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THE IMPORTANCE OF GEOMORPHOLOGICAL ANALYSIS IN UNDERSTANDING THE PRE-MODERN ERA AT SOUTHEAST SUMATRA COAST

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ABSTRACT

This article re-examines the importance of geomorphological analysis in order to provide more comprehensive explanation of various historical events, especially in the coastal area of Southeast Sumatra, Indonesia. Many historical sources regarding this region need a deeper interpretation related to the geomorphological dynamics of this region as well as the Strait of Malacca. Comprehensive analysis of this element will prevent an anachronistic story of the past. Many historians of Indonesia and the Malacca Strait region have erroneously tended to narrate events that occurred in the early first millennium or more than 1500 years ago based on the contemporary maps. It is important for historians to be aware of the fact that geologically and geographically the coastal area of Southeast Sumatra and the Strait of Malacca region have undergone very rapid geomorphological changes. In fact, there were many kingdoms in Southeast Asia that emerged and developed before the dominance of Sriwijaya, located in the west cost of Sumatra and the coastal parts of Java.

Keywords**:** Geomorphological Analysis; Strait of Malacca; Maritime History; Southeast Sumatra Coast; Anachronistic History.

ABSTRAK

Artikel ini mengkaji kembali pentingnya analisis geomorfologi untuk memberikan penjelasan yang lebih komprehensif tentang berbagai peristiwa bersejarah, terutama di wilayah pesisir Sumatera Tenggara, Indonesia. Banyak sumber sejarah mengenai wilayah ini membutuhkan interpretasi yang lebih dalam terkait dengan dinamika geomorfologi wilayah ini serta Selat Malaka. Analisis komprehensif dari elemen ini akan mencegah cerita anakronistik masa lalu. Banyak sejarawan Indonesia dan wilayah Selat Malaka telah cenderung untuk menceritakan peristiwa yang terjadi pada awal milenium pertama atau lebih dari 1500 tahun yang lalu berdasarkan peta kontemporer. Penting bagi para sejarawan untuk menyadari fakta bahwa secara geologis dan geografis wilayah pesisir Sumatera Tenggara dan Selat Malaka telah mengalami perubahan geomorfologi yang sangat cepat. Bahkan, ada banyak kerajaan di Asia Tenggara yang muncul dan berkembang sebelum dominasi Sriwijaya, yang terletak di bagian barat Sumatera dan bagian pesisir Jawa.

Kata kunci: Analisis Geomorfologi; Selat Malaka; Sejarah Maritim; Pantai Sumatra Tenggara; Sejarah anakronistik.

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INTRODUCTION

A fundamental issue that is rarely questioned by historians is why the Jambi region and its surroundings firstly succeeded in conditioning the emergence of centers of growth both economically, politically and culturally when compared to other regions in Indonesia and even in the islands Southeast Asia? Why is it that Funan, which is located in mainland Asia (although on the shore) first appeared when compared to the emergence of growth centers in the Jambi region and its surroundings, namely from the beginning of the century to the 5th century? Why did Kedah also emerge and develop since the Funan era until the expansion of the Sriwijaya Kingdom located on the coast of southeast Sumatra? (Hall, 2011; Wade, 2009). Why did it suffer a setback around the 12th century? Of course, this is not a coincidence or a historical accident. In this context, there are several keys that can be used to understand this phenomenon. Important keys to understand the rise and fall of maritime kingdoms in the islands of Southeast Asia are the dynamics of regional geomorphological changes over time.

In a time when the mechanical technology had not been discovered, the progress of society was largely determined by geographical conditions (Sutherland, 2007). An area that had a strategic location was more likely to develop than a region geographically located far from the route of inter-regional and international or intercultural relations. However, it must be noted that the strategic location of a region may change from time to time. This could explain the dynamics of the cities and kingdoms in the Southeast Asian region in general and the coastal area of Southeast Sumatra in particular. This can be seen from the dynamics of the history of the kingdoms of Funan, Koying, Tupo, Kuntala, Melayu, Sriwijaya, and so on (Braddell, 1939; Muljana, 1981; Sartono, 1992).

