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Emishi, Ezo and Ainu: An Anthropological Perspective

HANIHARA, Kazuro

International Research Center for Japanese Studies, Kyoto, Japan

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Relationships among Emishi and Ezo of ancient through the medieval ages, and Ainu of recent through modern ages are discussed on the basis of statistical analysis of cranial measurements. The discussion is mainly focused on the long-disputed question of whether the ancient Emishi were derived from Ainu or from non-Ainu Japanese. The study was carried out by analyzing affinities between inhabitants in the Tohoku district and those in Hokkaido throughout the periods from the Neolithic Jomon to modern ages. The results show that both populations were derived from the Jomon populations and gradually separated from each other after the Yayoi age which was the final stage of the Neolithic in Japan. The separation seems to have proceeded for as long as about 1,000 years and, as a result, non-Ainu Japanese changed to show quite different characteristics from Ainu, both physically and culturally, by the 13th century. The causes of the separation may be attributed to the cultural and physical changes in non-Ainu Japanese which took place under the influence of migrants from the Asian Continent after the Yayoi age. It is quite likely, therefore, that Emishi in ancient times were populations in the early stage of separation. In other words, they were neither Ainu nor non-Ainu Japanese of modern types, so the question of whether Emishi were Ainu or non-Ainu Japanese becomes meaningless.

Keywords: EMISHI, EZO, Ainu, ANTHROPOLOGY, HISTORY.

INTRODUCTION

Emishi (Yemishi) and Ezo (Yezo) are old names used since ancient times for populations who inhabited northeast Japan. They are first mentioned in 4th century historical records. Both names were written with the same Chinese characters but they seem to have been pronounced predominantly "Emishi" in earlier times and "Ezo" in later ages.

It is apparent that, in recent times or even after the Meiji Restoration (1868), Ezo referred to Ainu in Hokkaido, but the exact nature of Emishi or Ezo in ancient times
Fig.1. A map of Japan showing the large islands and districts.

Fig.2. A map of Tohoku district showing the prefectures.
has been a subject of controversy for a long time. It is a fundamental problem not
only in the history of Japan but also in other fields such as archeology, ethology,
folklore and anthropology. Although a number of views have been proposed so far,
the reason why I take up this subject again for discussion is that the nature of Emishi
in ancient and medieval ages is still not necessarily evident in spite of its importance
in reconstructing the history of microevolutionary processes of the Japanese popula-
tion.

At the present time, no one really knows who Emishi were. Some contest that they
were early Ainu who inhabited the northeast region of Honshu, or the present-day
Tohoku district, but others suggest that they might have been non-Ainu inhabitants
in the same region. However these theories are all speculative and have no persuasive
power. In the present study, I analyze the available data from an anthropological
point of view to obtain a more objective idea of the nature of the population who
were called Emishi in the medieval and earlier ages.

RELATIONSHIPS BETWEEN EMISHI AND AINU

Descriptions of Emishi appeared first in volumes 7 and 26 of the Nihonshoki, the
earliest historical records of Japan. The former concerns an expedition of Prince
Yamatotakeru, one of the sons of Emperor Keiko, against the rebellious people in
eastern Japan, and the latter records that Kentoshi, the Japanese envoys to China,
took a male and a female Emishi to China to show them to the T‘ang Emperor.

The era of Emperor Keiko is thought to be in the 4th century and the year in which
the Kentoshi had an audience with the T‘ang Emperor together with Emishi was 649
A.D. The period during the 4th and 7th centuries was critical, from an anthropologi-
cal perspective, for the establishment of the later Japanese population as well as
Emishi, because a large number of migrants from the Asian Continent had come to
Japan continuously since the prehistoric Yayoi age (ca. 300 B.C. to 300 A.D.) and
had a great impact on the native Japanese population, both culturally and physically
(Hanigara, 1985, 87).

Two major theories have been proposed on the origin of Emishi: one stresses that
Emishi in the early historic ages might have been Ainu who inhabited east or
northeast Honshu; the other emphasizes that Emishi were not Ainu but non-Ainu
Japanese in Michinoku, the former name of the Tohoku district.

During most of Japan's historic ages the capital was somewhere in the Kinki
district, the central part of Honshu far from Michinoku. It is easily supposed,
therefore, that the people in the capital who recorded the early history of Japan might
have thought that Michinoku was a region occupied by people quite different from
those in the capital and neighboring areas.

