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Australomelanesoid in Indonesia: A swinging-like movement

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ABSTRACT

Background and objective: The aim of this study is to reconstruct the migration of the racial elements in Indonesia. Generally, it is accepted that there are two racial groups in Indonesia, Australomelanesoid and Mongoloid. Australomelanesoid occupied in Indonesia longer than Mongoloid. Australomelanesoid spreads from Southeast Asia to the eastern and southern part of Indonesia.

Materials and methods: The variable used in this study are racial affinity and antiquity. We studied 41 cranium which is derived from many regions of Indonesia. Osteoscopy is used to determine the racial affinity and used field reports to determine antiquity.

Results and conclusion: The results of this study has shown the pattern of migration that can be described as swinging-like pendulums movements. We assume which Australomelanesoid is the first inhabitant. They has spreaded and occupied in the east part of Indonesia. The first pendulum is Mongoloid which swings from Asian Mainland to Indonesia. The second pendulum is Australomelanesoid which hits the Mongoloid domination. The swing of Australomelanesoid came from eastern part of Indonesia. Another swinging of the first pendulum also came from the north of Indonesia.

Keywords: Indonesia, Australomelanesoid, Mongoloid, migration, swinging movement

INTRODUCTION

Some paleoanthropological findings in Indonesia has indicated there are two racial groups: Australomelanesoid and Mongoloid. It has been recognized that at the end of Late Pleistocene era, Australomelanesoid inhabited Southeast Asia and spreaded to eastern and southern part of Indonesia[1,2]. At the end of the Late Neolithic and Paleometallic period, the polarization of the racial became more apparent. The elements of Australomelanesoid were stronger in the east and the south of Indonesia. On the other hand, the elements of Mongoloid developed stronger in western and northern part of Indonesia. Based on some characteristics of paleoanthropological populations, it is indicated that the Mongoloid came from the mainland Asia and it pushed the Australomelanesoid to move to the most eastern Indonesia[3,4,5].

The aim of this study is to reconstruct the migration of the racial elements in Indonesia, include the process of mongoloidization, which can be rechearched through the patterns of migration of the racial elements of Indonesian populations.

MATERIALS AND METHODS

The materials of this study are cranium samples. There are 41 cranium which have been taken from literatures (Table 1). We have also reobserved some collections, especially the cranium collection's of Laboratorium of Bio-and Paleoanthropology, Department of Anatomy, Embryology and Anthropology, Gadjah Mada University; and of Physical Anthropology section, Department of Anatomy and Histology, Airlangga Unversity. In these collections are included paleanthropological serie from Java, Bali, Lombok, Komodo, Flores, Sumba, Lembata (Lomblen), Timor, Selayar, Sulawesi and Papua (Figure 2-10). The variables which would be analysed are the racial affinity and the antiquity. To determine racial affinity we used osteoscopy methods. Then, we compared the data of racial affinity with the data of antiquity based on the field reports. We put each sample on the map and analysed the pattern of migration of the Mongoloid and the Australomelanesoid at that time to Indonesia based on the racial affinity and antiquity (Figure 1).

Table 1. The rechearched samples, antiquity and the racial affinity of the cranial populations in Indonesia[1,6,7,8,9]

No	Cranial sample	Antiquity	Racial affinity
1	Niah	40.000 BP	Australomelanesoid
2	Tabon	20.000 BP	Australomelanesoid
3	Wajak	6.650±140 BP	Australomelanesoid
4	Sampung	Mesolithic to Early Neolithic	Australomelanesoid
5	Gua Kepah	Mesolithic	Australomelanesoid/ Mongoloid
6	Gua Cha	10.000-2.000 BP	Australomelanesoid
7	Kota Tampan	74.000 BP	Australomelanesoid
8	Gua Gunung Runtuh	11.000-7.500 BP	Australomelanesoid
9	Sungai Siput	Mesolithic	Australomelanesoid
10	Tamiang	Mesolithic	Australomelanesoid
11	Stabat	Mesolithic 5.000-7.000 BP	Australomelanesoid
12	Gua Petpuruh	Mesolithic	Australomelanesoid
13	Anjar	Neolithic	Australomelanesoid
14	Pacitan complex	Paleometallic 12.000-600 BP	Australomelanesoid/ Mongoloid
15	Bojonegoro	Mesolithic	Australomelanesoid/ Mongoloid
16	Liang Momer	Mesolithic	Australomelanesoid
17	Liang Panas	Mesolithic	Australomelanesoid
18	Gua Alo	Mesolithic	Australomelanesoid
19	Liang Toge	Mesolithic 3.550±525 BP	Australomelanesoid
20	Liang Bua	3.390±270 BP	Australomelanesoid/ Mongoloid
21	Lewoleba	2.990±160 BP	Australomelanesoid/ Mongoloid
22	Melolo	Neolithic	Australomelanesoid/ Mongoloid
23	Ntodo Leseh	Paleometallic	Mongoloid/ Australomelanesoid
24	Plawangan	Paleometallic	Mongoloid
25	Leang Cadang	Mesolithic	Mongoloid
26	Leang Karassa	Mesolithic	Mongoloid
27	Selayar	Neolithic	Mongoloid
28	Gilimanuk	Paleometallic 1.500-2.000 BP	Mongoloid
29	Semawang	Paleometallic	Mongoloid
30	Gunung Piring	Paleometallic	Mongoloid
31	Sentani	Paleometallic	Australomelanesoid
32	Biak	Mesolithic to Early Neolithic	Australomelanesoid
33	Wonosari	Neolithic to Megalithic	Australomelanesoid
34	Slompretan	Early historical era	Mongoloid
35	Caruban	Classic-Islam period	Mongoloid/ Australomelansoid