One indication that many historians are ignorant of this geomorphological aspect is the use of contemporary maps to describe and to explain events that occurred around 1500 years ago. This was even done by the great historians such as Coedes (1975), Wolters (1967), Hall (2011), etc. The use of contemporary maps to explain events that occurred about 15 centuries ago is certainly very doubtful. As a real example, explaining the history of the kingdom of Demak using contemporary maps is a historical anachronism because Demak, which in the 15th century was a port city, is now located about 35 km from the coastline and at that time, the island of Muria was still separated by the Muria Strait (Daldjoeni, 1982). Therefore, this article will revisit the importance of considering geomorphological changes in historical writing. Special focus will be on the Jambi region and the areas around the Straits of Malacca. For this purpose, this article will discuss two issues, namely the brief development of the history of the Malacca Strait and the importance of considering geomorphology in writing the history of the Jambi maritime region and its surroundings.

THE DYNAMICS OF THE STRAITS OF MALACCA REGION

Most classical works on the history of Southeast Asia in pre-modern times tended to give Indian people the position of initiators of maritime trade relations with China through Southeast Asia. Thus, the Indians are portrayed as having a large role in determining Southeast Asian history, it includes to a certain extent also the Chinese. As a consequence, the role of local communities is seen as very marginal. This can be seen clearly from the works of Coedes (who since 1904 began to actively write about the history of Southeast Asia), Krom (1926), Majumdar (1927), and Berg (1929).

It is known that in the beginning of the 2nd century AD the Southeast Asian region experienced very rapid development. Within this region, many political and economic centers had emerged which were actively involved in maritime trade between India and China (Hall, 2011). It

is difficult to doubt that these new growth centers were the result of a further development process from centers of economic and political development based on local ethnicity. This local element also explains why there was always acute competition and conflict between the various local political and economic centers.

The initial maritime trade route that developed between India and China was a trade route that crossed Kra Isthmus. It is rather strange why at that time, traders preferred to choose land routes as far as 47 km rather than the sea routes around the Malay Peninsula. Of course, the conditions of travel over land in this area were certainly very difficult, especially in the rainy season. There are, however, a number of possibilities why traders preferred to cross the Kra Isthmus instead of going around the Malay Peninsula. The first possibility relates to the fact that a shipping route to China would be very long if it was to surround the Malay Peninsula (Wade, 2009). This may be in accordance with the results of geomorphological studies which state that the Malay peninsula in ancient times probably did not end in Johor but ended up on the island of Bangka or Belitung (van Bemmelen, 1949). Thus, travel around the Malaya Peninsula was seen as very inefficient. In this connection, it seems that the Singapore Strait which was a shortcut to China might not have been be navigable then. The second possibility is probably related to the role of the Malacca Strait region which had not been able to participate significantly in international trade centered in Funan, so it was not interesting for Indian traders as a stopover. The third point relates to the possibility that the Malacca Strait region, especially the island of Sumatra, might have participated in international trade through the Kra Isthmus, but that local traders transported their commodities to the Kra Isthmus route, so Indian ships did not need to pass through or come to the Malacca Strait.

The development of maritime trade routes between India and China through the Kra Isthmus had various new impacts on the people of Southeast Asia. The impact was felt not only in the economic field but also in other fields, both political and cultural. It might even have been the case that the impact on the local culture was more significant than the actual economic impact itself. It was precisely this development of maritime trade that had enabled Funan to grow into an 'Indianized kingdom' as suggested by Coedes (1975). From the existing local folklore, it can be concluded that Funan was a center of an ethnic-based political power with a chiefdom system. The lucrative Indian and Chinese trade provided an opportunity for Funan to build its own political powerbase to control the surrounding areas by means of dynamic competition and conflict. What is very interesting here is that the centers of economic and political growth did not only appear in the maritime trade route around the Kra Isthmus but also developed in the Malacca Strait, Java Sea and China Sea. In this maritime area, local communities began to display their activities in international maritime trade. The experience of navigating the ocean for thousands of years between Madagascar and Easter Island, and between Taiwan and New Zealand enabled the region to rapidly develop the centers of maritime trade.

