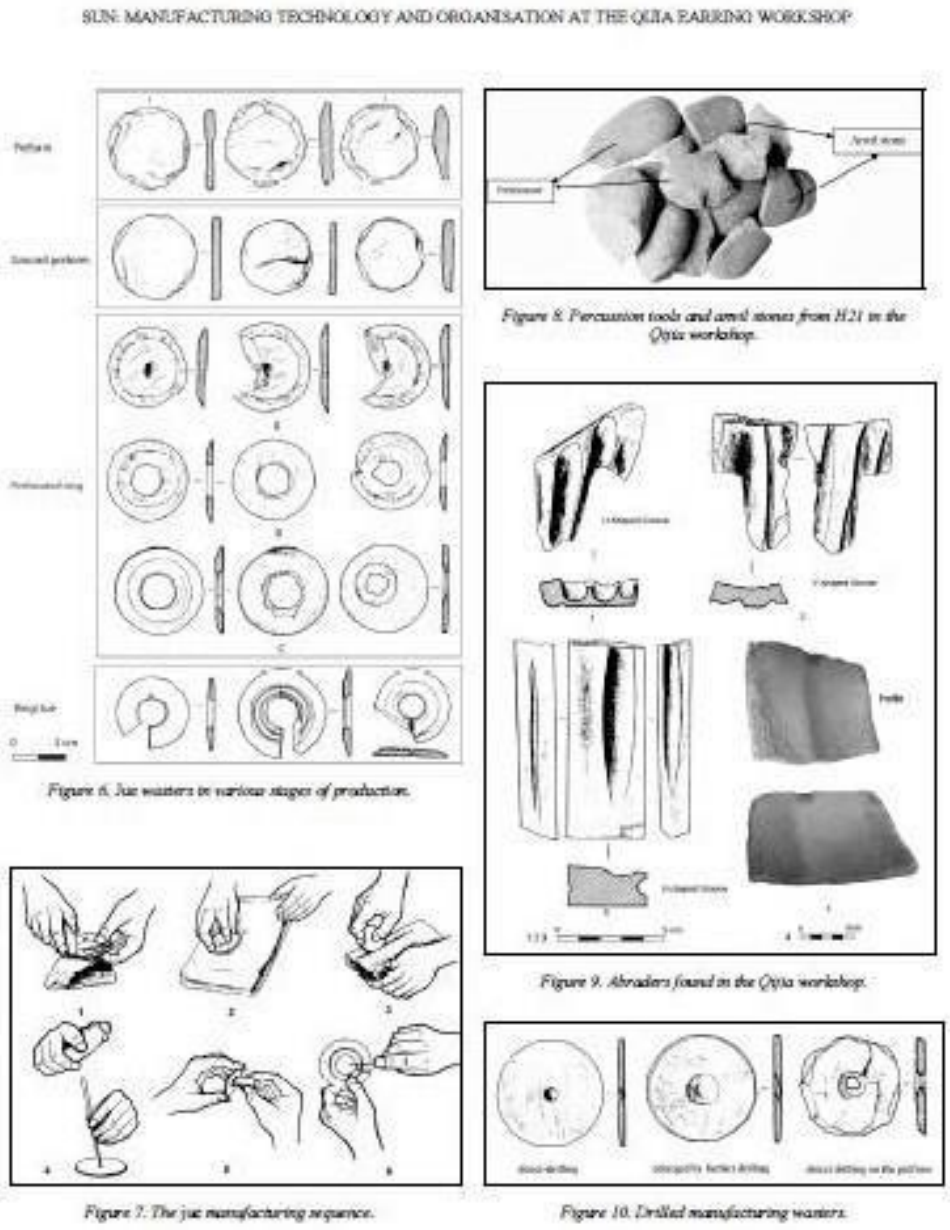


Figure 947

Figure 947 is a reproduction directly from Zhouyong Sun's work showing how the Chin beads could have been manufactured using the same tools. Technology for bead drilling may have been imported from the Indus Valley. We have given many examples of symbols that have appeared on artifacts from the Indus Valley and made their way to ancient China. A prime example is the Mehrgarh vase (figure 372).

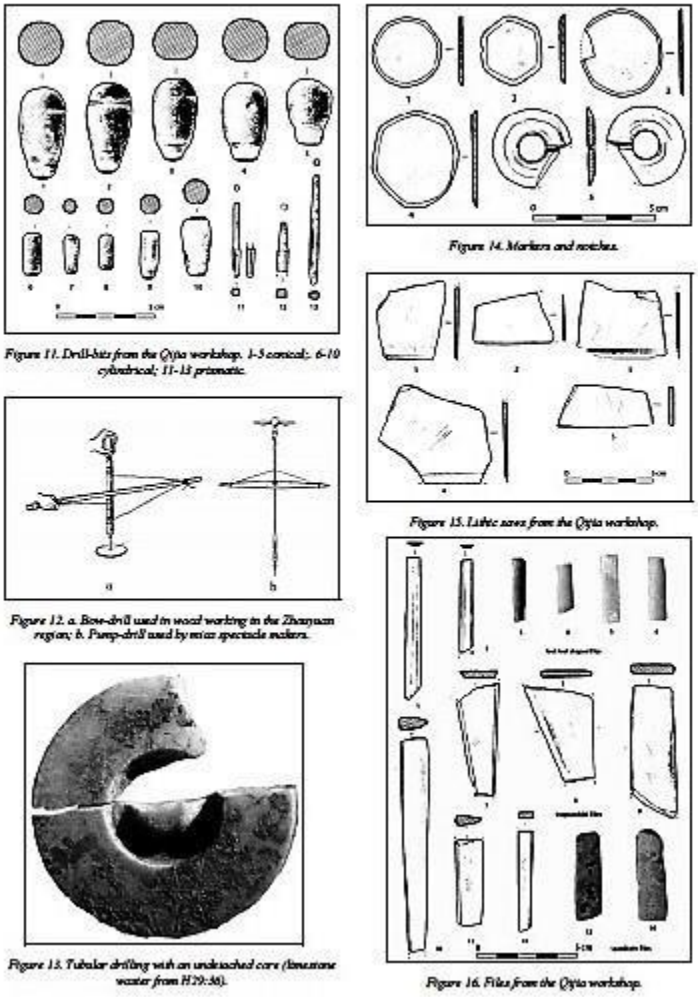


Figure 11. Drill-bits from the Qyia workshop. 1-5 conical; 6-10 cylindrical; 11-13 prismatic.

Figure 12. a. Bow-drill used in wood working in the Zhouyuan region; b. Pump-drill used by ivory spectacle makers.

Figure 13. Tubular drilling with an undetached core (limestone waster from H29:56).

Figure 14. Markers and notches.

Figure 15. Lithic saws from the Qyia workshop.

Figure 16. Files from the Qyia workshop.

Figure 948. Further diagrams from Zhouyong Sun

Likely, the method of line decoration of beads in ancient China mirrored the system used by the Indus Valley experts, but not using caustic substances to burn into the material. The following diagrams are taken from: Contemporary stone beadmaking in Khambhat, India: patterns of craft specialization and organization of production as reflected in the archaeological record by Jonathan Mark Kenoyer, Massimo Vidale and Kuldeep Kumar Bhan, World Archaeology, Vol. 23, No. 1, Craft Production and Specialization (Jun., 1991),pp.44-63

The opening paragraph from the above work:

> At present, the city of Khambhat in western India is one of the largest stone beadworking centers of the world, and it has been an important center for over two thousand years of documented history (Arkell 1936; Trivedi 1964) (Fig. 1). Using archaeological evidence, the stone bead industry in this region of India can be traced back even earlier to the cities and villages of the Harappan Phase of the Indus Tradition, dated to around 2500 BC (Hegde et al. 1988; Kenoyer 1986; Rao 1973). Because of the long continuity of stone beadmaking in this region, Khambhat provides a unique opportunity to study the organization of a specialized craft and understand how different aspects of social, economic and political organization relating to such crafts might be reflected in the archaeological record.

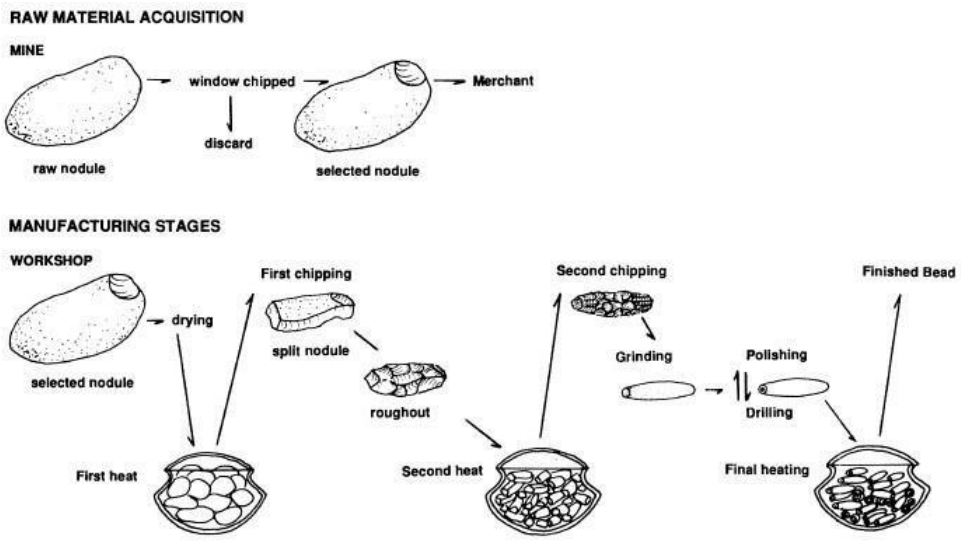


Figure 2 Raw material acquisition and manufacturing stages.

Figure 949. Example of bead-making from the Kenoyer et al. study

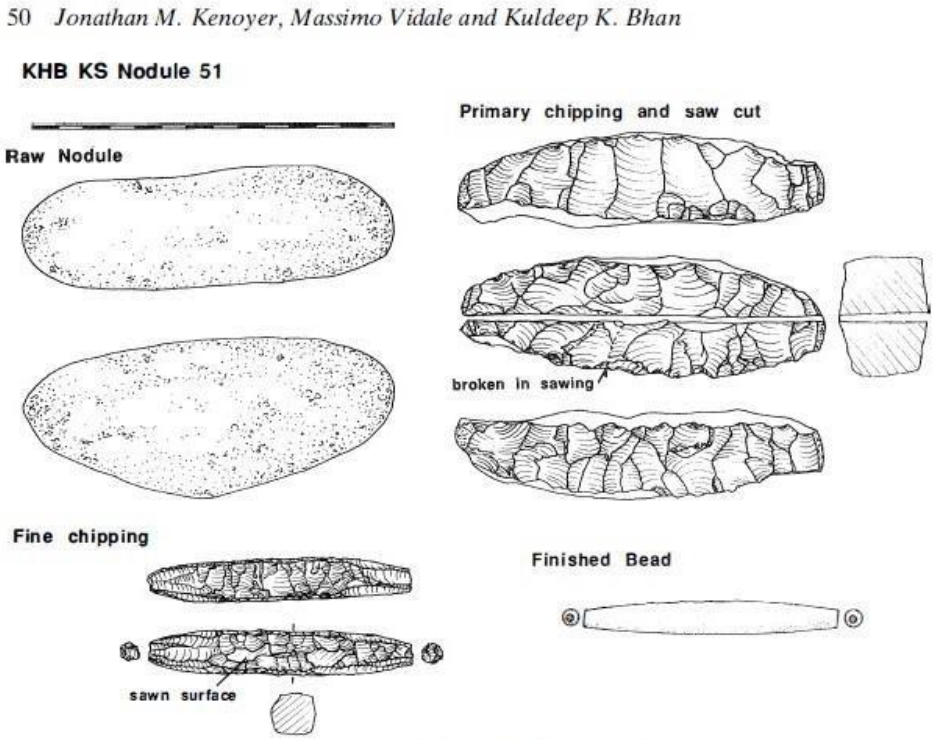


Figure 950. More details from the Kenoyer et al. study

Apart from the legends of the ancient Qiang worshipping pure white quartz (which is closely resembled by silicified wood) the explanations of bead making given by Horace Beck in his etched carnelian beads paper could explain why the bead makers turned to using pure white quartz/silicified wood to manufacture the 'Chin' beads.

From: Etched Carnelian Beads by Horace C. Beck, F.S.A. (Read 16th March 1933):

> There are two main types of these beads. The first type which is much the more usual has the pattern made with white lines on a background of the natural colour of the stone. The second type has the whole surface of the stone whitened and then a design in black made upon it, the whitened surface of the stone forming a white background. Specimens of this type are very uncommon.

> Owing to the fact that the white portions of beads of type I not infrequently flake out, leaving a shallow groove, these beads are often thought to have had a groove cut and then to have had a white material inlaid. This is not the case; the reason that the white flakes away is that the chemical change made by the process alters the coefficient of expansion of the white portion, and continual changes of temperature set up a strain which in some cases is sufficient to make it break right away from the base.
>
> Beads of type I are made by drawing a pattern on the stone with a solution of alkali (generally soda). The stone is then heated until the alkali enters into it, thus making a permanent white design. In beads of type II the whitening of the stone is carried to a great depth and over the whole surface, and a black pattern is made on top of the white. The soda treatment has a very different effect on different stones and on different layers of the same stone, those layers which most resemble crystalline quartz being least affected. This method has been sometimes used to heighten contrast in beads.
>
> A thin section of an etched carnelian bead when examined in the microscope shows that the white portion goes a long way into the bead, especially in some cases of type II. This white portion is impregnated with a very large number of white opaque spots.

Additionally, from Elizabeth H Moore's 'Beads of Myanmar' 1993:

> The importance of pattern is also borne out by finds of black Pyu beads with white lines made by three different techniques: painting, incising, and an alkali resist. In the first technique, the white lines are painted on the surface. In the second, illustrated in the Appendix with an example from Taungthaman, the pattern has been cut into the bead, filled with white, and then polished. The third method involves the use of a resist material to paint lines on the bead. The bead is then baked and the surface blackened except under lines painted with the resist. The black colour penetrates to a depth of one millimetre, although often the colouration is much shallower. The pattern of white lines is revealed when the

resist is removed. This technique is similar to South Asian methods described as etched. These methods have been used to decorate beads made of bone and non-fossil wood, opalized fossil wood, and a black material, mahuya. This last has been variously translated as a chalcedony" (including agate, carnelian, and onyx, all cryptocrystalline types of the silica mineral quartz), and as "jet".

On the following pages we demonstrate some close-up images of beads comprising one necklace. Images are 40x and 80x using stereo microscope. No etching or engraving can be seen. The only method from the above excerpts matching our findings is method three, as described by Dr Moore and U Aung Myint.

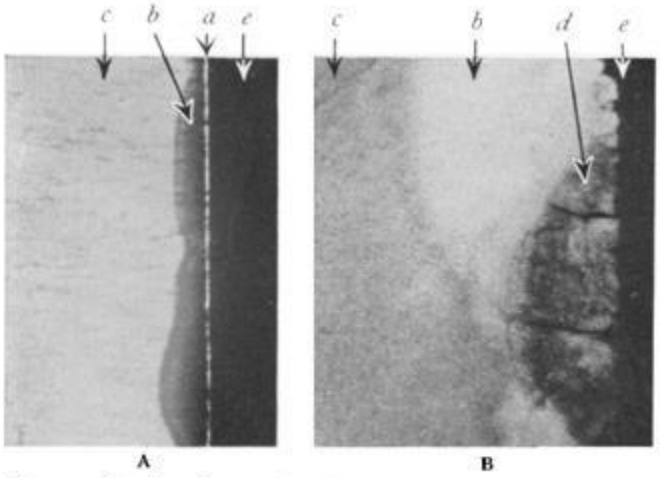


FIG. 1. A. Section of a type I etched carnelian, in polarized light. B. Section of a type II etched chalcedony bead in reflected light. *a*, unaffected layer on surface of bead; *b*, whitened layer; *c*, unaffected base of bead; *d*, section through black line; *e*, background. ×50

Figure 951. Microscopic images of beads taken by Horace Beck 's 'Etched Carnelian Beads' 1933

Figure 952. Examples of the surfaces of some of our beads.