Table 1 continued

36	Muncar	Classic period 300-500 BP	Mongoloid
37	Bancar	Classic period 300-500 BP	Mongoloid
38	Kelor	Classic period 100-600 BP	Australomelanesoid
39	Puger	Neolithic	Australomelanesoid
40	Sangiran	Neolithic	Mongoloid
41	Gua Oelnaik	Early Neolithic	Australomelanesoid/ Mongoloid

Note : also recent reobservation by researchers

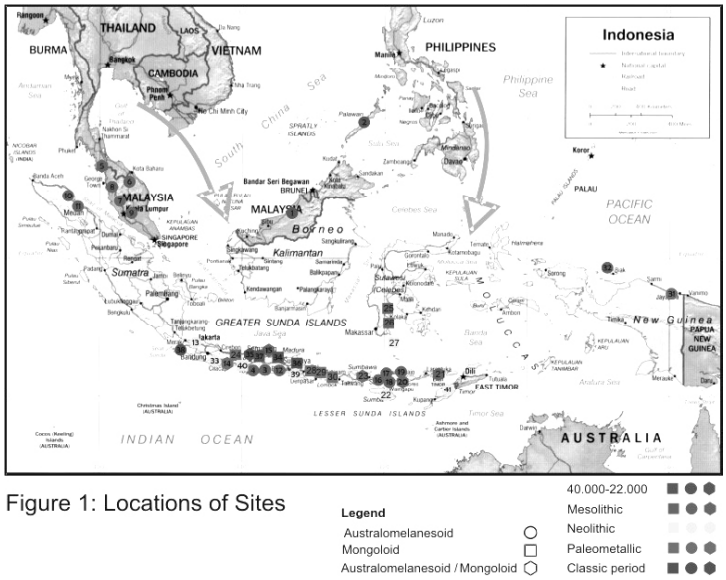

Figure 1: Locations of Sites

Figure 2. Frontal view of Caruban Cranium

Figure 3. Frontal view of Melolo Cranium

Figure 4. Frontal view of Plawangan cranium

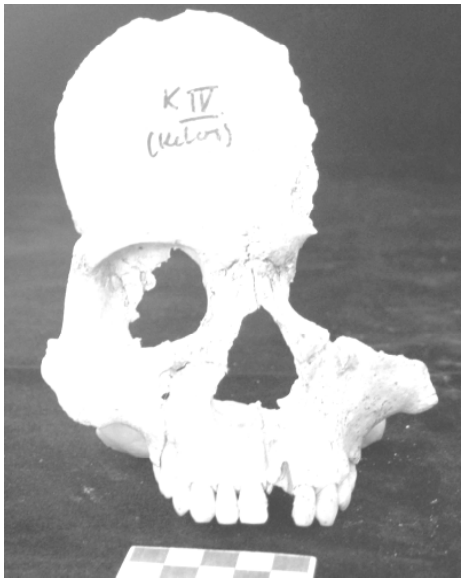

Figure 5. Frontal view Keilor cranium

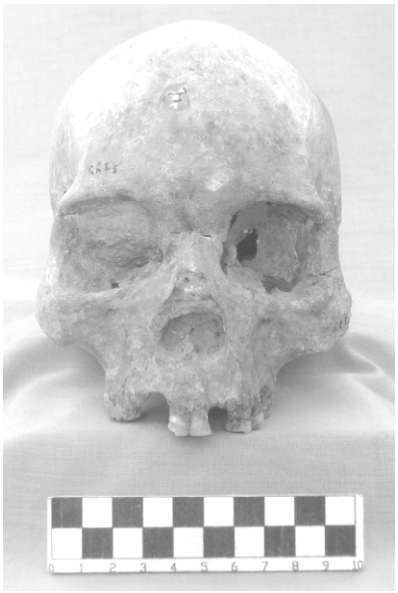

Figure 6. Frontal view of Lewoleba cranium

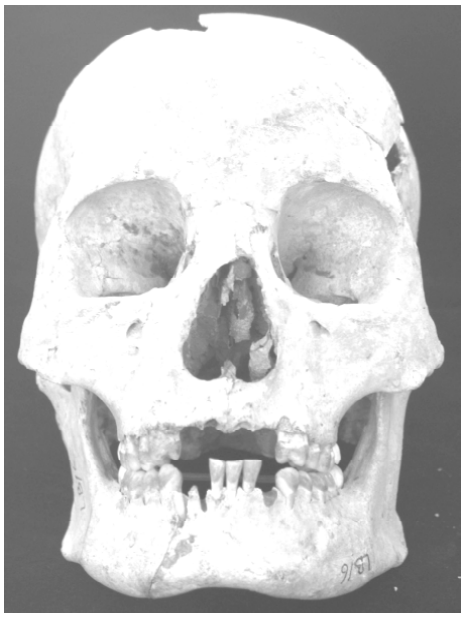

Figure 7. Frontal view of Liang Bua cranium

Figure 8. Frontal view of Semawang cranium

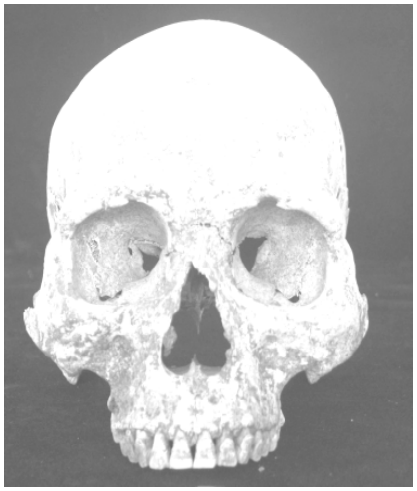

Figure 9. Frontal view of Liang Toge cranium

Figure 10. Lateral view of Papua cranium

RESULTS AND DISCUSSION

Migration of the racial elements in Indonesia can be imagined as two pendulums which were swinging and hitting each other. The movement of pendulums are the process of migration, where the first pendulum is Mongoloid and the second is Australomelanesoid. The process of migration started at the late of Mesolithic to the early Neolithic period. The first pendulum was swinging from the mainland Asia to eastern of Indonesia. It can be indicated by the facts that there had been a mix characters between Australomelanesoid (the original inhabitant in Indonesia) and Mongoloid in western to eastern part of Indonesia, including Gua Kepah, Bojonegoro, Flores (Liang Bua, Lewoleba) Melolo, and Oelnaik. Moreover, the second pendulum was swinging from the east to the west as an effect of the first swinging. In another word, the Australomelanesoid migrated to the west and pushed the domination of Mongoloid. It has been proven by some paleoanthropological findings in Puger, Sangiran and Anjar (Western Indonesia) which is indicated as younger antiquity. The findings also have shown that the populations in these areas have Australomelanesoid characters. However, the swinging was not strong enough to dominate Mongoloid populations. In fact, the Australomelanesoid only reached the West Java.

The next swinging of the first pendulum strongly influences to the populations in Java (Plawangan) to Bali and Nusa Tenggara Timur (Gilimanuk, Semawang, Gunung Piring, Ntodo Leseh). This process continued to the Classic period in the north part of Java (Caruban, Bancar, Slompretan) and the most eastern of Java (Muncar). The strong swinging of Mongoloid affected Australomelanesoid to stay in the eastern part of Indonesia.