The old place name Michinoku seems to mean the northern part of the Tohoku
district of today, or the area north of Morioka City. The culture of this area was
considerably different from that of central Japan; it was also true for the physical
traits. In addition, since the people of this area opposed the Imperial Court until the
medieval ages the Emperor’s side considered them to be barbarians.

In regard to the first theory stressing that Emishi was only a different name for Ainu, the origin of Ainu itself must first be analyzed. It is now evident that Ainu have not derived from the Caucasoid racial stock as was previously thought, but from the Mongoloid racial stock; they maintained the heritage of the prehistoric Jomon population in culture as well as in physical characteristics; their physical types do not show any influence of the northeast Asians who adapted to the extremely cold climates (Hanihara, 1986).

On the contrary, non-Ainu Japanese seem to have been more directly influenced by the northeast Asians, particularly those populations in west Japan. But the influence decreases gradually as we go toward east and northeast Honshu. In other words, the Jomon heritage still remained not only in Ainu but also in non-Ainu Japanese in northeast Honshu. In fact, the modern people in Tohoku are closest to Ainu in physical characteristics and those in Kinki are the furthest (Hanihara, 1984, 85). This interpretation may be supported by statistical analysis of cranial and somatological measurements.

Table 1. Means for cranial measurements in modern male Japanese (in mm.).

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<tr>
<th></th>
<th>GOL</th>
<th>XCB</th>
<th>BBH</th>
<th>ZYB</th>
<th>NPH</th>
<th>NLB</th>
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<tr>
<td>Kinki</td>
<td>176.9</td>
<td>143.3</td>
<td>139.1</td>
<td>134.5</td>
<td>71.7</td>
<td>25.7</td>
<td>52.5</td>
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<tr>
<td>Kanto</td>
<td>181.1</td>
<td>141.5</td>
<td>138.8</td>
<td>134.2</td>
<td>71.5</td>
<td>25.6</td>
<td>52.4</td>
</tr>
<tr>
<td>Tohoku</td>
<td>182.6</td>
<td>138.7</td>
<td>137.6</td>
<td>133.9</td>
<td>70.5</td>
<td>25.4</td>
<td>51.9</td>
</tr>
<tr>
<td>Ainu</td>
<td>187.5</td>
<td>139.4</td>
<td>136.9</td>
<td>133.8</td>
<td>69.5</td>
<td>25.1</td>
<td>51.4</td>
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<tr>
<td>Grand Mean</td>
<td>182.0</td>
<td>140.7</td>
<td>138.1</td>
<td>134.1</td>
<td>70.8</td>
<td>25.5</td>
<td>52.1</td>
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<tr>
<td>S.D.</td>
<td>3.681</td>
<td>1.809</td>
<td>0.892</td>
<td>0.274</td>
<td>0.878</td>
<td>0.229</td>
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GOL, Maximum cranial length
XCB, Maximum cranial breadth
BBH, Basion-Bregma height
ZYB, Bizoymastic breadth
NPH, Upper facial height
NLB, Nasal breadth
NLH, Nasal height

In regard to geographic variations of physical traits within Honshu, six cranial measurements out of seven which represent affinities between populations show evident clines from Kinki to Kanto to Tohoku to Hokkaido (Ainu). The measurements used are maximum cranial length, basion-bregma height, bizygomatic breadth, upper facial height, nasal height and nasal breadth. The only exception is maximum cranial breadth which decreases in the order of Kinki, Kanto, Hokkaido, and Tohoku. Even in this case, the difference between Hokkaido and Tohoku is so small that this fact suggests a close similarity between the populations of both districts.

On the other hand, mean deviations from grand means of the seven cranial
measurements in modern male Japanese are computed to be 0.83 for Kinki, 0.52 for Kanto, —0.45 for Tohoku, and —0.89 for Hokkaido. Here again they show a clear decreasing trend from Kinki to Hokkaido. The differences between Kinki and Kanto and between Kinki and Tohoku are 0.31 and 1.28, respectively, and they show that Tohoku is still largely different from Kinki in cranial morphology. As far as these data are concerned, the population of Tohoku is closer to Ainu in Hokkaido than any other non-Ainu population in Honshu.