The pioneering efforts of the local Southeast Asian people to link maritime trade between India and China seemed to be very successful. This cannot only be seen from the development of the Kra Isthmus route and the emergence of the 'Indianized state' of the Funan Kingdom, but also from the kind of euphoria of the emerging various political and economic centers in the western part of insular Southeast Asia. It is regrettable that Malayo-Austronesians did not have a written tradition so that their pioneering efforts were at the time not recorded in the written documents until they afterwards adopted writing systems from India. Because of this, the written documents of the Chinese Empire are especially valuable even though often these sources cause perceptual misunderstanding due to the dif-

ferent pronunciations of the names they recorded. From these Chinese sources, however, several economic and political centers can still be identified in the western part of islands Southeast Asia: Barus located on the west coast of Sumatra (Drakard, 1989; Irfan, 1983), Ho-ling on the north coast of Central Java, Mo-ho-Sin in Bangka Island (McKinnon: 1985), Yeh-po-ti on the tip of South Sumatra (Irfan, 1983), Po-Hwang in North Lampung (Irfan, 1983), Ho-lo-tan (Taruma) in the north coast of West Java (Wolters, 1982), etc. In addition, these written documents of the Chinese Empire also recorded the existence of the Ko-ying kingdom located in Sumatra Island near the Sunda Strait (Hall, 2011). There were also the kingdoms of K'an-to-li and Tu-po which were estimated to be located in an ancient bay in the Jambi area called Teluk Wen. Likewise, on the northern coast of West Java the Holotan kingdom had also developed. These kingdoms emerged and developed during the Funan era, namely before the dominance of the Sriwijaya Kingdom based in Palembang (Sartono, 1992).

In the geographical context, these growth centers had very strategic locations in the context of international maritime trade between India and China. These countries were located in the junction area between the Java Sea, the Malacca Strait and the South China Sea. It may be necessary to consider the results of geomorphological research which states that in the past the straits around Johor, Singapore and Riau had not been properly navigable (van Bemmelen, 1949). However, one of the important driving forces of trade was the availability of products produced by the region, which was highly needed by international markets such as gold, gharu wood, sandalwood and spices such as cloves among the Lesser Sunda Islands, Maluku, east coast Kalimantan, Java and the southern coast of Sumatra. This production ability was the driving force for the progress this region experienced. It was noted in Chinese history that the Koying kingdom and several commercial centers around it played an important role as intermediaries between the Java Sea and the Malacca Strait (van Bemmelen, 1949). In the context of international maritime trade between India and China, these were rich in various commodities of international trade with the eastern side and the northern side of the South China Sea (Wolters, 1967). In the geographical and climatological context (of the monsoon wind), the Funan port was easily accessible from this region. In this context, Malay and Javanese sailors took pioneering roles in trade between the Strait of Malacca and the Java Sea region with Funan. Initially local traders including Javanese seamen could act as collectors of various commodities be sent to Koying and the surrounding ports. In subsequent developments, traders and producers on various islands in Indonesia were able to produce substitute products and additional products derived from forest products that were very rich in the Indonesian archipelago (Hall, 2011). Later, there was a separate effort from Javanese seamen to come directly to China without going through Funan. Records from the Han Dynasty show that envoys from Java came in 131 AD to China to give tribute to the Emperor of China (Liji, 2012).

The increasing involvement of the intersection area between the Malacca Strait, the Java Sea and the South China Sea in international maritime trade since the beginning of the first millennium had begun to change the geopolitical and geoeconomic maps of the region of Southeast Asia. The intensified trade between this region and India and China directly caused the shipping route through the Kra Isthmus to decline sharply. The attraction provided by ports in the Java Sea and the Malacca Strait (both for accommodation and trade commodities) became a magnet for traders from India and other western countries to no longer pass through the Kra Isthmus but through rounding the Malay Peninsula which might still have extended then to include Bangka Island or maybe even Belitung Island. This change greatly benefited not only local people but also the foreign traders. The islands of

western Southeast Asia produced frankincense and myrrh, various resin products, and various perfumes and incense which were usually imported from Africa. Commodities from Africa could be replaced by the local commodities whose prices were much cheaper and sometimes even of better quality. Sumatra produced: gold, camphor, incense, and various forest products for example. Kalimantan also produced abundant forest products. Spices from various islands in Indonesia could replace pepper which previously had been imported from Malabar to markets in China. The kinds of spices from the Indonesian archipelago were more diverse including cinnamon, cloves, nutmeg, and so on. Thus, trade became increasingly profitable and cost-efficient.

GEOMORPHOLOGICAL CHANGES AND THE HISTORICAL DYNAMICS OF THE JAMBI REGION

The Jambi area is located on the island of Sumatra. This island is one of the largest islands in Indonesia and is the sixth largest island in the world. Sumatra is located in the westernmost part of Indonesia. The island has an area of about 435,000 km² which extends from the northwest to the southeast with a length of 1,650 Km and the width of the island in the north measures around 100 to 200 Km where in the south, it reaches a distance of about 350 Km. The boundaries of Sumatra are as follows: on the north the Andaman Sea, in the east the Malacca Strait and Karimata Strait and the Bangka Strait and the Java Sea. Meanwhile, the southern part borders on the Sunda Strait and on the west the island are directly adjacent to the Indian Ocean (van Bemmelen, 1949).