Another route of the Mongoloid's migration was from the north part of Indonesia through the Philipines and Sulawesi (Celebes). This route of migration can be showed from the Leang Cadang, Leang Karassa and Selayar. The wave of north migration could go further to the east and west through Nusa Tenggara.

This findings is suitable with the result of the genetical research which is conducted by Herawati Sudoyo from the Eijkman Institute for Molecular Biology, Jakarta[10]. She observed the migration in Indonesia based on DNA from populations in Indonesia. The result has shown that migration into Indonesia came from Asian mainland through the western of Indonesia ca. 60.000 – 40.000 years ago. The evidence of the migration can be seen among the Papua and Alor populations. The second wave of migration came from the north ca. 3.000 years ago through Formosa to the Philipines, Sulawesi then spreaded further to Java, Sumatra, and Borneo. Further, she found that based on genetic analysis of Mentawai and Nias populations show that these populations are older than those influenced by the 3.000 years ago migration through Formosa. She also mentioned that Mentawai could be the genetic source of the whole Indonesian populations.

The swinging of the second pendulum in this study also suitable with the Eijkman Institute' study that mentioned the back-migration from Papua to Nusa Tenggara Timur (Alor population). There was admixture between Austronesia-speaking- and Australoid-speaking populations. There was also physically similarity between Papuan and Alor population.

The polarization became clearer in the Paleometallic period. Finally, it can be concluded, that in the West and Northern Indonesia have been dominated by the Mongoloid or even as the only element. On the other hand, the Eastern and the Southern Indonesia have been dominated by the Australomelanesoid or as the only racial element[1,2]. This racial composition is still continuing and the mongolodization is moving eastward until present populations[2,3,4,5]. Other paleoanthropological researchs about Nusa Tenggara Timur reinforce the result of this study.[6,7,11,12,13,14]

CONCLUSION

In the Mesolithic period, the Western Indonesia have been dominated by Australomelanesoid, and on the other hand, in the northern part of Indonesia the elements of Mongoloid were more stronger than those of the Australomelanesoid. This shows the affinity between East Asia, Philipines and Sulawesi (Celebes). In the Neolithic period until the present, the Mongoloid were getting stronger and tended to dominate the Australomelanesoid. The racial variations in Indonesia might be caused by migration and/or hybridization. In fact, the microevolution that leads to the strategic of adaptation to the environment, should also be considered.

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