In order to confirm this finding by another method, discriminant functions between Ainu and Tohoku, and those between Ainu and Kinki were computed on the basis of the seven cranial measurements. The rates of incorrect classification are 31.1% for the former pair of groups and 13.1% for the latter. In other words, the skulls of Ainu may be more frequently confused with those of Tohoku than with those of Kinki. A large difference between the rates also supports the finding that Tohoku is much closer to Ainu than to Kinki in cranial morphology.

Aside from the cranial measurements, extensive somatometric data of modern Japanese have been provided by the Somatometry Research Project which was in operation in the 1950s. Since the data were obtained from the regions all over Japan, they allow comparisons of a larger number of local areas than in the case of craniometric data. The geographic areas compared were, from west to northeast, North Kyushu, Chugoku, Shikoku, Kinki, Tokai, Kanto, Hokuriku, Tohoku and Hokkaido (Ainu), and the cline in cephalic index was tested by Spearman's rank correlation coefficient between the orders of the areas and the indices. The correlation coefficient obtained was 0.88 with the probability level of less than 0.01. This value is highly significant and it suggests that the decreasing trend in cephalic indices from west to northeast Japan can hardly be attributed to chance.

These results clearly show that the local populations in Japan become closer to Ainu in their morphology as they become closer geographically to Hokkaido, and the population in Tohoku represents an extreme case.

The same is also true for evidence from molecular genetics. Omoto (1978) proved that the frequencies of marker genes such as glutamic-pyruvic transaminase (GPT), haptoglobin (Hp), and Gc subtype show clines from west to east Japan and all the gene frequencies in east Japan are closer to those in Ainu. At the same time, the populations of Aomori, Iwate and Akita Prefectures which are located at the northern end of Tohoku show the closest affinity to Ainu in gene frequencies of the ABO blood groups.

Attention should be paid, however, to the other physical characteristics which largely differ between non-Ainu Japanese and Ainu in Hokkaido. For instance, the longer head, lower and broader facial contour, higher frequencies of double eye-lids and wet type of ear wax, heavier body hair, etc. in Ainu are particular to this population. Nevertheless, one cannot ignore the close affinities of Ainu to non-Ainu Japanese in their total morphological pattern. They share a large number of common characteristics with non-Ainu Japanese in Honshu, Kyushu and Shikoku. In addition, it should be kept in mind that the population in Tohoku represents closer affinities to Ainu than any other local populations in Japan.
A VIEW OF EMISHI IN ANCIENT TIMES

One can find in the Nihonshoki a description of Emishi in the chapter of the 7th month, the 5th year of Emperor Saiimei (659), when Japanese envoys took two Emishi to China. The record describes the event as follows:

The (T'ang) Emperor inquired of them, saying:—"In what quarter is the Land of these Yemishi (Emishi) situated?" The Envoys answered respectfully, saying:—"It lies to the north-east." The Emperor inquired of them, saying:—
“How many tribes of _Emishi_ are there?” The Envoys answered respectfully, saying:—“There are three kinds. The most distant are called _Tsugaru_, the next _Ara-Emishi_, and the nearest _Nigi-Emishi_. These now here are _Nigi-Emishi_... they bring tribute yearly to our country’s Court.” (Translated by Aston, 1924; words in parentheses and italics by the present author.)

It is worth noting that different Chinese characters were used in the _Nihonshoki_ for recording _Emishi_ in Tohoku and those in Hokuriku districts (Obayashi, 1979). It is quite probable, therefore, that the writer of the _Nihonshoki_, or the people in the capital and the surrounding regions, recognized different groups of _Emishi_.

Although the dwelling places of the “three kinds” of _Emishi_ are not necessarily apparent, _Nigi-Emishi_ undoubtedly referred to _Emishi_ who obeyed the Imperial Court as clearly described in the _Nihonshoki_, _Ara-Emishi_ to those who opposed the latter, and _Tsugaru_ to those who lived at the most distant point from the capital. Inoue (1960), a distinguished Japanese historian, demonstrated that the place of _Nigi-Emishi_ might have been somewhere in south Tohoku, or the Fukushima, Miyagi and Yamagata Prefectures of today. He also suggests that _Tsugaru_ may be interpreted as the name of the northern end of Tohoku at that time, although it is not sure to be exactly the same as the region now called Tsugaru. In any case, it is quite natural that the Imperial Court's power reached south of _Emishi_’s place at first and then expanded upwards to the north. According to historical records, the families of Abe, Kiyohara and Fujiwara, chiefs of _Emishi_ in north Tohoku, had submitted to the Imperial Court by the 10th century.