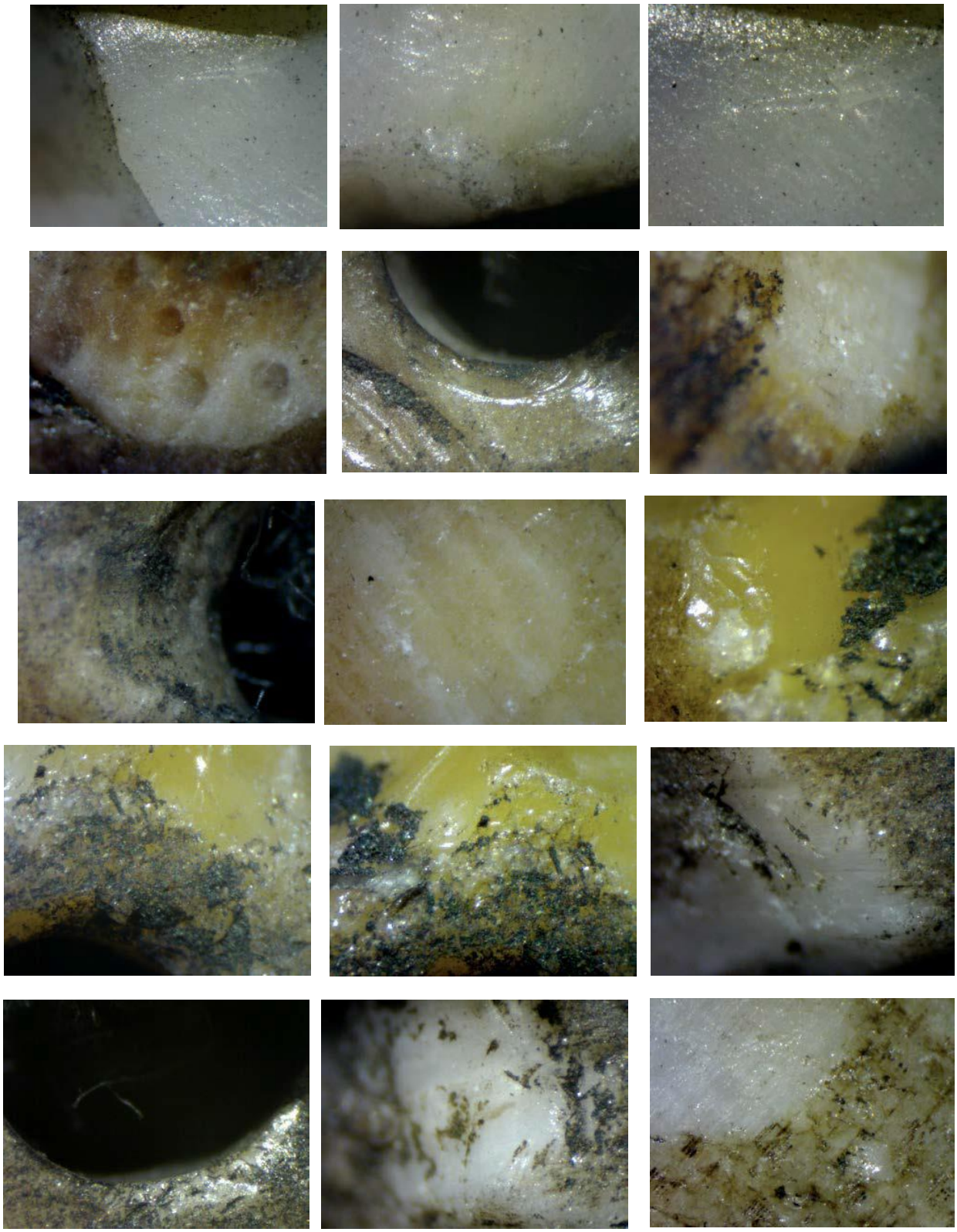


Figure 953. More examples of the Chin beads' surfaces

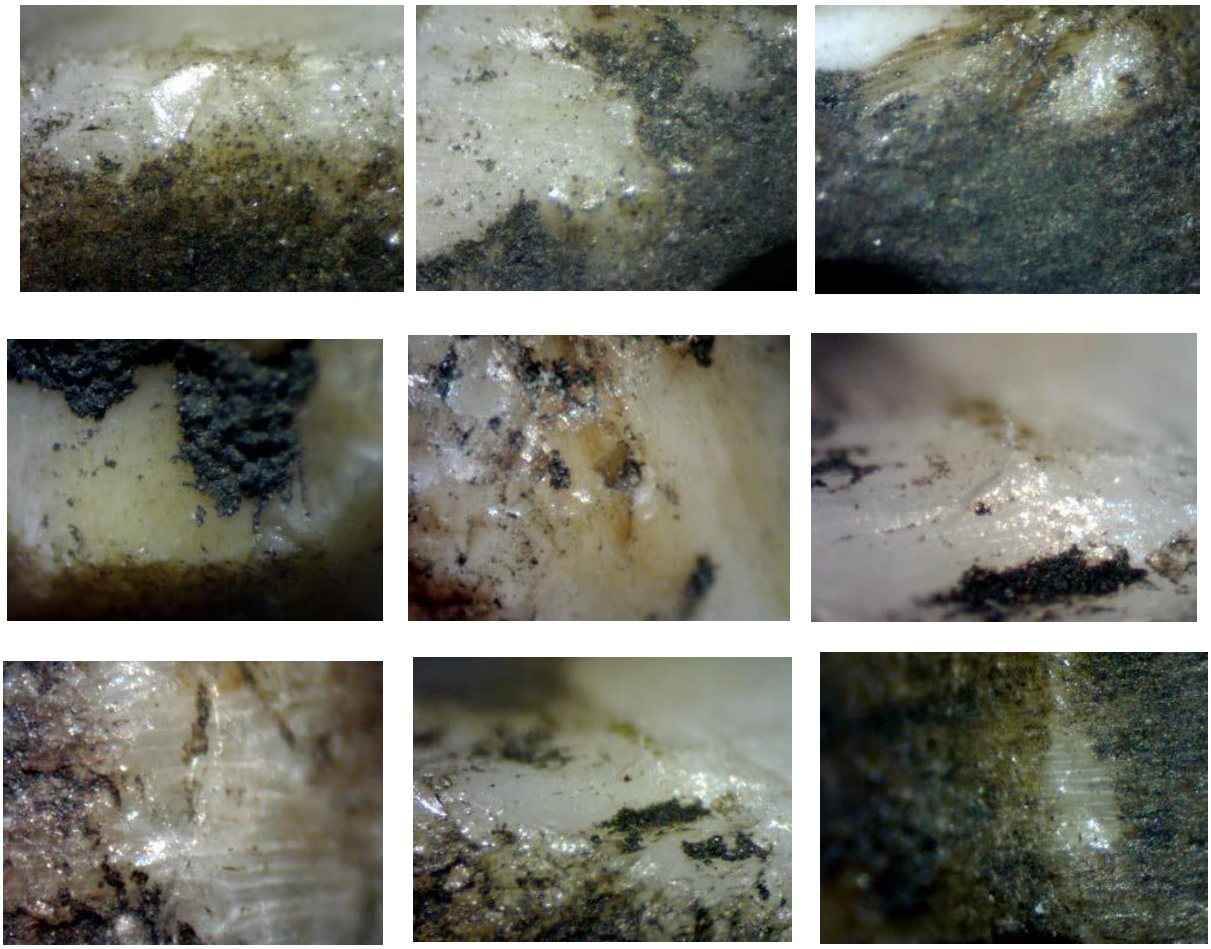


Figure 954. Chin bead surfaces

We have already covered potential sources of the beads' material i.e. petrified wood. However, as can be seen from the following forum conversation, precious materials could well have been imported long distances to the Northeastern area of Neolithic China:

Subject: S. Howard Hansford's conclusion of the earlier appearance of Hetian jade in China

Posted By: Bill Sat, Dec 27, 2008

> In the book, "Chinese Jade Carving", written by the world renown jade scholar, Mr. S. Howard Hansford (Published by Lund Humphries & Co. Ltd, London and Bradford, 1950) had expressed his opinion regarding the earliest emergence of Hetian jade (Khotan jade) in China at the end of Chapter III - Sources of Supply of the Jade Stone, p. 56 as follows:

In the light of all these considerations I feel that the weight of evidence is now in favour of Khotan being regarded as the source of the material of the most ancient Chinese jade carvings. There is a passage in the Book of History (Yu kung, Tribute of Yu), in which certain gem stones, believed to include jade, are mentioned as articles of tribute from Yung Chou. This is given as the name of a province of the kingdom of the Great Yu, founder of the legendary Hsia Dynasty, and is supposed to have corresponded to modern Shensi and parts of Kan-su. The passage has been adduced as testimony that these provinces were actually sources of production of jade. I believe they acquired this reputation just as Yun-nan did in recent times, and that they were merely the channel through which Khotan jade entered China in the course of a trade carried on from immemorial ages along the fringe of the Taklamakan Desert and through the Kan-su corridor." The key sentence in his conclusion here is:

"in favour of Khotan being regarded as the source of the material of the most ancient Chinese jade carvings."

Mr. Hansford made this conclusion after studying and examining all the evidence and literature regarding the usage of Khotan jades in ancient Chinese dynasties and it was made 26 years before the Lady Fu Hao's tomb was being excavated in 1976. Sadly, he passed away in 1973, otherwise he would be really excited to find that evidence of Hetian jade carvings from Zhou dynasty would confirm the conclusion regarding Hetian jade made by him in 1950.

It is interesting that when I started my study in the jade material, to my astonishment I found that there were no official records or concrete evidence of jade (nephrite or jadeite) were ever found or mined in China. Of course, there were many rumors that nephrite had indeed been found in some parts of ancient China, unfortunately they were rumors only and so far such rumors could not be proven with any certainty. Therefore the only known nephrite source available to China for making jade carvings since ancient time is Khotan, XinJiang or its vicinity and most of the jade material used in the making of archaic jades

including those of the Zhou Dynasty were indeed Hetian jade that were imported from Khotan, XinJiang. I sincerely hope this will clarify any misunderstanding regarding the earliest appearance of Hetian jade in China.
http://www.asianart.com/phpforum/index.php?method=detailAll&Id=34949

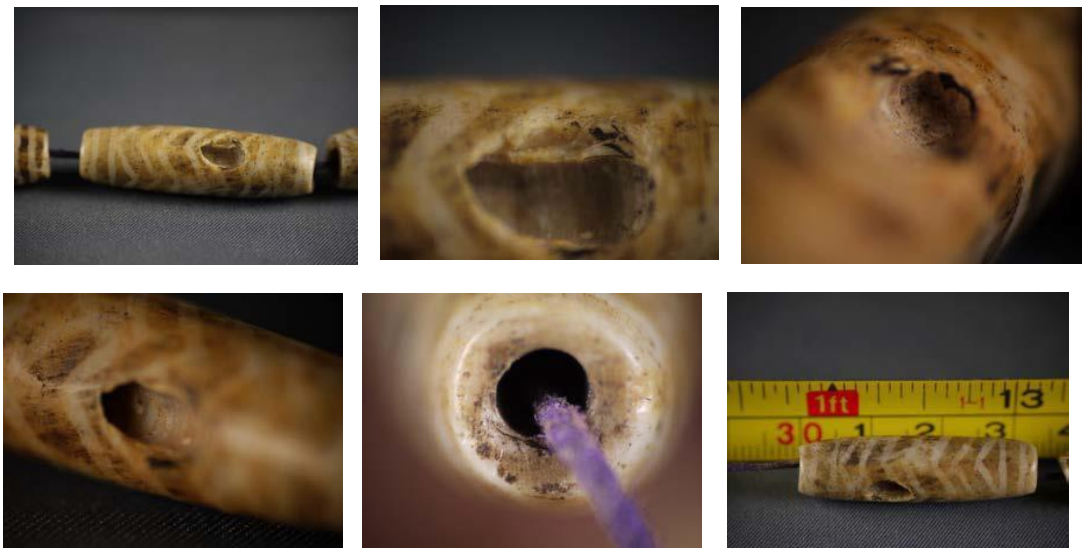


Figure 955

Even when a bead was miss-drilled it was considered so valuable to the ancients that the bead was not discarded, but re-drilled, as can be seen in this example (figure 955).

Figure 956. Alleged illegal mining for petrified ingyin wood, http://www.jsy70.com/html/news371.htm

Figure 957. Petrified wood retrieved from Myanmar and sold in the forms shown in Chinese dealerships. NB This wood is from the Tertiary age. The Chinese refer to the wood as 'Jade Trees'
Source: 木化石 (wood fossil) search: https://s.taobao.com

Figure 958

Figure 959

Figure 958. https://delange.org/PetrifiedForest/PetrifiedForest.htm)
Figure 959. http://edupic.net/sci_pics.htm

The two images above (figures 958,959) show Arizona petrified wood in the Petrified Forest Reserve. Nearby inhabitants are the Hopi and Navajo tribes. The wood is from the Triassic age c. 225million years ago. 'Arrows' that slayed the dinosaurs - Navajo legends was described earlier in this study taken from 'Fossil Legends of the First Americans ' Adrienne Mayor

Figure 960. Images of petrified wood deposits from the Shenzhen Urban Management Bureau

Were drills in Neolithic China hard enough to penetrate petrified wood (Mohs 7)? The following excerpts from P. J. Lu et al, The Earliest Use of Corundum and Diamond in Prehistoric China clearly indicates that this was indeed possible.

> Here we show that corundum was worked c.4000–3500 BC during the Neolithic period in China, in the form of polished axes from the Liangzhu and Sanxingcun cultures. We also present physical evidence that later Liangzhu axes (c. 2500 BC), made from the same previously undescribed rock whose most abundant component is corundum, were polished to a mirror-like finish with a diamond abrasive. Our findings, which are the first to support the use of corundum and diamond in a prehistoric context, may also help to explain the trademark feature of the Neolithic in China, vast quantities of finely polished nephrite jade artefacts.
> Our experimental data from the YW fragment also strongly suggest that diamond abrasive was used by Liangzhu craftsmen to polish corundum axes around 2500 bc. To our knowledge, this is the earliest evidence for man's use of diamond, during the Neolithic. Diamond is thought to have been first known no earlier than 500 bc (Harlow 1998), and used to drill beads from Arikamedu, India, after 250 bc (Gorelick and Gwinett 1988). The earliest securely datable authors to reference what is probably diamond, Manilius and Pliny the Elder, lived in Rome during the first century ad (Healy 1999), although the first historical reference to diamond in China comes more than two centuries later, and its first use as an abrasive is not recorded until the Song Dynasty (AD 960–1278; see Laufer 1915).
> The use of diamond by Liangzhu craftsmen is plausible geologically. Two alluvial diamond sources, including the commercial Tancheng placer deposit in Shandong (Deng et al. 1996), and a locality further up the Yihe river in Jiangsu (Keller and Wan 1986), have both yielded diamonds in excess of 50 carats and are within 300 km of the SXC and BYYY sites. Alluvial diamonds at either source might have been separated from local gravels using an ancient technique (Laufer 1915): when wet diamond-bearing gravels are run over a greased surface such as a fatty animal hide.

We find that Neolithic craftsmen of ancient China were certainly using corundum and very possibly diamond about two millennia before anyone else was known to have done so, although further studies may be needed to establish the specific tools and techniques used to create these lustrous surfaces. The availability of corundum and potentially diamond may also help to explain the trademark feature of the Liangzhu lithic industry, amazing quantities of finely polished nephrite jade (Moh's 6.5) artefacts with intricate carved decoration. Quartz, with slightly greater hardness and wide abundance, has been generally assumed to have been the major abrasive used in prehistoric China (Rawson and Ayers 1975). Our findings support the possibility that the Liangzhu lapidary's workhorse abrasive could have been corundum.