One very interesting and very influential point to the history of the people of Sumatra is the existence of the Bukit Barisan Mountains. Actually, the Bukit Barisan Mountains contrary to their Indonesian name are not only hills, but also consist of quite high mountains which form a segment of the Pacific Ring of Fire. There are in fact 39 mountains in the Bukit Barisan mountain range. The highest volcano in Indonesia is actually on the island of Sumatra, namely Mount Kerinci (3,805 m), located in the interior of Jambi. Other well-known volcanoes are Gunung Leuser in Nanggroe Aceh Darussalam and Mount Dempo on the border of South Sumatra with Bengkulu. The existence of two large faults in the earth's crust, namely the Semangko fault or the Sumatra fault and the Sunda fault that extends from the Himalayas to the Arafura Sea, causes this island to become an epicenter of both tectonic and volcanic earthquakes. Therefore, it is safe to conclude that Sumatra is a kind of world geological laboratory (McCaffrey, 2009).

The Bukit Barisan mountain range stretches from north to south so that it forms the backbone of the island of Sumatra and divides the island into two unequal parts. The western part of the Bukit Barisan mountain range is a narrow hilly area and has a steep beach. Meanwhile the area east of the Bukit Barisan Mountains is alluvial lowland. The Bukit Barisan Mountains itself are geologically divided by the Semangko fault zone which divides the island of Sumatra as a whole into the elevated western part and the lower eastern part. The Semangko fault is a geological formation that stretches across Sumatra Island from north to south, starting from Aceh to Teluk Semangka in Lampung. It is this fault that formed the Bukit Barisan Mountains (van Bemmelen, 1949).

The mountains that appeared in the Bukit Barisan Mountains are a result of this Semangko fault. The eruptions of these mountain volcanoes have formed highlands and hills in the surrounding area. Meanwhile, the material remains of volcanic eruptions, erosion, and abrasion as a result of weathering processes have created a flat land especially in the eastern region of the Bukit Barisan Mountains (van Bemmelen, 1949). The contour of the area which is located in the west of the Bukit Barisan Mountains is in the form of hills with sharp elevations that reach the west coast of this island. Large waves from the Indian Ocean have caused the

formation of a steep shore, except for shores located in bays or those sheltered by the string of Mentawai Islands.

The asymmetrical topography between the area located to the east and west of the Bukit Barisan Mountains has a very significant impact on the lives of its people. This is related to the fact that rainfall in Sumatra is very high. This condition has led to faster weathering and erosion processes carried by rainwater to lower areas. The high mountains on the west side of the Semangko fault zone form different river basins between the western and eastern sides of the Bukit Barisan Mountains. On the western side of the Bukit Barisan Mountains, there are short rivers flowing down steep slopes towards the Indian Ocean. Conversel,y on the eastern side of the Bukit Barisan Mountains, there are a number of long and wide rivers flowing slowly and calmly towards the Malacca Strait, Karimata Strait, and Java Sea. Some of the major rivers are Rokan, Siak, Kampar, Indragiri, Batanghari, and Musi (Asnan, 2016; Colombijn, 2005; van Bemmelen, 1949).

In addition to the large rivers, there are also many swamps in the eastern part of Sumatra starting from the Aceh region which is located at the northern end of Sumatra to Lampung at the southern end. Sumatra holds many large lakes as a result of volcanic activities, including Lake Laut Tawar (Aceh), Lake Toba (North Sumatra), Lake Singkarak, Lake Maninjau, Lake Diatas, and Lake Dibawah (West Sumatra), and Lake Ranau (Lampung Province and South Sumatra Province). Meanwhile, Jambi region can be divided into two parts, namely the hilly and lowland areas. The hilly area is an area located on the eastern slope of the Bukit Barisan Mountains which continues eastward to the west and south of Jambi city. Meanwhile, the lowlands can be found in the northern part of the city of Jambi and continue to the northeast and southeast as well as to areas along the Batanghari Watershed. Lowland Jambi is a delta deposit from the Batanghari River fluvial system which was lifted at the end of the Pleistocene. In a later era, the lowlands of Jambi were formed through the formation of deposits produced from Holocene alluvial sediments from the Batanghari River which were scattered along the rivers, swamps and flood catchments and eventually formed a lowland and flat landscape (Zaim & Aswan, 2012).