Takahashi (1978), another historian, stated that the influence of the Imperial Court reached Miyagi Prefecture in south Tohoku by the 7th century and expanded north to Iwate Prefecture by the 10th century. Therefore, _Ara-Emishi_ in the early times probably changed to _Nigi-Emishi_ during the period of about 300 years. After the 10th century the chiefs in north Tohoku such as Abe, Kiyohara and Fujiwara were called _Fushu_ which was another expression of _Emishi_ who had submitted to the Court's power. Special attention should be paid to the fact that these chiefs were not Ainu but non-Ainu Japanese in the northernmost region of Honshu. Particularly the Fujiwara family collected a great amount of gold and reconstructed a Buddhist temple called _Chusonji_ in 1126, located in Iwate Prefecture, one of Japan’s most gorgeous temples. The family also established many other large and beautiful temples such as _Motsuji_, _Kanjizaitoin_ and _Muryokoin_ in north Tohoku. This fact strongly suggests that the family of Fujiwara and the people in this region were not Ainu whose religion was quite different from Buddhism.

From the above description, _Nigi-Emishi_ and _Ara-Emishi_ seem to be political terms without any other objective reasons for distinction. However, the Imperial Court probably distinguished _Tsugaru_ from the other _Emishi_ groups on the basis of differences in culture and / or physical characteristics. This assumption may be supported by the fact that the _Kontoshi_ showed two individuals of _Emishi_, though not of _Tsugaru_, to the T’ang Emperor by taking the trouble to bring them as far as to China. If _Emishi_ had not differed at all in physical characteristics from the
common Japanese or Chinese the motive of the Kentoshi would be incomprehensible. The remarkable physical and cultural characteristics of Emishi are also indicated by the following description appearing in the Nihonshoki:

The (T'ang) Emperor inquired of them, saying:—“In their (Emishi's) country are there the five kinds of grain?” The Japanese Envoys answered respectfully, saying:—“No, they sustain life by eating flesh.” The Emperor inquired of them, saying:—“Have they houses in their country?” The Envoys answered respectfully, saying:—“No, they have their dwelling under trees in the recesses of the mountains.” The Emperor went on to say:—“When we look at the unusual bodily appearance of these Yurushi (Emishi), it is strange in the extreme. ...” (Translated by Aston, 1924.)

In addition, the populations in Tohoku and Kinki show, as described above, considerable differences among each other even today.

Suzuki, Sakazume and Hanihara (1952) studied skeletal remains of recent times which had been unearthed at Shimokita Peninsula, Aomori Prefecture, and concluded that they were Ainu. In fact, many historical records prove that Ainu in Hokkaido migrated to north Tohoku and lived there after the 16th century. Emishi described in the Nihonshoki were, however, a population of 500 to 1,000 years earlier and it is unlikely that Ainu of recent times were the same as Emishi of the medieval or the earlier ages.

MICROEVOLUTION OF JAPANESE

In the previous chapters, relationships between Ainu and non-Ainu Japanese, particularly those in Tohoku, were discussed. The microevolutionary processes of Ainu can be re-considered in the light of this aspect.

As described already, it is quite probable that Ainu shared common ancestors, the Jomon population, with non-Ainu Japanese. However, the two populations were separated from each other by differences in microevolutionary processes which took place sometime in the ages after Jomon. The question is, therefore, when did this ‘dichotomy,’ or evolutionary divergence to the two directions, evolve?

The Jomon skeletal remains excavated in Hokkaido are not exactly the same in morphology as those in the other islands of Japan. Nevertheless one can say that, from broader aspects, all the local Jomon populations belong to a single group which is called Jomonese. This means that the difference between the populations in Hokkaido and the other islands was smaller in the Jomon age than it is today.

The Jomon age in Hokkaido was followed by the Epi-Jomon (Zoku-Jomon) age and the latter lasted roughly 800 years during the period from the 1st to 8th centuries. This period corresponds to the Neolithic Yayoi and proto-historic Kofun ages in the other regions of Japan.
A good number of skeletal remains from the Epi-Jomon age have been found in Hokkaido and they allow us to analyze in different statistical ways. For example, a statistical analysis of skeletal remains from the Onkoromanai site in north Hokkaido which was reported by Yamaguchi (1963) proved that they showed a slight morphological change to the direction of modern Ainu, although they were still close to Jomonese in general. It seems quite probable, therefore, that the heritage of the Jomon population was largely maintained for a considerably long time after the Jomon age, at least in Hokkaido. On the other hand, the Kofun population in Honshu already showed large differences from Jomonese. Whatever the reason might be, it is quite likely that the populations in Honshu and Hokkaido gradually separated from one another after that.