More abundant than diamond and far harder than nephrite and quartz, corundum abrasives could have significantly increased cutting rates and concomitantly decreased production time. And diamond may have provided the finishing touches that made these jades the most prized objects of their time (Hayashi 1996). For the final lustrous polish, the Liangzhu worker might have turned to diamond powder, and for incised embellishments, to individual diamond points.

Figure 961. Images from the P. J. Lu et al. study

Need for geochemical study

For an example of difficulties encountered on determining origins of beads a fine example is provided by Robert George Theunissen in his PhD thesis 'Agate and Carnelian Beads and the Dynamics of Social Complexity in Iron Age Mainland Southeast Asia'. 2003:

> Seeking a change from Australian archaeology, in late 1996 I obtained a Sir Weary Dunlop Earthwatch in Asia fellowship, to conduct field research on agate and carnelian beads in Thailand with Prof. Charles Higham and Dr Rachanie Thosarat. Professor Higham had recommended the beads as a hitherto understudied body of material. I was, at first, less than enthusiastic, being rather more interested in "big issues", such as how 'civilisation' arose in the region, than in investigating the typology of an obscure variety of personal ornament.
> From this dubious beginning, I have gradually become convinced that these beads are one of the single most important pieces of evidence that exist for understanding the rise of social complexity in Iron Age mainland Southeast Asia. A brief pass through the literature quickly overturned any original reservations. Agate and carnelian beads it seems came from India and their presence in Iron Age Southeast Asia was thought to reflect early Indian contact and cultural influence leading to the formation and character of the first true states in the region (Bellwood 1976, 276-7; Francis 1989, 23; Glover 1990a; 1996; Ray 1996, 43; Lamb 1965, 92-3; Wisseman-Christie 1990, 41). This was beginning to appear more like the "big-issue" material I was after.
> It also became immediately obvious that the Indian origin of these beads had never been proven or indeed even much questioned (see Bellwood 1976, 276-7). This lack was highlighted in my mind by the theme of current archaeological research on the rise of social complexity in Southeast Asia, which at the time was questioning the role of Indian influence (Bayard 1992; Higham 1989; 1996; Higham and Thosarat 1998). My research problem thus presented itself. In mid 1997 I duly enrolled as a doctoral candidate with the intention of establishing the origin and path of trade of these ancient beads to determine whether they really

represented Indian cultural influence in the region.

My initial plan was to amass a regional synthesis of the beads, their typology and manufacture, and, using the GIS skills acquired in my honours research, to analyse the geographic distribution of the beads and their traits in order to trace their origin and exchange. Problems soon emerged in that much of the primary data on these beads was not available in English. In fact, to obtain a comprehensive synthesis from the published literature one would also have to be proficient in Thai, Vietnamese, Chinese and French.

While I gained first hand access to a few excavated collections and museum displays, obtaining this access proved extremely time consuming in travel, in setting up the necessary permissions, and in developing local contacts. I did not have the time necessary to devote to this fieldwork, and in many cases uncertain provenance and restrictions on the physical handling of the museum beads led me to question whether the quality of data would be worth the effort.

At the time I had been regularly corresponding with Dr Ian Glover about the progress and direction of my work. In the 1980's Glover (1990b) had excavated a large well-provenanced collection of agate and carnelian beads at the early Iron Age site of Ban Don Ta Phet in Central Thailand, and he had written extensively about these beads, their probable Indian origin and their trade (Glover 1990a; 1996). Glover too, saw that the assumption of an Indian origin needed to be tested and he urged me to attempt to source the Southeast Asian beads using geochemical methods. Initially I resisted this course because of the complexity of geochemical techniques and my lack of experience with them. Nor was there any previous body of work where geochemical techniques had been used to try and discriminate the geological source of such beads upon which I could build. On the other hand, a successful geochemical study would provide a valuable additional source of data on the origin and exchange of the beads, helping to make up for any deficiencies in the synthesis of bead distribution I had begun to gather. The actual analysis could also be conducted in short stints at home in Australia rather than prolonged periods spent overseas, a situation far better suited to a part-time mode of study and family life.

Figure 962

Beads from our collection are shown in figure 962. Note string wear on this very hard material. No sharp edges, but rounded and smooth. This is an indication of the extreme age of the beads being worn and not buried. A reminder of a very important quote supporting our findings from 1897:

> Pum" tek is a bead that a Chin values more than anything else he possesses..... These beads seem to be made of some hard substance like petrified wood or flint. They are very heavy and firm in texture and sparks can be struck from them with a steel ; in fact this is one of the tests of a good bead. A knife makes no impression on the surface, so hard is it.
> Surgeon-major A.G.E. Newland, attached to 10th Madras Infantry, Indian Army, Burma, in his book entitled 'A Practical Hand-book of the Language of the Lais as Spoken by the Hakas and Other Allied Tribes of the Chin Hills (commonly the Baungshe Dialect)', published Rangoon 1897.

Bead Drilling: Introduction

Later we investigate drilling methods in greater detail. For now, we give as an introduction a passage from ‘Stone Bead Technologies and Early Craft Specialization: Insights from Two Neolithic Sites in Eastern Jordan’ by Katherine I. Wright, Pat Critchley and Andrew Garrard With contributions by Douglas Baird, Roseleen Bains and Simon Groom, Levant 2008 VOL 40 NO 2 131 (see figure 963):

Rotary Drilling From Two Directions, with Hafted Drills

> The most common method involved rotary drilling from two directions. Drilling was almost always bipolar. That is, the blank was drilled to roughly halfway through, then turned and the perforation completed from the opposite direction**.** As the two perforations converged, the result was an hourglass shaped perforation (Fig. 9e). Experiments indicate that this prevents chipping and flaking of the alternate face which can occur if a blank is perforated completely from only one direction (Possehl1981).
> Most hourglass perforations, on both soft and hard stones, appear to have been produced by rotary drilling. Rotary drilling results in regular perforations and concentric striations on them (Gorelick and Gwinnett 1990). We observed both traits on many broken beads and blanks (Fig. 9b). Perforations of hourglass form included very small drillholes, indicating that the drilling tools were smaller than piercers and borers made on blades. The probable drills in this case were small drills on bladelets, and especially drill bits on burin spalls (Fig. 13, nos 1, 4, 5, 7). Microscopic examination of perforations is in progress (Bains forthcoming).

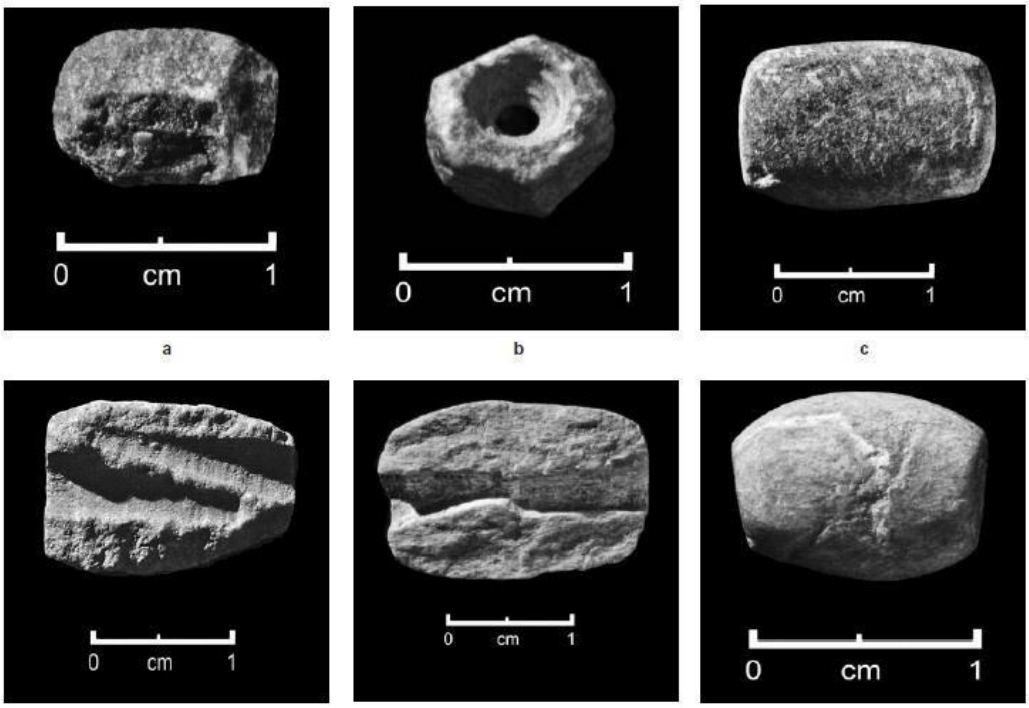


Figure 9 Green Dabba Marble barrel bead blanks and finished beads. (a) Hexagonal blank, flaked but not abraded; (b) Abraded hexagonal blank; (c) Abraded blank, not perforated; (d) Perforation error on abraded blank; (e) Finished bead, broken, showing bipolar perforation and hourglass perforation shape; (f) Perforated barrel bead, almost finished except for final abrasion to smooth out last surface irregularities

Figure 963. fig. 9 from the study by Katherine I. Wright et al 2008

Of the 1543 beads in our possession, only three are broken in half (one is still attached to a necklace). Studying them under stereo-microscope at 40x and 80x magnification, and Dinolite up to 200x mag. enabled us to determine as best we could the methods of drilling and the type of material used to manufacture the beads. All these aspects are reported in much greater detail later in our study

Figure 964. Broken Chin beads. As will be shown later in the drilling section, the drilling techniques used above are very ancient.

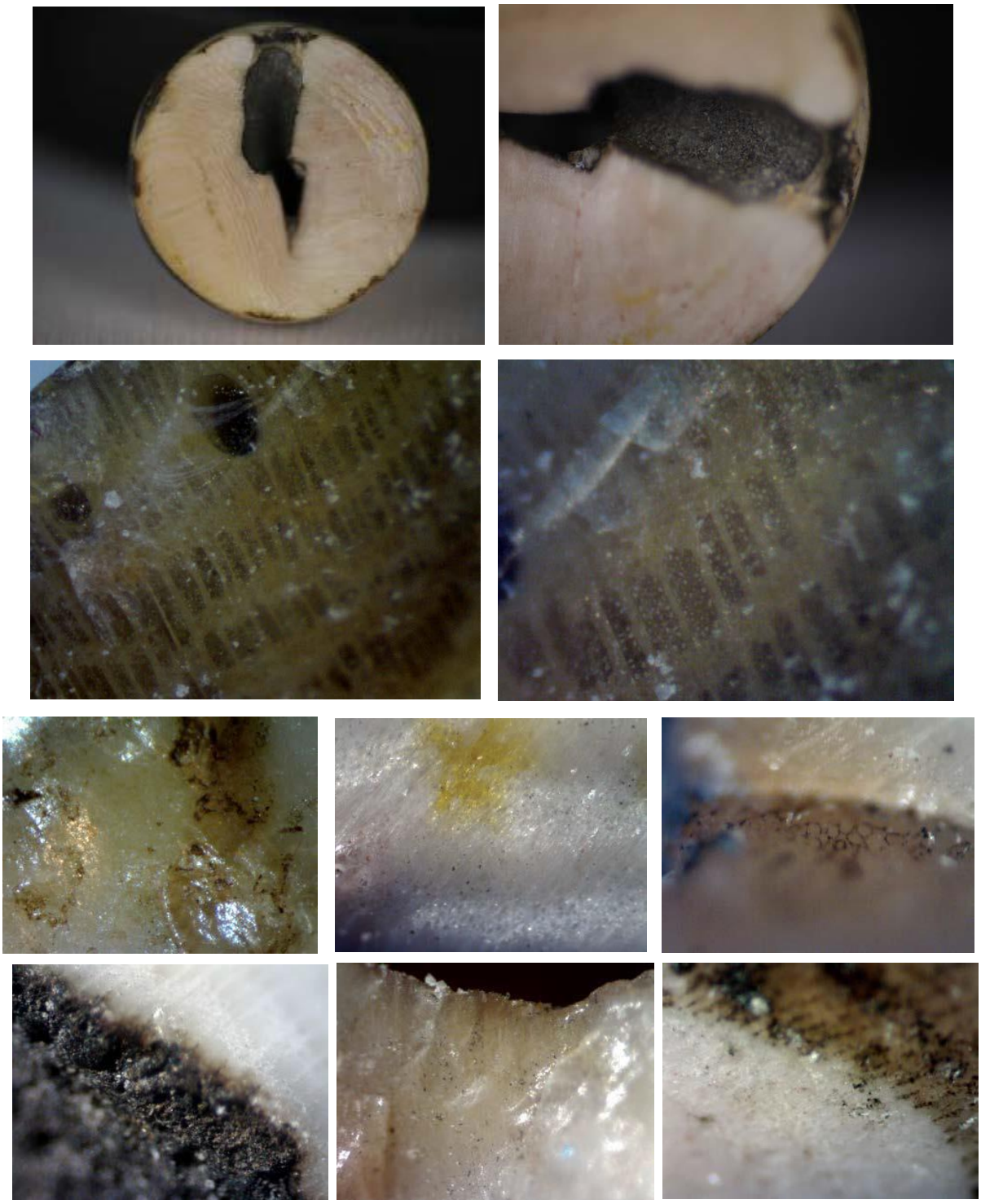


Figure 965. The two beads shown in figure 964 under 40x 80x and 100x magnification

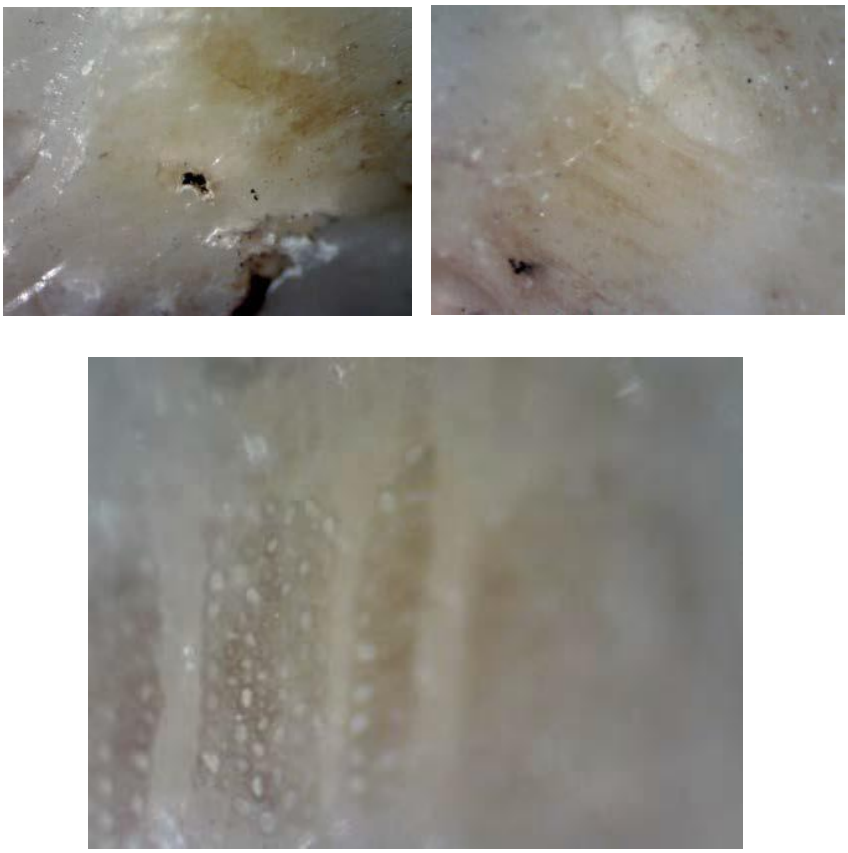


Figure 966

Referring to figure 966 it can clearly be seen that the material is not of palm tree origin. The original tree material, not completely silicified to its quartz-like state, indicates this. More in-depth investigations are revealed later. Thousands more images are available on flash drive. We welcome any reputable establishment to examine the beads and bronze pieces.