The description above provides a clear picture that shows how natural factors have contributed to the destiny of the Jambi region and its surroundings as a maritime area and destined its inhabitants to be a maritime community. It can be said that the strategic geographical location and process of geological formation determined the development of the history and civilization of the Jambi community and its surroundings. This natural process included the formation of landscapes in the form of mountains, hills, rivers, which were accompanied by volcanic activities that produced valuable minerals and fertilized the soil, caused high rainfall, etc.

Although the geomorphological development of the eastern coast of Sumatra, the Malacca Strait and Karimata Strait and the surrounding area has not been studied convincingly in relation to the history of trade, however, using the current map to explain events dating back as far as the past 15 centuries is certainly also very doubtful. For example, explaining the development of Demak's royal history by using contemporary maps is a dangerous historical anachronism. Because at that time, the city of Demak was located on the beach at the mouth of the Strait of Muria. About 500 years ago the island of Muria, where the city of Jepara is now located, was still separated from the island of Java. Meanwhile, at present the city of Demak is about 35 km from the coastline and the Muria Strait has disappeared completely due to geomorphological changes. Therefore, at that time, the ruler of Jepara (Dipati Unus) was named Pangeran Sabrang Lor or 'Prince from the northern region of the Strait of Muria'. The famous authors of the history of Southeast Asia and Indonesia in general continue to reply on contemporary maps such as is the case

with Coedes (1975), Wolters (1967), Hall (2011), etc. In general, these historians lack of sufficient attention to the geomorphological aspects or blindly believe that the map of this area remained constant since the beginning of the first millennium. Thus, for quite a long time, the history writers of this region did not consider geomorphological change as one of the important factors and driving force in the historical development of Southeast Asia.

George Coedes is seen as one of the most senior and most famous Southeast Asian historians. He was born in Paris on 10 August 1886 and died in the same city on 2 October 1969. He was an archaeologist and 20th century French historian who was very well known and specialized in the Southeast Asian region. He was the director of the Thai National Library in 1918, and in 1929 was appointed director of the École Française d'Extrême-Orient (EFEO) until 1946. After that, he moved to Paris until his death in 1969. In 1968, his work was published under the title The Indianized States of Southeast Asia. In addition, he also published many works on the history of Southeast Asia. In narrating the historical drama of Southeast Asia however, he erroneously used contemporary maps that were commonly used in the 1960s (see Figure 1).

Figure 1. Map of the Western Part of insular Southeast Asia by Coedes
Source: Coedes, 1975.

This issue of using a contemporary map to explain the history of many centuries ago was continued by the younger generation of historians. Kenneth R. Hall belongs to the generation of Southeast Asian maritime historians who followed in the footsteps of Coedes and Wolters even though he himself emphasized the role of local communities in the dynamics of international maritime trade in Southeast Asia. Like his predecessors, Hall also used contemporary maps to explain the history of Southeast Asia in the pre-modern period. Hall believed that there were no significant changes in the geomorphology of the Southeast Asia region including the east coast of Sumatra. The map used by Hall can be seen in Figure 2.

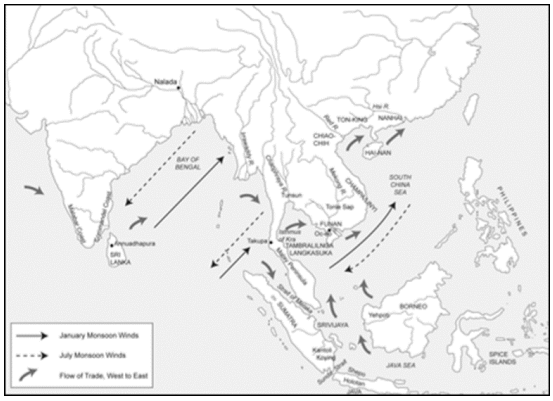

Figure 2. The Trade of Southeast Asia, around 100 – 600 AD
Source: Hall, 2011.