The Epi-Jomon age in Hokkaido was succeeded by the Satsumon age which lasted more than 400 years from the 8th to 12th or 13th centuries and was contemporaneous with the period from the final stage of the Kofun age, throughout the Nara and Heian eras, to the beginning of the Kamakura era in Honshu. Therefore, this period roughly overlapped with the ancient and medieval ages in Japan.

Although the skeletal remains from the Satsumon age are few in number, those in good condition for research are available. All of them are so close to modern Ainu in morphology that the two populations are almost the same. In regard to the culture in Hokkaido, the Jomon heritage was largely maintained through the Epi-Jomon and Satsumon ages. Therefore, we can conclude that the cultures in Hokkaido and Honshu were distinct from each other by this time, although a slight influence of the Kofun culture in Honshu was also recognized in Hokkaido, as revealed by pottery remains. The so-called Ainu culture which is unique to Ainu appeared after the Satsumon age, or the 13th century.

From the above evidence, one can suppose that Ainu and non-Ainu Japanese have taken different courses of microevolution since the Epi-Jomon age. The records of Emishi in the Nihonshoki appeared just in this age. In other words, the ancestors of Ainu and non-Ainu Japanese in the Epi-Jomon age were not yet completely separated in their morphology and, if this was the case, the question whether Emishi in ancient times was Ainu or non-Ainu Japanese is meaningless.

Investigators who have discussed this question have generally ignored the microevolution that took place in the whole Japanese population, whichever theory they supported. They assumed that the two populations differed from each other from ancient times. However, this assumption cannot be supported from objective analysis of the available data. Attention needs to be given to the difference between the meanings of Emishi in early historic ages and Ezo in recent times as discussed by Obayashi and Mizuno (1975) and many other investigators. Sometimes the names Emishi, Ezo and Ainu are confused because the former two are written with the same Chinese characters and Ezo was used as the name of Ainu in Hokkaido in recent times, particularly in the Edo era.

Suzuki (1951) studied skeletal remains of recent times which were excavated in north Tohoku and concluded that they were Ainu who migrated from Hokkaido. He goes on to say that “the people called Ezo in recent times was the same as Ainu of
today." On the other hand, he stressed in the same article that the Strait of Tsugaru was the racial boundary between Ainu and non-AINU Japanese from ancient times. On the basis of what was discussed above, evidence supports the former view but not the latter.

Yamaguchi (1975) analyzed recent skeletal remains from Tohoku and found that some individuals showed intermediate characteristics between Ainu and non-AINU Japanese. As described above, the same is also true for the modern populations. In his paper Yamaguchi concluded that the inhabitants in Tohoku and Hokkaido who branched off from common ancestors were separated in the Yayoi age and the difference between each other has become larger since then. Evidence we obtained supports this view.

Another factor of the separation between Ainu and non-AINU Japanese may be admixture of Enishi in early times and the contemporaneous population in west Japan. From the middle 7th century the Imperial Court started pacification of the people in east Japan and sent an army to north Tohoku in the 8th century. At the same time, the Court approved soldiers to accompany their families to their post. Therefore the number of settlers in Tohoku increased considerably by the late 8th
century and, as a result, Tohoku became a mixed-residence quarter of aboriginal Emishi and the new settlers who had moved from west Japan (Kokubu, 1989). Under such circumstances it is quite natural that admixture between both populations took place and the separation between the populations in Hokkaido and Tohoku might have been accelerated.

**CONCLUSION AND SUMMARY**

I have discussed the relationships among Emishi, Ezo and Ainu on the basis of an analysis of physical characteristics. The results may be summarized as follows.

First of all, it is quite likely that both Ainu and non-Ainu Japanese derived from Jomonese in the Neolithic age and have been gradually separating from one another over the period of about a millennium from the Yayoi to the medieval ages. Yamaguchi (1975) attributed the causes of the separation to the differences in ecosystems and also to the genetical influence of the populations who migrated from Sakhalin and the Maritime Province of Siberia.