The following excerpts are taken from: Chapter 8 'Alkaline Etched Beads in Southeast Asia' by Ian C. Glover (University College London, Istitute of Archaeology, Emeritus) & Berenice Bellina (Dr Bérénice Bellina is Senior Researcher at the French National Centre for Scientific Research):

> Moore and Myint (1993) described decorated stone beads mainly surface finds, from a number of sites in the central valley of Myanmar. From their descriptions and illustrations it is not easy to distinguish between etched agate beads and what they call 'linedecorated beads' made of fossil wood, bone and other types of stone- the so-called Pumtek beads (Figure 8.33) of the ancient and more recent Chin peoples (Allen 1986; Ebbinghouse 1991; Campbell Cole 2003). Those beads referred to as Pumtek seem mainly to be made from fossil wood superficially stained with an arsenic sulphide solution (Civico 1991; Moore and Myint 1993: 60) and some are 'ethnographic' rather than archaeological while others are quite modern. It seems that U Ba Kyi started to make Pumtek beads at Waddi in Central Myanmar, and Moore and Myint (ibid. 61) describe their manufacture by his grand-daughter Ma Khin San Thin. Consequently many newly- made Pumtek beads have come on to the market in Bangkok and in the West in recent years. It is clear that Pumtek beads belong to another category of decorated stone beads, distinct from the, generally earlier, alkaline-etched semiprecious beads we are focusing on here, although many shapes and designs are common to both groups, and there is much research still to be done on the relationship between the two categories. Some recent discussion of them is to be found in Campbell Cole 2002 and in Chapter 11 in this volume.
>
> Symbolism and value:
>
> A topic which needs to be addressed, although we avoid it here, is the symbolic meanings and values given to these beads in the past. They are relatively rare in archaeological assemblages when compared with undecorated stone and glass beads, they obviously required a high level of craft skills in the manufacture,

> in many cases they accompanied their owners into an afterlife as personal ornaments and indications of status and power. We can imagine based on analogy with the auspicious and sacred meanings given to dZi beads by recent Tibetan and Nepalese inhabitants of the eastern Himalayan massif (Nebesky-Wojkowitz 1952: 131-2; Ebbinghouse and Winsten 1982:24) that the etched beads of South and Southeast Asia were more than just pretty ornaments and perhaps indicators of wealth and status. But beyond this all is speculation. There are not even enough examples from well-excavated and dated contexts for us to be able to see whether they were associated exclusively with men or women, or only with adults, and were they regularly found with other indicators of social ranking and wealth. Until a larger body of reliable data is available, we prefer to leave aside these questions, important although they are.

Note: we have previously referred to Ian Glover and his work concerning pumtek beads and show images of these beads from his study in figure 967.

Figure 8.33. *Puntek or 'Chin' beads from beads from western Myanmar/Burma. (Photograph © I. Glover).*

Figure 967

Figure 968

The Chin beads from our collection (figure 968) may be compared with the examples from 'Alkaline Etched Beads in Southeast Asia' by Glover and Bellina (figure 967).

Here are some of our Haka Chin necklaces that we used in our study. We presume many of the necklaces are in their original formation. Note for example the bead sizes - largest at the bottom and smaller towards the neck (figures 969-976).

Figure 969

Figure 970

"Ornaments.-The amber necklaces so dear to the Lushais do not find much favour with this clan, who value especially necklaces of a stuff known as "pumtek," as as this is very rare, necklaces of glass-beads, cornelians, buttons, Coins, etc., are generally all that commoners can obtain. The women are particularly fond of necklaces; the men wear but few, which is in marked contrast to the custom of the Lushais."

J. Shakespear, The Lushei Kuki Clans, 1912 p 215, 'The Lakher or Mara Clan'

Figure 971. Necklaces used for the study

Figure 972

Figure 973

Figure 974

Figure 975

Figure 976

Figure 977

Figure 977 refers to a Chin 1920s necklace with the accompanying description: Jamey Allen saved to Great Beads! 'These are old pumtek beads from Mizoram, made in Burma about 100 years ago, strung as a modern necklace, in a private collection.'

https://www.pinterest.dk/ pin/375065475190110777/

Note: In our opinion there are probably three beads at most that may be ancient but need closer inspection. Most are immediately identifiable of inferior craftsmanship but only 'hands-on' examination of hole wear, material, fluorescence etc. will give a determination of originality.

The mystery of the Pumtek, or Chin heirloom beads, and their fluorescence

The following is part of the discussion surrounding 'Pumtek' beads that have been on-going for more than 35 years. Jamey Allen and Peter Francis are acknowledged bead experts from the United States. The authors of this study have been unable to find any reference to the color of fluorescence original beads should glow under shortwave ultraviolet light. We believe that we have conclusively proved that it is yellow-green through to bright green.

'Re: Palm Wood -- Evelyn Post Reply Edit Forum Where am I?
Posted by: Beadman Post Reply 06/05/2006, 12:16:06

Hi Evelyn,
It is no secret that I disagree with Peter on this one. My perspective of pumtek beads is rather different. First off, the pumtek beads we saw coming out of India in the early 80s' were made from a variety of fossil (opalized) wood—as I remarked in the first article published on these beads since the ethnographic literature of the early 20th C. I showed specimens to Si Frazier in about 1983, and he remarked then that the material was NOT "palm wood" by the internal striations (as opposed to the dotted or spotty pattern of typical palm wood). It might be simplistic to presume that all of the material used for pumtek beads came from a single species.
Next, the early pumtek beads (the so-called "Pyu" beads), also present a variety of materials, including something quartzy that doesn't appear to be a fossil wood at all (though granted these are very small beads, and it might not be apparent). Unfortunately, Peter had a tendency to make sweeping generalizations when he had not viewed enough specimens to have a clear picture. I suggested this to him in about 1980.
Jamey
http://beadcollector.net/cgi-bin/anyboard.cgi?fvp=/openforum/
&cmd=iYz&aK=40693&iZz=40693&gV=0&kQz=&aO=1&iWz=

Figure 978. Chinese araucarioxylon silicified wood with some Chin beads shown under normal light and 254nm Shortwave Ultraviolet light

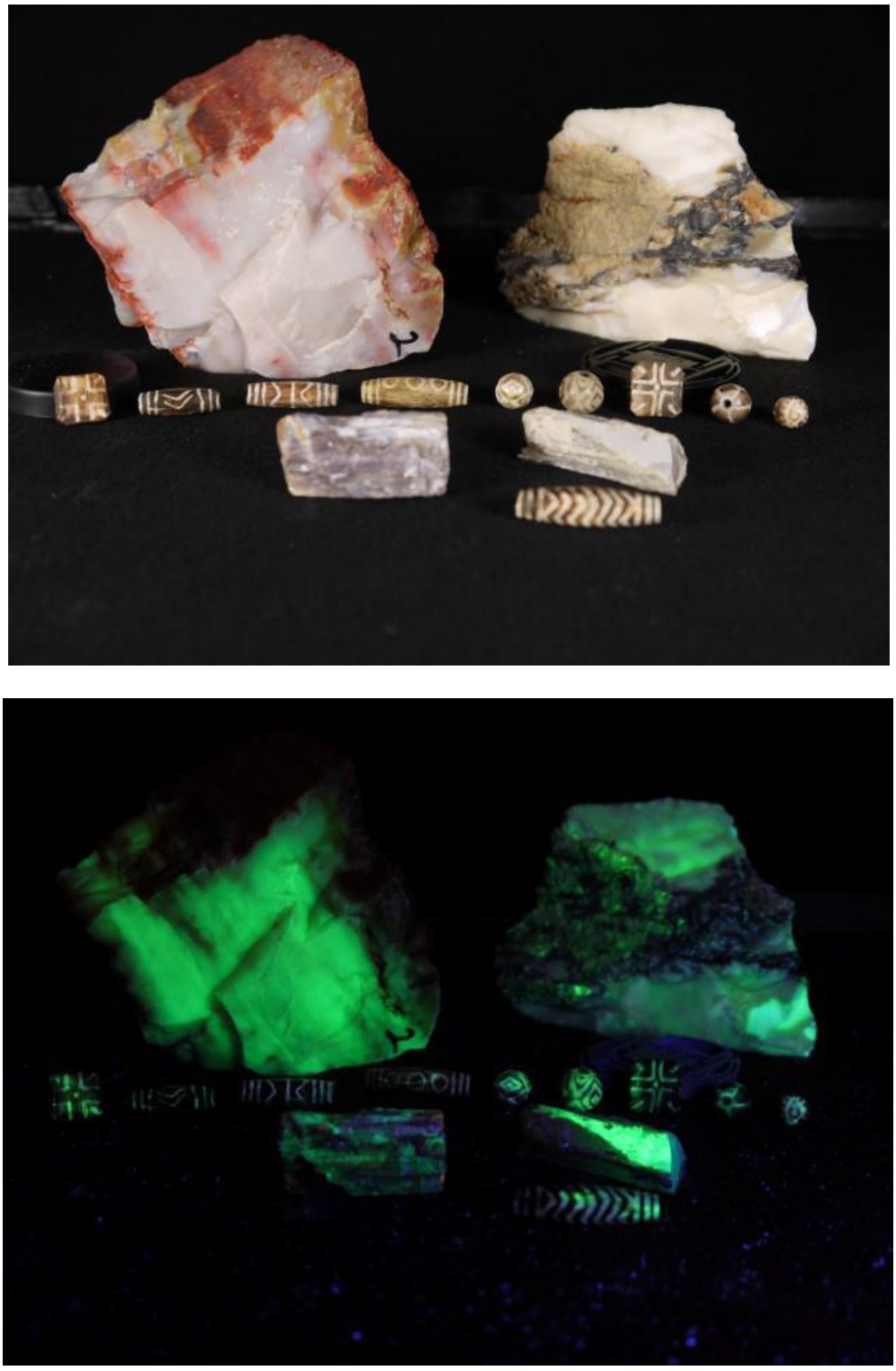


Figure 979. Arizona araucarioxylon silicified wood with beads under normal light and 254nm SW UV light

More correspondence from the beads forum:

Palm Wood
Re: Re: Pumtek - TASART Post Reply
Edit
Forum Where am I?
Posted by: Evelyn Mail author 06/05/2006, 11:44:40
According to Peter Francis
"Genuine Pumtek are made of the opalized wood of the palm Borassus flabellifer. They will fluoresce under a short-wave UV lamp."
Were you referring to this information, Gunnar?

Evelyn
Posted by: Evelyn Post Reply 06/05/2006, 12:34:45
Hi Jamey,
My question directed at Gunnar was asked in order to establish whether his mention of fluorescense in context with Pumtek was derived from the info on Peter's website.
Whether some of us agree or disagree with this info is another matter, but if I remember correctly, Peter did say that only some Pumtek were made of the type of fossilized palm wood which is supposed to fluoresce. It would be naive indeed to assume that all Pumtek that were ever made, were made from one and exactly-the same type of fossilized wood. Image: broken and un"decorated" Pumtek showing the raw materials
Cheers,
Evelyn

Comment by the authors: Eight years after the queries relating to Pumtek fluorescence in the preceding correspondence, and still nobody had provided a definitive answer. We can only assume that there are so few original beads in the hands of collectors that no study has been carried out similar to ours, establishing the fact that the beads should fluoresce a green color under shortwave 254nm light, a fact we attribute to trace elements of uranium in the silica.

http://beadcollector.net/cgi-bin/anyboard.cgi?fvp=/openforum/&cmd=iYz&aK=98420&iZz=98420&gV=0&kQz=&aO=1&iWz=0
Posted by: beadiste
Post Reply
01/28/2014, 09:22:54

Sorting through another box of beads from the early 1990s, I found a pile of Pumtek beads that I purchased from Duangporn and Steve at Hands of the Hills. One strand is clearly the newer ones. As to the others...this is where I get confused. I found Pete Francis's article at TheBeadSite, dragged out my shortwave UV, and got no reaction from any of the beads that I could detect. So apparently they're not made from the same species of opalized wood as the antique beads supposedly are. However, the article doesn't describe what sort of fluorescence to expect - faint? bright? blue? green? pink? Using shortweave freaks me out, as I'm not keen to suffer accidental retinal damage, but if anyone has something more informative on the subject, I'll repeat the experiment.
Will sort through the older-looking beads and post some pics. Yes, I have read Jamey's article on the Home page.
What's the current consensus on these - ancient beads, with many old replicas made when? 1500s? 1800s? 1920s?
I see things offered for sale on the Internet that look exactly like some of the beads in my little pile, at what strike me as extraordinary prices. It's hard not to suspect flimflam being perpetrated.

A brief introduction to the fluorescence in silicified wood

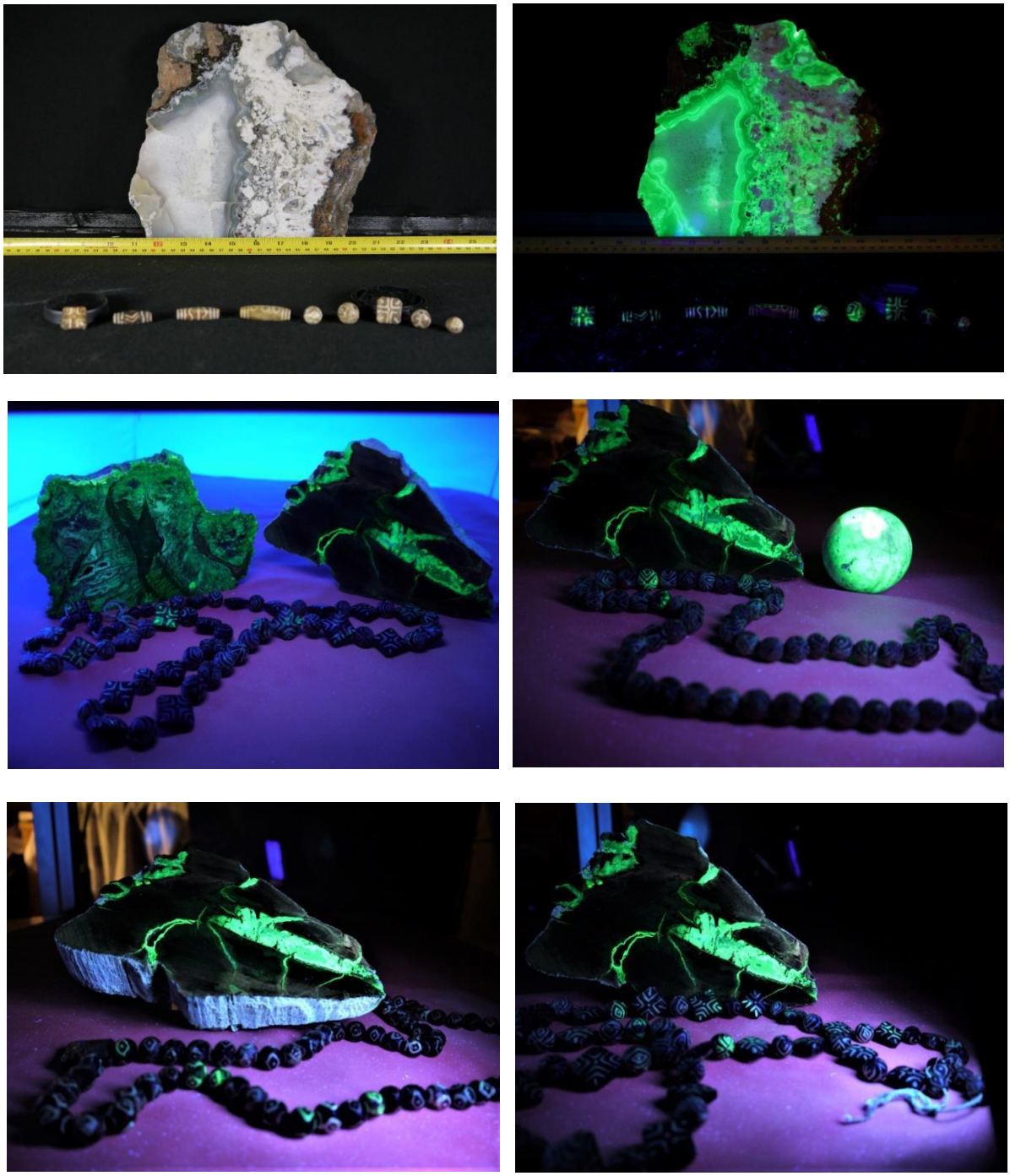


Figure 980. The beads compared to Triassic age silicified wood shown under SW UV light 254nm

From the images shown in figures 980 and 981 we demonstrate that not all beads fluoresce, albeit of the same age. The veins running through the silicified wood demonstrate that there will be places where the traces of uranium show up, and other places where there will be nil fluorescence. Caution: Our research indicates that the source of the fluorescence is due to traces of uranium absorbed during the silicification process. We have not had the opportunity to test for this - only for radiation.

