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## Independent Instances of "Souvenir" Asian Skulls from the Tampa Bay Area

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**ABSTRACT:** In the summer of 1984, police in Pinellas County, Florida, confiscated six identically colored imported Asian skulls (in a shipping case) from a private citizen. In May 1988, in nearby Hillsborough County, police confiscated a very similar skull from another private citizen, who allegedly had found it in an abandoned house. Aside from slight color differences between the six found in Pinellas County and the one found in Hillsborough County, the skulls are virtually identical in their osteological characteristics and condition and in the vital statistics derived from each. Each skull is as clean and dry as those typically sold by commercial scientific supply outlets in the United States. Each is edentulous (primarily premortem), between approximately 20 and 60 years of age at death, and morphologically Asian. Five of the seven are morphologically male, one is morphologically female, and one is a mosaic with respect to gender-related features. Police, medical examiners, coroners, and forensic anthropologists should be aware of such "souvenir" specimens, in the event that they encounter similar skulls. Discriminant function analyses for race and sex yield considerably conflicting results, which underscores the need for using extreme caution when interpreting forensic science estimates based on such techniques.

**KEYWORDS:** physical anthropology, musculoskeletal system, human identification, forensic anthropology, skulls, Asian, souvenirs, discriminant function analysis

This report is concerned with two independent occurrences of apparent "souvenir" skulls in the greater Tampa Bay region of east-central Florida. Upon occasion in the past, forensic anthropologists have encountered souvenir skulls, presumably taken as trophies during World War II [1,2] or the war in Vietnam [3]. In the cases reported here, the skulls do not appear to be war trophies.

These two separate cases came from opposite sides of Tampa Bay, four years apart in time. It should be noted that India, a primary source of human skeletal material commercially available in the United States, prohibited the export of such remains a few years ago. Hence, natural bone skeletal remains for scientific uses are no longer readily available in the United States.

### Historical Setting

In August of 1984, municipal police in Pinellas County, Florida, confiscated a wooden crate which contained six human skulls (Case I). The skulls were packed in excelsior;

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the labels and markings on the crate clearly indicated its point of origin as the country of India. The skulls and packing case were the property of a private citizen.

Four years later and 30 miles (48 km) to the east, police in Hillsborough County, confiscated another skull (Case II) from a private citizen. He claimed to have found the skull while cleaning an abandoned house in Gibsonton, Florida, in the summer of 1988.

### **Case I**

These six skulls (Fig. 1) were remarkably similar, in fact, identical in some respects. Given the labels and markings on the packing case in which they were found, their Asian ethnic ancestry seems a safe assumption.

Morphologically, the prominent malar bones and profusion of wormian bones are consistent with East Asian or East Asian-derived ancestry (Fig. 2). The skulls ranged in age at death from approximately the twenties to the fifties, based on patterns of ectocranial suture closure [4]. Four appeared to be morphologically male and one female; one skull was a mosaic with respect to gender-related features.

Only one tooth was present in one skull. Most of the other missing teeth resulted from antemortem phenomena. However, in each skull some teeth had been lost either perimortem or postmortem.

Each skull was exceptionally clean. That, combined with their virtually identical color, suggests that they had been subjected as a group to a "cleaning" treatment similar to that given the human skeletal remains which were once available for purchase from American scientific supply companies. Most, if not all, of the non-antemortem tooth loss may have occurred during such a treatment process.

### **Case II**

This skull (Fig. 3), in its forties at death, according to the pattern of ectocranial suture closure [4], was found in the summer of 1988. Morphologically it is male, and its wormian bones (Fig. 4) and prominent malar bones suggest Asian or Amerindian ancestry. Although different in color from the skulls in Case I, this one is also remarkably clean, probably because of treatment similar to the one to which the skulls in Case I were apparently subjected.

Virtually all of the teeth in this skull are missing as a result of antemortem phenomena. This condition is also similar to the extensive antemortem tooth loss present in the Case I skulls, which suggests that these seven individuals probably did not enjoy good dental health or practice prudent dental hygiene when alive, since none was of advanced age—at least not by Western standards. Further, one might presume that none of the individuals had enjoyed the regular attention of Western dentistry. Those presumptions suggest that these individuals were of lower socioeconomic status, by Western standards.

### **Discriminant Function Analysis**

The seven skulls were submitted to discriminant function analyses using Giles and Elliot's formula [5,6], the formula of Jantz and Moore-Jansen [7], and Jantz and Moore-Jansen's three-way (black/white/Amerindian) formulae for males [7]. Because these remains were virtually certainly not of black, white, or Amerindian ancestry, this exercise was undertaken strictly to determine the consistency with which the formulae classified the skulls.