The differences in ecosystems between Ainu and non-Ainu Japanese is generally recognized. The former lived basically on hunting and gathering but the latter introduced agriculture in the Yayoi age. In regard to the physical differences between the two populations, however, we need to emphasize the changes that took place in non-Ainu Japanese under the large influence of populations migrating from the Asian Continent in and after the Yayoi age. Otherwise, we cannot explain evident clines in which Ainu-like physical elements increase gradually from west Honshu through Kanto to Hokkaido.

It is significant that physical differences between the populations in Kinki and Tohoku seem to have been larger in the early times than they are today. For instance, skeletal remains from Kofun and Kamakura (14th century) ages show considerably larger differences between west and east Honshu than those of the modern populations. In addition, skeletal remains from the Kamakura era, the so-called Kamakura man, which were excavated in Kanto represent a much closer affinity to Ainu than that shown by modern populations in Kanto and Tohoku. This fact shows that the differences between Ainu and non-Ainu Japanese have become larger from early to modern ages. It is quite likely, therefore, that Emishi in early times were one of the local groups of non-Ainu Japanese although they might have been thought of as an entirely different group by the ancient people in Kinki.

There is a view that the medieval population in east Honshu such as the Kamakura man might have been Ainu, but it cannot be the case because they show significantly different characteristics from Ainu. The only characteristic which is close to, or almost the same as, Ainu is a small cranial index. Even this trait, however, does not support such a view. There are still other medieval and modern samples from the other regions which are extremely long-headed in comparison with the other samples. Although the causes of long-headedness in particular samples are still unknown, it is found in the samples from west Honshu, Kyushu and the southwest islands of the
Kagoshima and Okinawa Prefectures.

During the period from the Yayoi to the medieval ages, Ainu and non-Ainu Japanese were in a transitional stage of separation so that the differences between them were not as large as it is today. Therefore the question whether the group called Emishi belonged to Ainu or to non-Ainu Japanese is not applicable. On the other hand, a large number of historical records prove that Ezo who inhabited Tohoku in recent times were Ainu who had migrated from Hokkaido. The differences in culture and physical characteristics between Ainu and non-Ainu Japanese seem to have become evident by that time so that the groups called Emishi in early times and Ezo in recent times should not be confused.

Emishi, Ezo and Ainu play an important role in the formation of the Japanese population and this problem cannot be discussed without analyzing relationships among the three groups which have so far remained uncertain.

To analyze this problem in more detail it is apparent that we still need much more data. However the hypothesis proposed here matches not only several findings reported on the basis of physical traits but also different cultural evidence including historical records.

Acknowledgements

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REFERENCES


EMISHI, EZO AND AIINU

要旨： 古代から中世にかけてエミシ、あるいはエゾと呼ばれた東日本の集団がアイヌであったか、アイヌ以外の和人であったか、あるいは問題は古くから議論されてきたが、未だに明確な解答が得られていない。多くの議論は憶測の域を出ている。しかしこの問題は北海道のアイヌを含めて、日本人集団の形成過程を知るために避けて通ることができない問題である。なぜなら、彼らは日本人集団の小進化と無縁ではないはずだからである。私にはこの疑問を解く鍵を発見するため、データはまだ不十分であるが日本人の頭骨計測値を統計学的に分析し、次のような結果をえた。まず現代人については、頭骨の主要な計測値が近畿から関東、東北を経て北海道（アイヌ）に至るきれいな勾配を示す。また判別関数を計算すると、東北人は他地方の和人に比してアイヌと判別される率が最も高い。同
時に、古代ではこの傾向がさらに強かったと推測される理由がある。一方他の分析によると、アイヌと和人は弥生時代から中世に至る間に徐々に分離して来たことがほぼ確実と思われるので、両者の差は、少なくとも中世以前には現代ほど大きくはなかったと見てよい。つまり古代はこの分離が進行していた時期で、この時代のエミシまたはエゾが現代的な意味でのアイヌであったか和人であったかという設問は、本来成立しないと考えられる。もちろん、近世のエゾがアイヌを指していたという点は、多くの文献や人類学的研究から明らかである。換言すれば、古代から中世にかけてのエミシ（エゾ）と近世以降のエゾとは異なるということになる。今後さらに分析を進め、この問題に取り組む必要があることはいうまでもない。