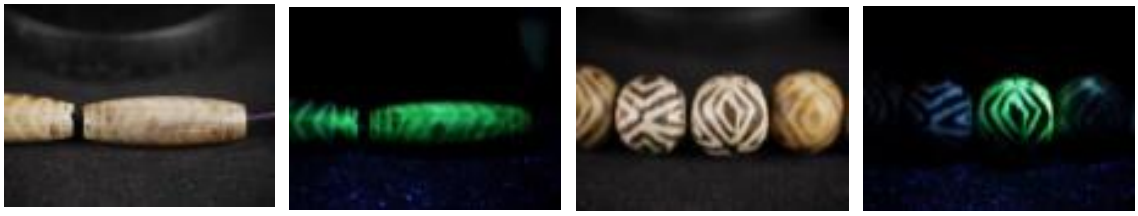


Figure 981

As we have shown, the established test for authentic ancient pumtek beads is fluorescence under shortwave ultraviolet light. This idea originated in the U.S. in the early 1980s after bead experts tested beads at the Smithsonian Institute (see later). We purchased a GQ GMC-320 Geiger Muller Counter and used it to test for radiation from our beads and petrified wood. Some results are shown here, with all beads passing well within the safety zone - indicating the uranium absorbed during the silicification process hundreds of millions of years ago is almost negligible. For an independent demonstration please see: https://www.youtube.com/watch?v=NoO4h86edo0

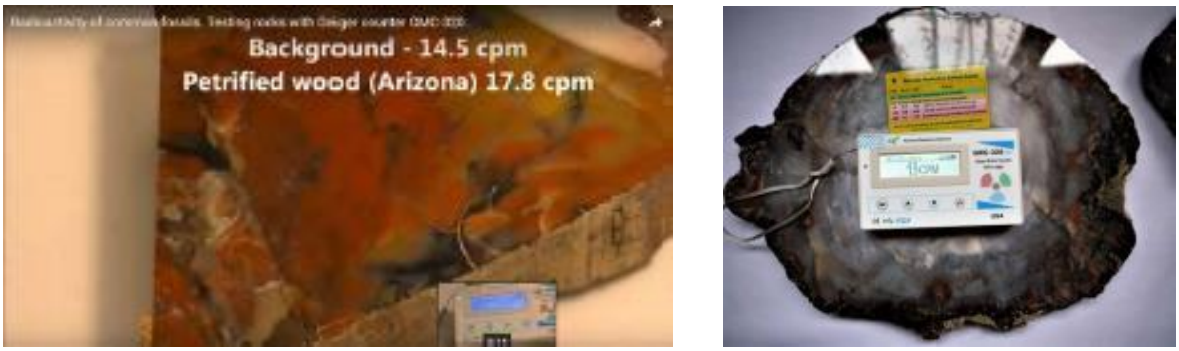


Figure 982 (a)

Figure 982 (b)

We refer to the images in figures 982 (a,b) and 983. Our Arizona petrified wood tested for CPM (background CPM = 13/14) and petrified wood from Nebraska with higher levels of radiation (182) as well as quite low levels displayed from the beads. Other pieces of silicified wood are from Arizona of Triassic age.

Nuclear radiation safety guide:
5-50 CPM: Normal background. No action required.
51-99 CPM: Medium level, check the reading regularly.
>100 CPM: High level. Closely watch the reading, find out why.

Figure 983

> At least until recently, the Chin were most reluctant to part with their pumtek. Selling them was believed to use the end of the family line. Pumtek are used in marriage and other ceremonies and are part of the complex inheritance systems, the *hlawn* of the women and the *ro* of the men (Head 1917, 14; Lehman 1963, 128-129). The finest examples belong to chiefs. Their wives wear them except on special occasions, when the chiefs put them on and exhort their sons never to part with them. Pumtek are thus the oldest heirloom beads in Southeast Asia and perhaps the purest example anywhere of curating a closed bead collection. In this century, looted ones from Wadi and imitations made by lowlanders (recognized as such) have joined the stock.
>
> Asia's Maritime Bead Trade: 300 B.C. to the Present, by Peter Francis, University of Hawai'i Press, 2002

Peter Francis, Jr. devoted most of his adult life to the study of beads. He was the director of the Center for Bead Research, which he founded in 1979, and the webmaster of TheBeadSite.com, the most popular site of its kind. He was the author of Beads of the World, one of the standard books on beads, and had published hundreds of articles. He died suddenly at the early age of 57, months after this book was published.

Misleading information on Chinese websites regarding bead fluorescence

From our research into Chin beads in the Chinese forums, we discovered so-called experts depicting beads under fluorescent light, and the supposed color the 'first generation' beads should glow. Despite correspondence with these 'experts' they would not acknowledge our results. However, our results were published on the now-defunct bead forum enjoybead.com. We encountered great hostility from bead dealers who claimed to have ‘first generation’ pumtek for sale. None of them could match our results. We believe that due to the five thousand plus views of our forum posts the information spread to collectors and hence the stock value of the dealers plummeted. Seven years on, and still no photos anywhere to resemble ours.

Figure 984

Figure 985 Figure 986

Figures 984,985. http://www.sohu.com/a/134250095_736794; http://tieba.baidu.com/ p/1435057751;
Figure 986. https://bbs.artron.net/forum.php? mod=viewthread&tid=1658105&extra=page%3D1&ordertype=1&page=14

The images above (figures 984-986) were taken from forums which claimed the beads were photographed under UV light. It appears clear that the UV light was longwave and not shortwave. The purple light is the normal result obtained using longwave.

In fact, when we first examined all our beads under ultraviolet light, every single one glowed purple. This indicated the incorrect wavelength was being used and was rectified by purchasing shortwave lights which gave totally different results where uranium was present.

How many generations held the Chin beads?

The beads shown in this study are known as 'Chin heirloom beads'. They have been passed down from generation to generation. Until now, nobody has been able to assign these beads to a particular time in history, or indeed a particular location. Our extensive investigations lead us to indicate a first-generation bead (Chinese classification) design to be dated at least c. 2000 BC. However, some motifs date back to at least 18,000 BC, and if we take into consideration the engraved ochre from the Blombos cave, dated 77,000 BC, the designs reach back to the earliest times of homo sapiens' known works.

How many people could have had possession of the beads? What is a generation? Based on Bruce Walsh's methods (Bruce Walsh, 2001, Estimating the time to the MRCA for the Y chromosome or mtDNA for a pair of individuals, Genetics 158: 897—912), one can easily translate formulae into years, back to a common relative, by making assumptions about the average number of years a standard human generation is. The values in the literature range from 15 to 25 years. Further, it is likely the case that the average generation time varies with geographic location and hence with different groups of people. This information can also be incorporated into a translation of generations into years.

If we assume 20 years per generation: 4000 years (age of beads) = 200 people. This indicates the approximate number of clan members the beads would have been passed down to.

Unlike other studies into Chin Beads, where perhaps the investigation involved 150 beads, we have possession of 1543 beads of ancient origin from 40 necklaces. The beads were purchased directly from the Haka Chin in 1991 and have been with us since then and are available for study by any reputable institution.

As previously stated, it is very doubtful that all the beads in our collection date from the Machang phase of the Majiayao, and most likely, as reported by early British surveyors in Burma of the early twentieth century, newer beads were mixed up with older beads. This observation was not made by A.G.E. Newland in the 1890s. We consider this important information, as it is known that reproductions were made from 1920 until the 1970s.

However, we strongly believe that a substantial number of the beads we have, especially those comprising the intact necklaces, are of the most ancient kind i.e. ‘first generation’.

The Indo-Europeans

In this study we propose the designs on the beads and bronze pieces, although manufactured in China, were influenced by the Indo-European and Indo-Iranian movements into the far East, probably via the Tarim basin. We quote from E.G Pulleyblank's 'Chinese and Indo-Europeans' The Journal of the Royal Asiatic Society of Great Britain and Ireland, No. 1/2(Apr.,1966), pp. 9-39.

This article was published in 1966, before the discovery of the Tarim basin mummies (dated to 1800 BC) and the many DNA studies carried out by both Chinese and Western scholars, which now indicate that there was an influx of Westerners into Neolithic China, at least by 1800 BC. We quote from Chinese and the Indo-Europeans by E. G. Pulleyblank:

> The question of the origins of Chinese civilization has fascinated scholars for a long time, but, in spite of the great advances that have come from recent archaeological discoveries, we still find extreme divergences of opinion on basic issues. The reasons for this are not far to seek. There are still enormous gaps in the evidence, and to fill in the picture at all one must extrapolate beyond what can be definitely proved. In such circumstances subjective considerations are bound to affect the judgment and what seems no more than an obvious inference to one person will seem wildly speculative to someone else. So it is with the question of indigenous development versus outside influence. To some Chinese scholars brought up within the selfsufficient tradition of their own culture it seems natural to assume that unless there is absolutely overwhelming evidence to the contrary, everything essential in Chinese civilization, including the basic inventions of agriculture, metallurgy, etc., developed from its own creative energies without outside influence. Hypotheses of contacts across Central Asia which cannot yet be documented in the absence of archaeological exploration in the intervening regions are stigmatized as far-fetched, whereas theories, as little based on evidence, about as yet unattested earlier stages of culture within China itself are advanced as matters of logical necessity. Even those Chinese scholars who admit that certain basic technical advances must have come to China ultimately from the

earlier centres of civilization in the Near East often do their best to minimize the importance of such contacts and do
not show much interest in investigating them. Many western scholars who work mainly or exclusively in the Chinese field adopt a similar attitude.
On the other hand to the archaeologist who looks at China from the outside it usually seems self-evident that at every stage of her early development, from the first appearance of neolithic agriculture to the fully developed civilization of the Shang and Chou dynasties, there was constant stimulus and borrowing from the west. The whole story in China is so much later and so much foreshortened as compared to what went on in the Near East after the end of the Ice Age. Moreover, however wide and difficult the intervening spaces, they were not empty and not impassable. Viewed as a part of a world historical process, the beginnings of civilization in China take their place as a natural extension of the gradual spread outwards of cultural developments from the Fertile Crescent which we can trace in other directions.
This is not to say that at every stage in China's evolution there has not been also a high degree of continuity with her own past and creative adaptation in the way new elements have been taken in. No doubt some western scholars, through ignorance or arrogance, have failed to recognize this and have in some measure earned the hostility their views have aroused. But for a true understanding of the historical process both elements must be taken into account and given their due weight. Aprioristic exclusion of either is unjustifiable.
Only concrete evidence, however, not merely general arguments, will ever succeed in reconciling such opposing points of view.
.....The problem of the Indo-European homeland has of course raged since the beginnings of Indo-European studies. Various linguistic arguments have been used but none has proved sufficiently compelling to command universal assent. It seems to be generally agreed by now, however, that the forest lands of northern Europe, which certain German scholars once favoured, can be definitely excluded. The Indo-European peoples seem to belong clearly to the steppe. As between an Asiatic origin and an origin somewhere in South Russia recent

opinion has probably tended to favour the latter alternative, but this is by no means universally accepted, and I want to draw attention to the contrary view recently expressed by Professor Marija Gimbutas, based principally on an interpretation of recent discoveries by Russian archaeologists.1 She believes that one can identify the ancestral Indo-Europeans with the so-called kurgan culture which had a wide extension in the third millennium B.C., stretching east from the Volga, through Turkestan, as far as the Yenisei in Siberia. How far it extended to the south-east is not yet known, pending archaeological explorations in Sinkiang. Towards the end of the third millennium the kurgan culture can be traced moving south-west into the Caucasus and westwards into the Black Sea area. Still later it extends, evidently as a conquering, invading movement, farther west on into Europe.

This agrees well with the known dates in the early part of the second millennium B.C. of the first appearances of the Indo-Europeans in the west. Providing her interpretation of the archaeological record is sound - and on this I can naturally express no opinion - the picture she presents seems entirely reasonable and coherent. If it should prove acceptable, it would mean that in the third millennium proto Indo-Europeans were stretched all along the present political boundaries of China and perhaps even farther to the east. The kurgan culture, or Afanasievo culture as it is called in Central Asia, was followed in those parts in the second millennium by the Andronovo, which most archaeologists seem to agree was probably Indo-European. Professor Jettmar regards it as the pre-nomadic Iranian culture out of which the Scythians later emerged.2 On Professor Gimbutas's view we should have the easternmost extensions of the Indo-Europeans on or within the present boundaries of China already in the third millennium. Even if one insisted on a European origin for the Indo-Europeans they would have been there by the latter part of the second millennium when Shang civilization was emerging. The probability that there were contacts with the emergent civilization of China is surely very great in either case.

l. M. Gimbutas, "The Indo-Europeans: Archaeological Problems," American Anthropologist, 65 (1963), 815-836.

2. K. Jettmar, "Archaologische Spuren von Indogermanen in Zentralasien," Paideuma, 5 (1952), 236-254.

.....Summary

Chinese civilization did not develop in isolation but was in contact with influences both from the south and from the west and north. Besides archaeology, linguistics and philology can help to sort out these various strains. For example, we can now show that the inhabitants of the Yangtze region in the Shang and early Chou probably spoke languages related to Vietnamese and Mon-Khmer.

The probability of early contacts with Indo-Europeans is established in the first place by the appearance of the horse-drawn chariot in the second millennium B.C. All over the rest of Eurasia from India to the British Isles the spread of the war chariot and the spread of Indo-European languages was going on at the same time. Since it is incredible that the Chinese horse-drawn chariot, so similar in every respect to those in other parts of the world, should have been invented independently, it is reasonable to look for either direct or indirect Indo-European influence.

The nearest Indo-Europeans to China in historical times were the Tocharian speaking inhabitants of the oases on the northern rim of the Tarim basin. The linguistic position of Tocharian within Indo-European makes it probable that its speakers always lay to the east of the Indo-Iranians. This in turn implies that they probably arrived on the western borders of China not later than the time of the Aryan invasion of India in the second millennium B.C. If we postulate an Asiatic origin for the Indo-Europeans, their arrival was probably even earlier.

The Chinese historical evidence about the lands to the west of them from the end of the 2nd century B.C. indicates the presence of several Tocharian-speaking tribes, besides the oasis dwellers - including the Little Yiieh-chih (*Ywati) in Kansu, the Wu-sun north of the T'ien-shan, the K'ang-chii (*Kanka), Ta-yiian (*Taxwar) and Great Yiieh-chih, and probably others, in Sogdiana and Bactria. Linguistic evidence has been given to show that these peoples were related to one another and spoke Tocharian languages. Before the expansion of the Hsiung-nu

around 200 B.C. these tribes lived generally farther east and the Ywati were already known to the Chinese at least a century earlier as an important people on their western border.

1. While direct evidence of Indo-European penetration into China at the start of the dynastic period is still lacking, the close proximity of the Indo-Europeans makes it possible and even probable. No evidence has yet appeared which definitely excludes it.
2. The place occupied by the horse in Chinese mythology provides a definite link with Indo-Europeans and specifically with Tocharians. The name of the ch'i-lin or Chinese unicorn is probably cognate to ch'i-lien, the Yiieh-chih word for "heaven".
3. More profound structural connections between Sino-Tibetan and Indo-European seem to indicate close relations between the two.
   E. G. Pulleyblank

The preceding quotation is of necessity great length. There is simply no substitute, in a work such as ours, with our limitations as to subject knowledge - other than we discover online - than reproducing evidence from the horse's mouth, so to speak.