Each skull was run as a male and a female against the black/white formulae and as black and white against the sex formulae. However, Skull 4 was not run against the three-way formulae, because the other discriminant function analyses and morphological ob-

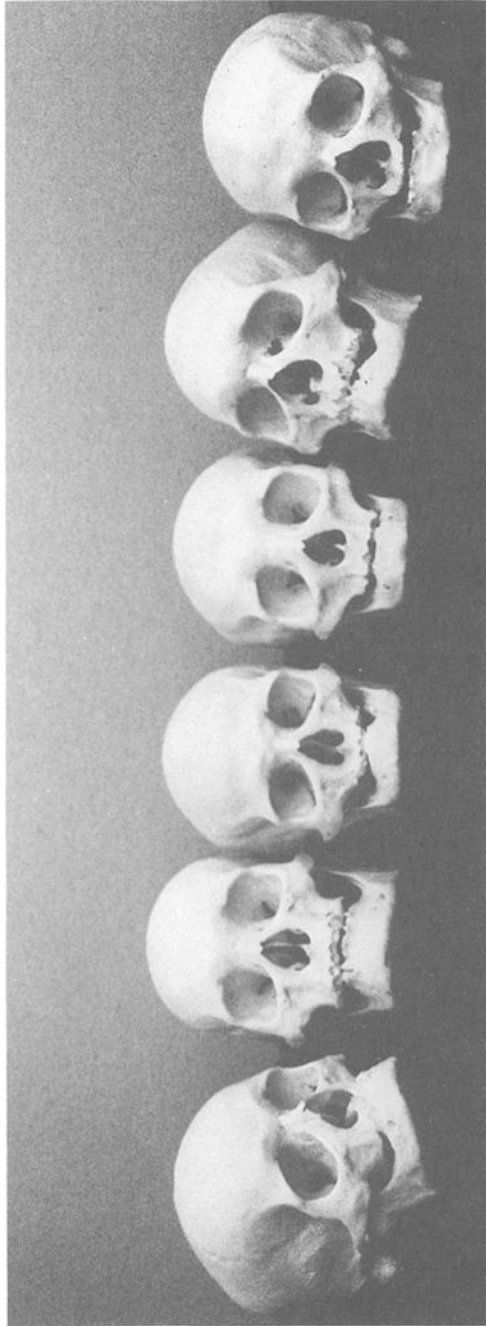


FIG. 1—Case 1—the six Pinellas County skulls.



FIG. 2—Wormian bones in two of the Pinellas County skulls.

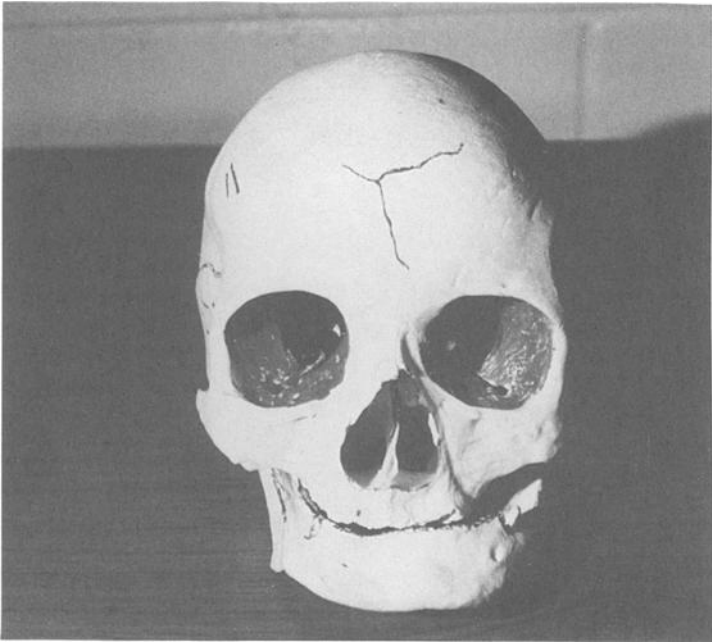


FIG. 3—Case II—the Hillsborough County skull. The crayon discoloration was done by the individual who found the skull.