Later in the study we deal in greater depth with the Qiang/Chiang/Ch'iang. For now, we quote once again from acknowledged authorities on the subject:

> The Chou Conquest of Shang China
> The story of Hou Chi ‘Lord Millet’, the divine founder of the Chou Dynasty, is a typical Central Eurasian foundation myth, closely paralleled by the Roman myth, the Wu- sun (*Aśvin) myth, and the Puyo- Koguryo myth. How could the origin of the most revered Chinese dynasty be represented by such an alien foundation myth? It might seem surprising that the Chou, the ideal model of a dynasty throughout Chinese history, is traditionally considered by Chinese scholars to have been non-Chinese in origin. This view is not so surprising upon examination of the data on which it is based.
> The Chou came from what was at the time the western frontier of the Chinese culture area. The mother of Hou Chi, Chiang Yüan, was by name a member of the Chiang clan. The Chiang are generally accepted to have been a non-Chinese people related to or more likely identical to the Ch’iang, who were the main foreign enemies of the Shang Dynasty.
> The Ch’iang were evidently skilled chariot warriors in the Shang period, and were therefore necessarily well acquainted with horses and wheels. But it has been shown that the Tibeto- Burman words for ‘horse’, though ultimately Indo-European in origin, were borrowed from Old Chinese, not from Indo-European directly, and the same appears to be true for the Tibetan word for ‘wheel’. For this and other reasons it is probable that the early Ch’iang were not Tibeto- Burman speakers (as widely believed), but Indo-Europeans, and Chiang Yüan belonged to a clan that was Indo-European in origin. The Central Eurasian myth about her and her son, the ancestor of the Chou line, is thus not surprising after all. Yet the literary language of the Chou, preserved mainly in the Bronze Inscriptions (texts inscribed on ritual bronze vessels), is clearly the continuation of the Shang language of the Oracle Bone Inscriptions, and both are certainly ancestral to

> modern Chinese. In the traditional view, which still dominates the view of Sinological linguists, there is no room for any significant foreign influence on the development of Chinese. Yet this cannot be correct. The mounting evidence against the isolationist position, especially from archaeology, indicates that the intrusive Indo-European people who brought the chariot had a powerful influence on Shang culture and may even have been responsible for the foundation of the Shang Dynasty (ca.1570–1045 bc) itself. The Shang realm occupied only a rather small area in the Yellow River valley in what is now northern and eastern Honan (Henan), southeastern Shansi (Shanxi), and western Shantung (Shandong); such a state could easily have been dominated by an aggressive Indo-European people armed with war chariots.
>
> Although there is no direct evidence for or against any such political event, the existence of the intrusive chariot warriors, and their influence on Chinese material culture, cannot be denied.
>
> Empires Of The Silk Road A History of Central Eurasia from the Bronze Age to the Present by Christopher I. Beckwith 2009: Chapter 1

It is our proposal that the PIE arrived much earlier than the first chariots, but the first arrivals in China of the PIE with their symbols and technology did have a great impact and influenced the local populations.

Paste the following into: www.baidu.com 白种人是中华文明的缔造者 and many Chinese articles will be found e.g. http://history.news.163.com/09/0101/13/4UIV0GE400011247.html

> Caucasians are the creators of Chinese civilization: Rewritten text published by New History magazine: At the end of the nineteenth century, a large number of Tocharian documents were found in Xinjiang. In 1931, some German scholars determined that Tocharian was a primitive Indo-European language whose language had disappeared. The nation that speaks this language is naturally an Indo-European nation. Indo-European, is a white person. What is presented here is a new discovery that the brilliant civilization of ancient China was created by Indo-European peoples.

> 白种人是中华文明的缔造者:十九世纪末，在新疆发现大量吐火罗语文献，1931年有德国学者确定吐火罗语是一种已消亡的原始印欧语，讲这种语言的民族自然是一支印欧人。印欧人，是一种白种人。

It would appear that this subject is widely discussed but still meets indignant opposition from many quarters, even though many studies are carried out by Chinese scientists, archaeologists and anthropologists supporting the Indo-Europeans entering China at least by 2000 BC. We wonder what the reaction will be to our proposals that the PIE arrived 4000–3500 BC.

The Qiang in greater depth

Much of our knowledge concerning the Qiang is held on Chinese websites and forums and once again Google Chrome provides the rudimentary translation:
http://www.mahu365.com/gqrqjwhdzz.html

The following excerpts are from a very long and interesting piece, but too long to reproduce here in its entirety. Article: Genetic Structure of Qiangic Populations Residing in the Western Sichuan Corridor (2014), Chuan-Chao Wang et al (Google translation):

> Ancient Qiang is the founder of Qi family culture | Qi family culture research
> Qijia culture is the key to open the early Chinese civilization. Qijia culture is the DNA of Chinese civilization.
> Qi Jia culture is the upper reaches of the Yellow River in China in the late Neolithic Age to the early Bronze Age culture. Due to the Swedish archaeologist Ante was first found in Gansu Province Guanghe County (formerly Ningding County) Qi Jiaping site named. Mainly distributed in the Gansu and Qinghai territory along the Yellow River and its tributaries Weihe River, Tao River, Daxia River, Guangtong River, Huangshui River Basin, southern Ningxia and Inner Mongolia also found sporadic. Qi culture is in the Ma Jiayao culture developed on the basis of a culture. Qi family culture from about (4200) ~ (3700) years ago, and the middle of the Yellow River in the middle of the Longshan culture.

Qijia culture more sites, since the founding of the People's Republic of China, carried out a large number of archaeological investigation, excavation work, more important in Gansu Liujiaxia reservoir area investigation; Wuwei Huangiangiangiangji site, Yongjing large Hezhuang site, Qin Wei Jia Road And the excavation of the Leaves of Liuzhou in Lilongdu, Qinghai Province

In ancient times, the center of Chinese culture was indeed in the upper reaches of the Yellow River. The status and function of the study of the ancient culture of Linxia in Gansu Province cannot be ignored. Over the past few years, some Chinese scholars interested in the Central Plains Center said that the source of Chinese civilization in the Central Plains, the world civilization originated in China, desert northwest how can become the birthplace of Chinese civilization? In recent years, international scholars and domestic experts have begun to focus on the West, to close to the historical reality has taken a welcome key step.

On the family culture of the family, it should be sure that the family culture is today we call the ancient Qiang people created by a group of ancient tribes. Yao and Shun Yu to the Qin and Han Dynasties, is the most active period of the ancient Qiang, the ancient Qiang is the founder of Qi culture, the founder of Chinese civilization. Ancient Qiang not only created the Qi family culture, but also to create a colorful Majiayao culture, Temple depression, Xin shop culture. Today, when we interpret the sacred and broad culture of the Qijia, for the creation of exquisite ancient culture of the ancient Qiang, sincerely produced a deep respect.

Around 20–40 kya, a population with dominant haplogroup O3-M122 Y chromosomes (haplogroup O3a1c-002611, O3a2c1*-M134, O3a2c1a-M117, and probably other O3 lineages) finally reached the upper and middle Yellow River basin and formed the Di-Qiang populations. During the Neolithic period, the Di-Qiang people experienced relatively huge population expansion. A subgroup of the Di-Qiang people with dominant haplogroup O3a2c1*-M134 and O3a2c1a-M117, now called the Proto-Tibeto-Burman people left their Yellow River

homeland, probably also moved along the Tibeto-Burman corridor, embarking on large-scale westward migrations to nowadays Qinghai province and then southward to the Himalayas, or southward migration directly via the WSC corridor to Yunnan and Guangxi, where they mixed with D-M174 linages and developed into Tibeto-Burman populations.

However, haplogroup O3a2c1*-M134 might have already reached Tibet predated the above southward migration together with O3a2c1a-M117, judging from the high diversity in the network of O3a2c1*-M134 (Figure 4). In addition, another branch of the Di-Qiang people, the proto-Chinese, with dominant haplogroup O3a1c-002611 migrated eastward to the central China plain area, the middle and lower Yellow River Valley, and integrated gradually with the natives (probably populations with haplogroup C-M130 or D-M174) around 5–6 kya. Subsequently, the Di-Qiang people that resided in upper and middle Yellow River basin with haplogroup O3a2c1*-M134 and O3a2c1a-M117 formed the well-known Yan-Huang tribe (Hot Emperor and Yellow Emperor), and the eastward branch with O3a1c-002611 developed into the Dong Yi tribe. The Yan-Huang tribe together with the Dong Yi tribe gradually developed into a large population known as Han Chinese. With the expansion of Han Chinese, especially southward, this group became the largest one of the 56 officially recognized ethnic populations in China.

Genetic Structure of Qiangic Populations Residing in the Western Sichuan Corridor (2014), Chuan-Chao Wang et al.

The following is from: Tracing the Genetic History of the Chinese People: Mitochondrial DNA Analysis of a Neolithic Population from the Lajia Site (2007), Shi-Zhu Gao et al:

> The Lajia site is located in the Guanting basin of the upper Yellow River, in Minhe county, Qinghai province, northwestern China (Fig. 1). According to radiocarbon dating, the Lajia site is 3,800–4,000 years old (Xia et al., 2003). Archaeological studies have associated the Lajia site with the late period of the Qijia culture, a major culture that flourished during the late Neolithic Age to early Bronze Age (Ren et al., 2002) in the Hexi Corridor, a major route leading to the central regions of the Yellow River. The Qijia culture belonged to the cultures of the Di-Qiang, an ancient tribe confederation in northwestern China (Liu, 2003). According to ethnological studies, the Di-Qiang population contributed to the development of the current Han and Tibeto-Burman (TB) speaking populations (Yang and Ding, 2003). In the late Neolithic Age to early Bronze Age period, a branch of the Di-Qiang people migrated eastward and merged with tribes in the middle and lower Yellow River valley, bringing into being one constituent of the Huaxia ethnic group (Yang and Ding, 2003). The Huaxia ethnic group later absorbed many other cultures, including some from the Yangtze River region, to form the famous Huaxia civilization. After a long process of integration and expansion, the Huaxia civilization developed into the Han, which forms the largest ethnic group in present-day China (Tian, 2001; Xu, 2003).
>
> In addition, a wave of the Di-Qiang tribes migrated to the southwest of China starting 4,000–5,000 years ago and mixed with several indigenous tribes. The southwest migrants of the Di-Qiang people developed into part of the Tibeto-Burman (TB) speaking populations that are now primarily distributed in the Qinghai, Tibet, Sichuan, Yunnan, and Hunan regions of China (Yang and Ding, 2003).
>
> In 2000, archaeologists working in the northeast part of the Lajia site discovered 16 human remains in two ruined houses, designated F3 and F4. Excavations at the site revealed that the cause of the death of the inhabitants was a sudden

> earthquake followed by a flood (Xia et al., 2003). The Lajia civilization ceased to exist after this natural disaster, so that the Lajia site is sometimes termed "the eastern Pompeii" by archaeologists (Zhang et al., 2004).

Ancient DNA Evidence Supports the Contribution of Di-Qiang People to the Han Chinese Gene Pool (2010), Yong-Bin Zhao et al. provides the following information:

> The Hehuang area, the upper part of the Yellow River, was the cradle of many Chinese ethnic groups, according to historical documents. Ancient people migrated from Southeast Asia to this region and formed the Di-Qiang populations about 10,000–40,000 years ago (Su et al., 2000). During two periods, respectively, 4,000–5,000 and 2,000–2,500 years ago, the Di-Qiang people embarked on large- scale southward migrations into the southwest of China, where they mixed with southern natives, including those speaking Daic, Hmong-Mien, and Austro- Asiatic. They developed into such Tibeto-Burman populations as the Tibetan, Qiang, Yi, Pumi, Tujia, and so on (Yang and Ding, 2003). In addition, a branch of the Di-Qiang population migrated eastward to the central plain area, the middle and lower Yellow River Valley, and these integrated gradually with the natives around 5000–6000 years ago. During the Han Dynasty (206 B.C. to 220 A.D.), they developed into a large population known as Han Chinese. With the expansion, especially southward, of Han Chinese, this group became much the largest of the 56 officially recognized ethnic populations in China (Tian, 2001;
> Xu, 2003). Genetic studies based on modern people have hitherto been reported to clarify the origin and development of the Han Chinese. The Han Chinese were divided into two different groups, northern Han and southern Han, through analysis of the classic markers (Zhao and Lee, 1989) and STR markers (Chu et al., 1998).
> The Taojiazhai site is located in the Hehuang area (Fig. 1). Archaeological studies show that it was occupied from the Han to the Jin Dynasty (1700–1900 years ago).

> According to historical documents, several periods of intermixing are known between the Di-Qiang populations and the Han Chinese (or their ancestors). There have been at least three explicit records of migration: (1) a branch of the Di-Qiang population migrated eastward to the central plain area around 5000 –6000 years ago;(2) during the Western Han Dynasty (202 B.C. to 25 A.D.), many people from the central plain area expanded westward into Hehuang, and these greatly influenced the Di-Qiang populations; (3) western groups living in the Hehuang area expanded into the central plain area and admixed with the Han in the Southern and Northern Dynasties (420 A.D. to 589 A.D.) (Du and Yip, 1993). The Ancient Taojiazhai people, coincidently residing in the Hehuang area where the Di-Qiang populations had previously lived, shared a close genetic relationship with the Tibeto-Burman populations who have been identified as the descendants of Di-Qiang populations by genetic studies, indicating that Taojiazhai people might be descended from the Di-Qiang populations. In addition, the ancient Taojiazhai people also bore a strong resemblance to the Han Chinese who is the majority of inhabitants in Hehuang area now. The discussion above illuminates the contributions of the Di-Qiang populations to the gene pool of Han Chinese. The results of genetic analysis, which the ancient Tao-jiazhai people bore a very high similarity to those Tibeto-Burman populations who had high contribution of the Di-Qiang populations, together with the geographic location of Taojiazhai site, suggested that the ancient Taojiazhai people was the descendant of the Di-Qiang populations. Moreover, genetic and archaeological data of the ancient Taojiazhai people showed that they were close to the Han Chinese. These evidences are consistent with the history of the ethnic groups analyzed in this study. Therefore, we conclude that the ancient Di-Qiang populations may be one of the genetic contributors to the Han Chinese people.

A good source of the Qiang as horsemen, with some challenging attitudes to received wisdom as to their relationship with the Shang, comes from: Wan, Xiang, "The Horse in Pre-Imperial China" (2013). Publicly Accessible Penn Dissertations. Paper 720. Excerpts from this excellent work:

According to the oracle bone records, Qiang captives were often used by the Shang as human sacrifice. (Yao 1979). It is often argued that the Qiang is related to the Xia Dynasty and its founder Yu禹 (Chen 1988: 282; Xu1992), and the Xia Dynasty, overthrown by the Shang leader Tang 湯 , is considered to be hostile to the Shang.

Also, the term Xiao Duoma Qiang Chen 小多馬羌臣 “Minor Minister of the Qiang of many horses” might reflect the actual involvement of the official in horse breeding (Wang 2002b: 58; Zhou 2000: 105). Sometimes, the related official name is Duoma Ya 多馬亞 or Ma Ya 馬亞.113

'Duoma Qiang 多 馬 羌 “the Qiang of many horses,” along with other Qiang tribes, is generally considered to be a tribe in the west of the Shang dominion.114 Possibly they were allies of the Shang (Mair 2003: 168-69). The term” Xiao Duoma Qiang Chen” is thus considered to be a title of an official in charge of the workers from the Duoma Qiang tribe. Duoma Qiang is famous for its Duoma 多 馬 , namely,“of many horses. Therefore, it is conceivable to assume that the horse breeders from Duoma Qiang might have been employed in the stables of the Shang. Victor Mair (2003: 169-70) further associated the Qijia culture with the Qiang, and argued that the horses of the Shang came from this culture which learned horse breeding as well as bronze metallurgy from the West.'

Recent research has demonstrated that copper and arsenic bronze metallurgy,with its origin in the ancient Near East, was probably transmitted from the Qijia culture in northwest China to the Erlitou culture, the predecessor of Erligang and Yinxu sites (Li 2005). Not coincidentally, archaeologists have found numerous domestic horses in the Qijia sites. In view of the geographical proximity of the Qijia culture to the possible origin of the Qiang, the possible horse provider dwelling to the west of the Shang dominion, it is conceivable that the Qiang might have acquired horses from the Qijia people.

Traditionally it was believed that the Qiang were one of the most formidable enemies of the Shang Kingdom.174 Yet as I argued in the previous chapters, the

Qiang were probably also a main source of the royal horses and chariots of the Shang. A similar pattern of acquiring horse breeding and chariot driving happened in the Far East, as the Duoma Qiang and the Mafang moved into the mid-Yellow River Valley and confronted the Shang.

The following piece contains a very important reference to 'white quartzite' and Qijia burials.

'Gansu Lintan Millou Qi Jia culture cemetery excavation' (translated from Chinese by Google Chrome) by Professor Qian Yao Peng Gansu Provincial Institute of Cultural Relics and Archaeology

The Lintan Mogou site is located in the southwest of Taohe River, Miaogou River in the west of the horseshoe-shaped mountain platform, administrative subordinate Gannan Tibetan Autonomous Prefecture Lintan County Wangqi Township, the provincial key cultural relics protection units. The cultural connotation of the site is rich, and the Qijia cultural cemetery is one of the important contents of the ruins. Here located in the northeastern margin of the Qinghai-Tibet Plateau, the altitude is generally more than 2200 meters. In 2008, based on the needs of Jiudianxia reservoir construction, the Gansu Provincial Institute of Cultural Relics and Archaeology cooperated with the College of Cultural Heritage of Northwestern University to carry out archaeological excavations of the Qijia cultural cemetery.

The first excavation results have aroused great concern in the academic community [Li Xue to: "" Eighth Chinese Academy of Social Sciences Archaeological Forum in 2008 China archaeological new discovery "memorial" "Archaeology" 2009 the seventh period.], was named the 2008 National Top Ten archaeological discoveries."

At present, excavation work is continuing. As of August 2011, a total of more than 1530 tombs, which were dominated by the Qi culture period, had received a lot of evidence about the structure of the burial, the burial process and the burial customs, which not only helped to further understand the Qi culture and even prehistoric Period of burial phenomenon, at the same time for the exploration of

> the upper reaches of the Yellow River civilization process is of great significance. As mentioned earlier, the grinding ditch cemetery can be divided into three regions: north, middle and south (or can be divided into four regions). In addition to the burial pottery, the lower part of the tomb or the human bone above the common white quartzite (commonly known as the flame stone) rubble and porcupine burial phenomenon, pig mandibles up to 32 individual (M1508). These phenomena are commonly found at Qijia cultural burials.

The above reference to 'white quartzite' ties in with the following: the ancient Qiang may have been the Qijia culture.

> From a number of different historical records it can thus be concluded that there were countless connections between cremation burials and the Qiang. Therefore, the creators of the remains attributed to what we call the Qijia culture might have been the ancient Qiang living in the Gansu-Qinghai area.
> A further clue as to the ethnic affiliation of these remains is the presence of white pebbles interred in some of the graves. At Qinweijia such white pebbles have been recorded from a number of graves, such as M19, M52, and M56, where up to several tens of walnut-size white pebbles were found heaped up close to the waist region of the skeletons (IA, CASS 1975). At Mogou also burying small pebbles with the dead was very common. The pebbles were usually at the bottom of the grave and in the form of broken pieces of white quartz. The veneration of white stones is a cultural tradition that is still evident among the Qiang people, although in a different manner.
> At houses, rivers, and roads, they deposit white stones to represent deities (Zhao 2009). The interment of white pebbles in Qijia culture graves was probably also related to religious beliefs and also reflects a connection with the ancient Qiang people.
> The Qijia Culture of the Upper Yellow River Valley by Chen Honghai in A Companion to Chinese Archaeology edited by Anne P. Underhill

Another source of information concerning the Qiang is from http://sc2218.wikifoundry.com/page/The+Qiang

Brief Introduction to the Qiang

The Qiang people have a very long history, first appearing in recorded history in the Shang dynasty (c. 17th - 11th Centuries BCE) oracle bone transcriptions (Yu, 2004).

Throughout their long history, they have been resisting attempts at cultural imposition. In the Shang oracle bone transcriptions, there are numerous references to their persecution by the Shang rulers (ibid). An important war in Qiang history is an epic war with the aboriginal Geji tribe of Sichuan, where they emerged victorious after several years, with their victory enabling them to settle in the upper reaches of the Min River in Western Sichuan, where they still live (ibid). Lastly, being situated in Northern Sichuan, the Qiang are geographically placed in between the Han Chinese to the east and the south and the Tibetans to the west and north. Fighting would frequently occur in the Qiang area between these two groups, resulting in the Qiang coming under the domination of one group or the other (LaPolla, 1996). Manchu rulers of the Qing dynasty adopted the policy of 'gaitu guiliu' to replace the hereditary chieftains with appointees from the central government. This policy continued into the Republican period (1912 - 1949) with the goal of assimilating the minority peoples into the mainstream of Han culture (Yu, 2004).

The Qiang, however, they have proven to be quite rebellious and resistant to forms of cultural domination, despite having no written script, even to this day. Despite modern cities springing up in the Qiang counties, many villagers still live in their centuries-old blockhouses (ibid).

Religion and Healing Amongst the Qiang

The Qiang native religion is a type of pantheism. They worship 'a large number of gods such as gods of heaven, sun, fire, mountains, rivers, and trees, all of them represented by the white stone'. Their religious rituals typically include important

artifacts like the aforementioned White Stone that are of symbolic significance to the Qiang. (Walter, 2004)

Important artifacts like the White Stone and the Golden Monkey Hat are important to religious rituals in Qiang culture because of certain historical events. The White Stone, for example, is linked to the battle between the Qiang and Geji tribes. It is believed that in that battle, a benevolent god sent down three magical white stones, that they used to fashion weapons out of and emerge victorious against the the Geji. Saved from annihilation by the White Stone, the Qiang then regarded it as their protecting deity, creating a ceremony named 'Sacrifice to the Mountain' dedicated to the worship of the stone. (Yu, 2004; LaPolla, 1996). These rituals can thus be seen as a means of cultural memory and transmission, as significant artifacts sanctified by historical events are celebrated, defining the Qiang community by means of shared symbolic meaning. The native shaman, known as the 'duangong' is hence the person responsible for passing down these shared symbolic meanings and cultures across generations, as he (or she at times (Walter, 2004)) is the one who memorises the texts, performances, and the Qiang language, thereby, in the process of acquiring this sort of 'professional' knowledge and skillset, earning his (and sometimes her) right to be a 'cultural gate-keeper'.

Language

As of the 1990s, there was no writing system for the Qiang language, only carving marks on wood to remember events or communicate (LaPolla, 1996). Increasingly, the road to literacy is becoming the Chinese language, as their own language has no developed script (Graham, 1961).

With modernity, language is coming under threat. Education around the Qiang areas is all in Chinese, even though there has been, in recent years, a movement to implement bilingual education (LaPolla, 1996). Furthermore, Chinese has been the main language of interaction between the Qiang and non-Qiang people. The spoken form of Chinese used is the Western Sichuan sub-dialect of Southwest Mandarin, while the written form is that of standard modern Chinese.

There are currently very few Qiang people who cannot speak Mandarin and a decreasing number of people who can speak the Qiang language. Pressures to become monolingual in Chinese are now stronger than ever due to strong economic and social pressure to assimilate, with an increasingly pervasive network making its way into the Qiang areas (ibid).

The ancient Qiang and their 'whitestone' weapons

The Qiang of today worship white quartz stones. In their songs and stories, they tell of a 'wooden bead goddess'. When translated from Chinese to English the wooden bead element indicates petrified wood beads.

It is accepted by Chinese historians that the white quartz was not only used as weapons to defeat one of the Qiang's enemies, the Ge, but also that the quartz was used as farming and everyday implements. Is it just coincidence the heirloom beads are made of quartz-like state of the petrified wood in its pure white form? Pure white petrified wood is rare in China. Please refer to translation of Chinese petrified wood in this condition later in this section.

Figure 987. Authors' collection of Native American Indian quartz arrowheads

Figure 988

Figure 989

Figure 990

Figure 991

Here we show a selection of Neolithic Chinese arrowheads made from quartz, agate and possibly petrified wood. Similar weapons would have been used by the Qiang and the razor-like edge afforded by this material would have given the Qiang an advantage against their enemies.

Figure 988. 玛瑙及燧石打制的精美箭簇(新石器时代红山文
http://www.gucn.com/Service_CurioStall_Show.asp?Id=9280229
Figure 989. http://blog.sina.com.cn/s/blog_48771e240102x3jt.html
Figure 990. http://www.gucn.com/Service_CurioStall_Show.asp?Id=7624224
Figure 991. http://bbs.sssc.cn/forum.php?mod=viewthread&tid=6011947

Figure 992. Qiang Whitestone worship,
http://www.travel2my.com/index.php/168-8d7n-china-chengdu-jiuzhaigou-dujiangyan-leshan-mt-emei

Figure 993

Figure 994

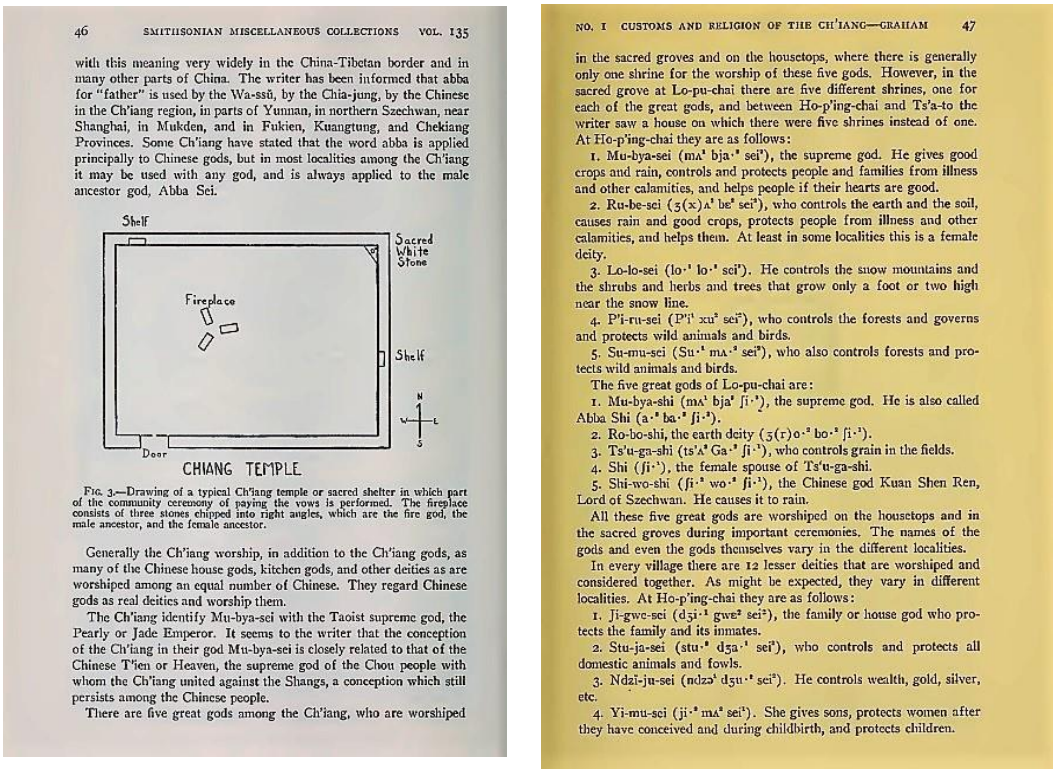
The modern Qiang of Sichuan province place white quartz stones on the roofs of their houses, towers, fireplaces to ward off evil.
Figure 993. http://www.360doc.com/content/15/0416/15/19962827_463651513.shtml
Figure 994. http://www.chinadaily.com.cn/ezine/2007-05/21/content_876728.htm

Figure 995. Qiang Whitestone worship.
羌族的白石崇拜。原始宗教是原始社会发展到一定阶段所产生的，以反映人和自然的矛盾为主要内容，它以多神崇拜和巫术控制为主要特征。例如云南少数民族原始宗教内容丰富、形态多样，基本上囊括了原始宗教的所有的内容和形态，包括自然崇拜、动植物崇拜、鬼神崇拜、祖先崇拜、生殖崇拜等，许多原始崇
拜至今还保留着神秘莫测的祭祀仪式。而图腾崇拜是把某种动物、植物等看做是自己的祖先或认为它与本民族有一定的血缘关系而对其加以崇拜。http://www.china.com.cn/photochina/zhuanti/zyzl/2009-11/12/content_18875752_2.htm
Translation on following page.

Translation via Google of figure 995 text:

‘Baishi worship of the Yi people. Primitive religion is produced by the development of primitive society to a certain stage, with the main content of reflecting the contradiction between man and nature. It is characterized by multi-god worship and witchcraft control. For example, ethnic minorities in Yunnan have rich religious content and diverse forms. They basically cover all the contents and forms of primitive religion, including nature worship, animal and plant worship, ghost worship, ancestor worship, reproductive worship, etc. Much original worship still remains. Mysterious ritual ceremony. Totem worship regards an animal or plant as its ancestor or believes that it has a certain blood relationship with the nation’.

Examples of pages from The Customs and Religions of the Ch'iang by David Crockett Graham, 1958 are shown in figures 996 and 997 (page 50 explains the white stone worship):



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with this meaning very widely in the China-Tibetan border and in many other parts of China. The writer has been informed that abba for "father" is used by the Wa-ssŭ, by the Chia-jung, by the Chinese in the Ch'iang region, in parts of Yunnan, in northern Szechwan, near Shanghai, in Mukden, and in Fukien, Kuangtung, and Chekiang Provinces. Some Ch'iang have stated that the word abba is applied principally to Chinese gods, but in most localities among the Ch'iang it may be used with any god, and is always applied to the male ancestor god, Abba Sei.

FIG. 3.—Drawing of a typical Ch'iang temple or sacred shelter in which part of the community ceremony of paying the vows is performed. The fireplace consists of three stones chipped into right angles, which are the fire god, the male ancestor, and the female ancestor.

Generally the Ch'iang worship, in addition to the Ch'iang gods, as many of the Chinese house gods, kitchen gods, and other deities as are worshiped among an equal number of Chinese. They regard Chinese gods as real deities and worship them.

The Ch'iang identify Mu-bya-sei with the Taoist supreme god, the Pearly or Jade Emperor. It seems to the writer that the conception of the Ch'iang in their god Mu-bya-sei is closely related to that of the Chinese T'ien or Heaven, the supreme god of the Chou people with whom the Ch'iang united against the Shangs, a conception which still persists among the Chinese people.

There are five great gods among the Ch'iang, who are worshiped

NO. 1 CUSTOMS AND RELIGION OF THE CH'IANG—GRAHAM 47

in the sacred groves and on the housetops, where there is generally only one shrine for the worship of these five gods. However, in the sacred grove at Lo-pu-chai there are five different shrines, one for each of the great gods, and between Ho-p'ing-chai and Ts'a-to the writer saw a house on which there were five shrines instead of one. At Ho-p'ing-chai they are as follows:

1. Mu-bya-sei (mʌ¹ bja·³ sei³), the supreme god. He gives good crops and rain, controls and protects people and families from illness and other calamities, and helps people if their hearts are good.

2. Ru-be-sei (ʒ(x)ʌ³ be² sei³), who controls the earth and the soil, causes rain and good crops, protects people from illness and other calamities, and helps them. At least in some localities this is a female deity.

3. Lo-lo-sei (lo·¹ lo·³ sei³). He controls the snow mountains and the shrubs and herbs and trees that grow only a foot or two high near the snow line.