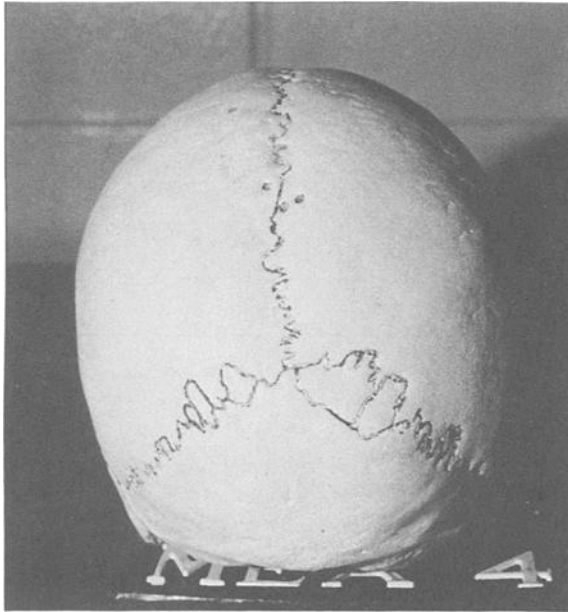


FIG. 4—Wormian bones in the Hillsborough County skull. Graphic enhancement of the sutures was done by the individual who found the skull.

servation indicated that it was derived from a female. The measurements used in the discriminant function analyses are shown in Table 1.

The results of the discriminant function analyses are shown in Table 2, along with each skull's estimated morphological gender. Only Skull 3 and Skull 5 yielded completely consistent results. Even then, the three-way formula classified Skull 5 as black, rather than as Amerindian (which one might assume to be more akin to a skull of Asian origin), or white (since the peoples of India manifest biological similarity to Europeans [8]).

The two sex determination formulae generated identical results for each of the skulls; however, in the cases of Skulls, 1, 6, and 7, the formulae genders differed from the estimated morphological genders. The results of the application of the three formulae

TABLE 1—Osteometric measurements of the seven skulls, in millimetres.

Variable	1	2	3	4	5	6	7
Basion-prosthion	93.0	97.0	104.0	92.0	97.0	93.0	86.0
Maximum length	173.0	182.0	185.0	173.0	190.0	170.0	176.0
Maximum breadth	131.0	133.0	131.0	136.0	135.0	133.0	128.0
Basion-bregma	136.0	135.0	132.0	125.0	135.0	123.0	125.0
Basion-nasion	99.0	104.0	101.0	95.0	102.0	90.0	94.0
Bizygomatic	121.0	132.0	131.0	121.0	131.0	127.0	118.0
Prosthion-nasion	59.0	62.0	71.0	64.0	65.0	53.0	57.0
Mastoid length	32.5	22.5	28.0	23.0	31.0	28.0	26.0
Nasal breadth	23.5	29.5	27.0	23.5	31.0	31.5	28.0
Minimum frontal breadth	91.0	93.0	96.5	94.0	92.0	96.0	89.0
Orbit height	31.0	33.0	36.3	35.0	35.0	31.0	31.5
Nasal height	41.5	47.0	52.0	47.3	47.0	42.0	46.7
Frontal chord	107.0	110.5	104.5	113.0	118.0	106.0	111.0
Parietal chord	117.0	114.0	119.0	104.0	114.0	104.0	113.0

TABLE 2—Results of discriminant function analysis.<sup>a</sup>

Skull No.	G/E	J/M	3W	MG
1	W, F	W, F	W, AmI, B	M
2	B, M	W, M	B, AmI, W	?
3	B, M	B, M	B, W, AmI	M
4	W, F	B, F	not run	F
5	B, M	B, M	B, AmI, W	M
6	B, F	B, F	B, AmI, W	M
7	B, F	W, F	B, W, AmI	M

<sup>a</sup>Key to abbreviations: G/E = Giles and Elliot's formula. J/M = Jantz and Moore-Jansen's black/white formula. 3W = Jantz and Moore-Jansen's black/white/Amerindian formula. MG = morphological gender. B = black, W = white, AmI = Amerindian, M = male, and F = female.

used to estimate population (racial) affinity were not consistent for Skulls 2, 4, and 7. The great biological diversity which exists among the people of India [9] may contribute to the fact that none of the three population (racial) affinity formulae yielded internally consistent estimates. When the three formulae and the morphological features are considered with respect to the parameters of gender and population affinity (aside from the matter of the Asian origin of these remains), only Skulls 3 and 5 yielded consistent estimates.

## Conclusions

Human skeletal remains from India have apparently been illicitly exported to the United States. The skulls in these two independent cases were probably intended for sale as souvenirs. Because of the prohibition of the exportation of human skeletal material from India and the ensuing lack of such commercially available specimens in the United States, one would assume that illicit trafficking in them might increase. Forensic anthropologists, medical examiners, coroners, and police agencies need to be aware of the nature of such remains, since it is likely that more will come to their attention in the future.

Also, forensic anthropologists need to be extremely cautious in applying discriminant function analyses to their professional cases. That point, which is certainly not new [10–12], needs to be reemphasized as new or revised discriminant function formulae are generated from more current databases and become popular, and therefore infrequently questioned, analytical tools of forensic anthropologists.

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