4. P'i-ru-sei (P'i¹ xu² sei³), who controls the forests and governs and protects wild animals and birds.

5. Su-mu-sei (Su·¹ mʌ·³ sei³), who also controls forests and protects wild animals and birds.

The five great gods of Lo-pu-chai are:

1. Mu-bya-shi (mʌ¹ bja³ ʃi·³), the supreme god. He is also called Abba Shi (a·³ ba·³ ʃi·³).

2. Ro-bo-shi, the earth deity (ʒ(r)o·³ bo·³ ʃi·¹).

3. Ts'u-ga-shi (ts'ʌ³ Ga·³ ʃi·¹), who controls grain in the fields.

4. Shi (ʃi·¹), the female spouse of Ts'u-ga-shi.

5. Shi-wo-shi (ʃi·³ wo·³ ʃi·¹), the Chinese god Kuan Shen Ren, Lord of Szechwan. He causes it to rain.

All these five great gods are worshiped on the housetops and in the sacred groves during important ceremonies. The names of the gods and even the gods themselves vary in the different localities.

In every village there are 12 lesser deities that are worshiped and considered together. As might be expected, they vary in different localities. At Ho-p'ing-chai they are as follows:

1. Ji-gwe-sei (dʒi·¹ gwe² sei³), the family or house god who protects the family and its inmates.

2. Stu-ja-sei (stu·³ dʒa·¹ sei³), who controls and protects all domestic animals and fowls.

3. Ndzi-ju-sei (ndzɔ¹ dʒu·³ sei³). He controls wealth, gold, silver, etc.

4. Yi-mu-sei (ji·³ mʌ² sei³). She gives sons, protects women after they have conceived and during childbirth, and protects children.

Figure 996

5. Mya-wei-sei (mja·¹ wei² sei¹), a goddess who protects men and boys.

6. Sti-per-sei (sti·¹ P'ʌr³ sei²). This deity protects women and girls in matters connected with childbirth.

7. Do-dzu-sei (To·⁵ dzu·¹ sei¹), a door god on the right side of the door, who keeps demons out of homes.

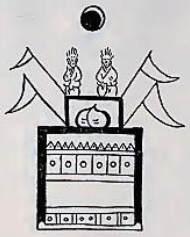

FIG. 4.—Drawing of a shrine, copied from a Ch'iang priest's sacred book used only for divination. The humanlike figures at the top are, right, the god of the sky or heaven, left, the earth goddess. The priest said that the three other great gods should have been drawn but that there was not room for their pictures. Drawing in the square beneath the figures resembling a peach is supposed to represent a large sacred white stone. (It is poorly shaped.) The 12 triangles in a row at the top represent 12 small white stones for the worship of the 12 lesser gods. The 12 small round holes represent cavities for burning incense to the 12 lesser gods. On either side at the top are four sacred white paper flags. The circles at the top may (?) represent the sun being eclipsed by the moon. Here is definite and concrete evidence that the Ch'iang are not monotheists.

8. Nu-nga-sei (nʌ³ Ŋa·¹ sei²), a door god on the left side of the door who also keeps out demons.

9. Sbe-pri-sei (sbɛ³ Pri¹ sei⁴), who controls the five grains after they have been harvested and are in the house or bin.

10. Mo-bo-sei (mo·² bo·¹ sei²), a fire god who controls fire in the home and prevents it from burning the house.

11. A-ba-sei (a·¹ ba·² sei²), the male ancestor. He does not control anything, but is revered and worshiped.

12. A-ta-sei (a·¹ Ta·⁵ sei²), the female ancestor, who also controls nothing, but is worshiped and revered.

We have mentioned the Ch'iang stoves consisting either of three stones chipped so as to form angles, or of strong iron rims or bands with three iron legs. One of these, the iron leg that has in it a small hole in which an iron ring hangs, or the corresponding stone leg, is the fire god. At Lo-pu-chai he is called Mo-go-i-shi (mo·⁵ Go·¹ⁱ·³² ʃi·¹), and at Ho-p'ing-chai Mu-bo-sei (mʌ¹ bo·² sei²) or Mo-bo-sei (mo·¹ Bo·³ sei²). The other two legs are A-ba-sei, the male ancestor, and A-ta-sei, the female ancestor. This might be called the Ch'iang triad.

Generally the sacred white stones are not believed to be deities. There are, however, some white stones and other stones not white that are worshiped as living gods.

The 12 lesser gods at Lo-pu-chai, as named and explained by the local Ch'iang priest, are:

1. Mo-ts'o (mo·¹ ts'o²), male, regarded as the equivalent of the ancestors.

2. Tsche-shyo-gi (tʃɛ³ ʃjo·³ dʒi·¹), male, who controls, helps, and protects all domestic animals.

3. Zyei-dje (ʒei²² dzɛ¹), male, who controls and helps men and women when cutting firewood and grass for making fertilizer (thrown on the floors of the animal pens and rooms in the homes).

4. Ŭ-mo (y³ mo·¹), male, who helps obtain numerous descendants.

5. Shi-shto (ʃi·³ ʃto·¹), male, who assists all who have trades—carpenters, masons, even priests, helping priests remember their ceremonies and incantations.

6. Mbje-p'er (mbjɛ³ pə³), the male ancestor, who helps men and boys.

7. She-p'er (ʃɛ³ pə·¹), the female ancestor, who helps women and girls.

8. Stro-je (STRO·³ dʒɛ²), male, who controls people's souls. People worship him when they are worried lest their souls depart and they die.

9. Shi (ʃi·¹), female, who controls grains in the bins or granaries.

10. Mo-go-i-shi (Mo·² Go·³ i·² ʃi·¹), male, the fire god who controls fire and protects from fire.

11. La-nga-du-du (la·³ Ŋa·³ Tu·³ Tu·⁵), male, who prevents people from coming in and quarreling.

12. Ch'ai-shen (ts'ai³ sʌn⁵) (no Ch'iang name), male, the god of wealth.

The following is the list of 12 lesser deities as given by Mr. Kou, the priest at Mu-shang-chai, with such explanations as he was able to give.

1. Nyei-Wŭi (ɲei³ wyi·⁵), a god on the northwest corner of the main room in the house.

2. Tzo-wŭ (tzo·⁵ wy²).

3. P'u (p'u·⁵).

4. Tshu (tʃ'u·⁵).

5. Ŭ-mu-p'i (y³ mu·³ p'i·¹), who is above the wall of the house near the center.

6. Ŭ-du-p'e (y³ Tu·³ p'ɛ⁴), who is below Ŭ-mu-p'i.

7. Mu-nga-dwe-dwe-dze-swe-tshi (mu·³ Ŋa·³ Twɛ³ Twɛ³ dzə³ swɛ¹ tʃi·⁵), who is on the central pillar of the house.

8. P'er-shi-jei-ts'e-mye (p'ə³ ʃi·³ dzei² ʃi·³ tʃɛ¹ mɛ² (ɲɲjɛ⁵)). On the west wall of the house.

9. Dzu-si-ji-go-wa-la-tshe (dzu·⁵ si·¹ dʒi·³ Go·² wa·¹ la·⁵ tʃɛ⁵), the god of the big water jar.

10. Nyu-ge-ze (ɲu²· gɛ² zɛ²), the god on the right side of the front door.

11. Su-gu-be (sʌ² gʌ² bɛ³), the god on the left side of the front door.

12. Jei-tzu-ze-tzu-tse-mye (dʒɛi² tzʌ³ zɛ² tzu·³ ʃu·² tsɛ¹ mɛ²), the god of the four corners of the house.

There are white stones worshiped as deities at O-erh, at Ho-p'ing-chai, and at Hsiao-chai-tzu. At Chia-shan-chai in the temple is a white stone worshiped as a local deity. It is on a stone altar on the wall above a table and is called White Stone King. There is another white stone on the floor of the temple which is the fire god.[35] In the sacred grove at Lung-ch'i-chai is a slender black stone extending about 22 inches above the ground which is worshiped as a local deity. In the temple is a white stone that is worshiped as a mountain god. In the upper village of K'a-ku is a shrine in which is a white stone that is worshiped by some as the grain god, and by others as Ts'ang Chieh 倉頡, a Chinese god of scholars. Near Hsiao-chai-tzŭ and Lo-pu-chai is a large rock that is not white, as big as a Ch'iang house, which is worshiped as a god that heals diseases.

On a mountain across the river from Li-fan is a temple called Pai (white)-k'ung-ssŭ. In it are three large white stones that are worshiped as gods. Four Chinese priests care for the temple and its gods, and Ch'iang, Chinese, and people of all other ethnic groups in this region worship these gods in order to be healed of their diseases.

[35] Report on research in western Szechwan, The Chinese Ministry Education, Division of Mongolia and Tibet, *chap.* 2, Worship of the White Stone, Division 1, 1943.

In their worship they burn incense and make offerings. Yak and sheep and cattle are sometimes released near this temple, not as sin-bearers, but as a means of gaining merit by releasing or saving life, or lives, of creatures that would otherwise in due time be slaughtered and eaten.

There are trees that are worshiped as gods. Near Ho-p'ing-chai such trees are called P'o-shya-sei (P'o· ʃja· sei). About 15 *li* from T'ao-tzŭ-p'ing is a tree that is worshiped as a deity. At Ru-ta-chai (ʌ³ Ta·³ tʃai¹), which is near Chia-shan-chai, there is a Chinese temple in a sacred grove. Behind this temple is a great pine tree called Me-p'ok-sei or pine tree god and worshiped as the chief god of Ru-ta-chai. Incense is burned to it and offerings are made to it—on important occasions a black goat and two chickens.

Every village or locality has a special local deity, so that theoretically the gods of the Ch'iang are as numerous as there are villages and places that have names. When the priest chants his "sacred books" in his ceremonies, he mentions many localities, and with each locality its local god, calling on them to come and assist him in the ceremony. Lists of those from Lo-pu-chai and Ho-p'ing-chai will be found in the section devoted to sacred books or sacred chants. Below is the list as found in the "sacred books" of the priest at Mu-shang-chai.

Mu-shang-chai, the god Gwe-be-ch'i (gwɛ³ bɛ¹ tʃi·⁵) (the founder).
Pu-lan-ch'eng, the god Bo-o-sei (bo·³ o·¹ sei³, or bɛ³ sə³ o·¹ tʃei), (the founder).
Lung-chi-chai, Ge-tsu-ch'ei (ge tsu·¹ tʃei²) (the founder).
P'u-wa, the god Mu-ni-o-chi or ch'ei (mʌ³ ni·⁵ o·¹ tʃi·⁵ or tʃei²).
Lung-chi-chai, the god Jei-t'a-ch'i (dʒei·⁵ t'a¹¹ tʃi·⁵) (local deity).
Bu-lan-ch'eng, the god Ge-ts'u-ch'i (gɛ³ ts'u³ tʃi·⁵) (local god).
Ta-han-chai, the god Ru-wa-sei (ru·⁵ wa·⁵ sei²).
Chin-tu, the god Ch'iung-tu-sei (tʃjoƆ³ Tu·¹ sei²).
Hsin-ch'i (upper), Zu-kwe-sei (zʌ³ kwɛ¹ Sei²).
Hsin-ch'i (lower), Gan-dzu-sei (gʌn³ dʒu·⁵ Sei²).
Kwei-chai, T'a-bo-sei (t'a·⁵ bo·¹ sei²).
P'a-p'o-sei (p'a³ p'o·¹ sei²).
Seh-ro-chai, Ze-jo-sei (zɛ³ dʒo·⁵ sei²).
P'u-ch'i-chai, Ze-jo-sei (zɛ·³ dʒo·¹ sei²).

The heads of many of the sacred canes used by the priests to exorcise demons are carved so that they resemble human heads. These represent the god who is king of demons and assists the priests in controlling the demons.

Every priest has a patron deity called Abba Mula, Mo-lo-sei, or Abba-mo-lo-sei. In a few localities he is called Ndjei Chu, or Nyei-dzu. He is the patron or guardian deity and instructor of the Ch'iang

Figure 997.

Excerpts from: The tales of the Yellow Emperor (Huang Di 黃帝), Tai Hao 太皞, Shao Hao (Shaohao) Zhi 少昊摯, Zhuan Xu (Zhuanxu) 顓頊 (also called Gao Yang [Gaoyang]:

> The tales of the Yellow Emperor (Huang Di 黃帝), Tai Hao 太皞 (Fu Xi 伏羲), Shao Hao 少昊 (Zhi 摯), Zhuan Xu 顓頊 (also called Gao Yang 高陽), Di Ku 帝嚳 (also called Gao Xin 高辛), the holy and virtuous rulers Yao 堯 and Shun 舜, and the founder of the Xia Dynasty 夏 , Yu the Great, who tamed the floods, divided the empire into the nine provinces (jiuzhou 九州) and characterized the soil of every province, - all these persons only became prominent subjects of mythology during the Spring and Autumn 春 秋 period (770-5th cent. BC). The origin of these stories must be traced to tales of mythologiccal rulers, gods or tribal ancestors of prehistoric tribes or families (zu 族) like the Ji 姬, Si 姒, Jiang 姜 (Qiang 羌), Mi 羋, Miao 苗, or Ying 嬴. Many of these names are written with the radical "wife" 女 (like the word for surname, xing 姓), expressing the possible cognatic character of the ancient tribal groups. Tribal heroes or mythological tribal ancestors (zongshen 宗神) of different tribes and periods later merged to a unified pantheon of ancestor deities that became relatives of each other within a constructed lineage, with the Yellow Emperor at its head.
> http://www.chinaknowledge.de/History/Myth/mythology.html

> The Qiang form a special minority people In China. They numbered 12,000,000 in the Han Dynasty (206BC-220AD), but at the time of the earthquake on May 12. 2008, there were only about 200.000 Qiang people living. In ancient times Yushu was an old Qiang territory, the source of the Yellow, Yangtse and Lantsang Rivers. The Qiang people are the bond between the Tibetan and Han. and can be considered as the original Chinese people. Yan-di (the Yan Emperor) was the first ancestor of the Qiang. Chinese people call themselves the descendants of the Yan and Huang Emperors. The founder of the first dynasty Xia (2070BC). Da-yu, who combined the Yan-di and Huang-di tradition, is also an

important ancestor of the Qiang people. Da-yu, the ancestor of the Qiang, who founded Xia, the first Dynasty (2070 BC) in Chinese history, was born in Beichuan, the centre of the 'Sill Earthquake. Da-yu is also the originator of the Shaman tradition. Even today, some Shaman rituals are called Dayu's orders. Ritual and Transformation in Qiang culture by Heyong Shen in 'Montreal 2010 - Facing Multiplicity: Psyche, Nature, Culture' edited by Pramila Bennett

Figure 998

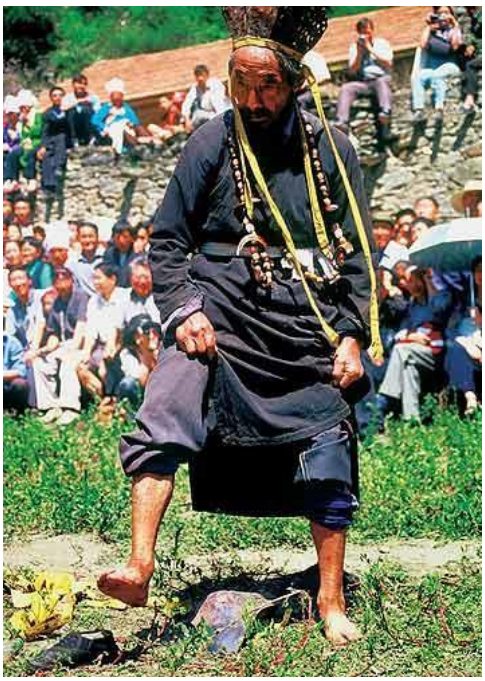

Figure 999

Figure 998. Dayu, Ritual and Transformation in Qiang culture by Heyong Shen in 'Montreal 2010 - Facing Multiplicity: Psyche, Nature, Culture' edited by Pramila Bennett
Figure 999. Wild Dai 狂野的羌族 http://bj.sina.com.cn/t/2006-11-29/1145113033.shtml