A researcher who began to first see the importance of geomorphological aspects in studying the history of the Malacca and Karimata Strait areas was Obdeyn. He sought to identify places mentioned by Chinese sources and identified their location in the geomormological context. The conclusion by Obdeyn is very interesting, as he states that in the Srivijaya era, the Malacca Peninsula extended to the tip of the present-day Bangka-Belitung Island. Meanwhile Singapore, Lingga and Riau may still have been connected with predominantly shallow water. The existence of the Sunda Strait is at the time also not yet known. It is even possible that the island of Sumatra then still connected to Java (Obdeyn: 1941; 1942). With such a geographical construction, international shipping between India and China (besides from crossing the Isthmus of Kra) must have rounded Bangka-Belitung, so

Figure 3. Map of Van Linschoten (1598)
Sourse: Suares, 1999.

that the east coast of Sumatra and the north coast of Java, especially in West Java, became very important. A map made in 1598 by the Dutch sailor Van Linschotten also still indicates how the Malay Peninsula from Singapore to Belitung Island was only a shallow area that could not be navigated (Figure 3).

It is therefore, as pointed out by Van Bemmelen, most likely that during the Sriwijaya period the Malaya Peninsula was still land mass that contained a series of mountains that gradually experienced sinking so that 'drown topography' took place in an evolutionary manner (van Bemmelen, 1949). In Figure 3, it is clearly seen how the coastal areas of Jambi and Palembang are still given a sign on the map that indicates that the area is not feasible to be navigated or even perhaps that the area is nothing more than a shallow swamp. Likewise, the map made by Anthonio Sanches in 1641 also continues to depict the Malay Peninsula as extending to the tip of the islands of Bangka and Belitung. This can be seen in Figure 4.

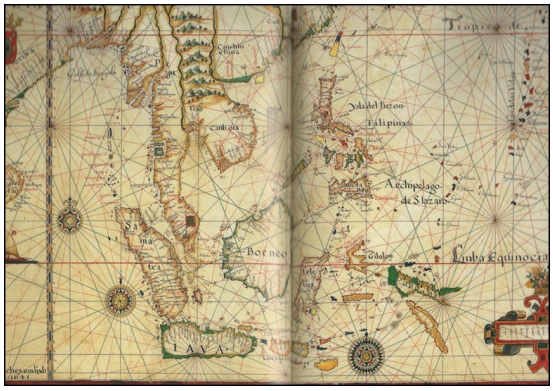

Figure 4. Map of Southeast Asia by Antonio Sanches (1641).
Source: Suares, 1999.

It is a pity that Obdeyn's findings at first did not arouse sufficient interest from historians and archaeologists in order to follow up on these conclusions although the findings are indeed very challenging to historians and archaeologists. Only in 1954 did the efforts of Obdeyn result in a serious research project. Mr. Moh. Yamin, who at the time served as Minister of Education and Culture for Indonesia ordered the Archeology Service to study the coastline geomorphology and the history as well as the ancient heritage sites on the coast of East Sumatra related to the history of the Srivijaya kingdom. This research was carried out both on land and by air. Because the geomorphology aspect was the main point of the study, a geomorphologist from the Army Topography Bureau, H. Th. Verstappen, was involved. Results from aerial photographs showed that the line separating the tertiary soil from *quartair* land (especially alluvium) as depicted in geological maps can be considered as ancient coastline. In that context, it was concluded that Palembang and Jambi were located adjacent to the sea. Palembang was located at the end of the peninsula which originates in Sekayu, and Jambi and is located in a bay that juts into Muara Tembesi also called Teluk Wen (Sartono, 1992).

Research on historical sites at that time also reinforced this hypothesis, as it became clear that all ancient relics, both from the Palembang region and from Jam-

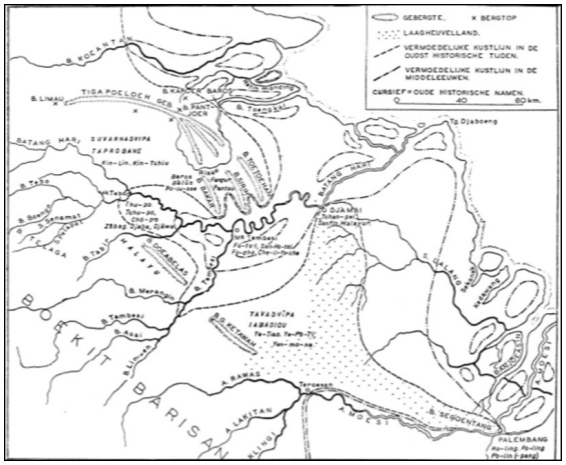

Figure 5. Ancient Coastlines in Jambi and Palembang according to Obdeyn
Source: Obdeyn in McKinnon, 1984.

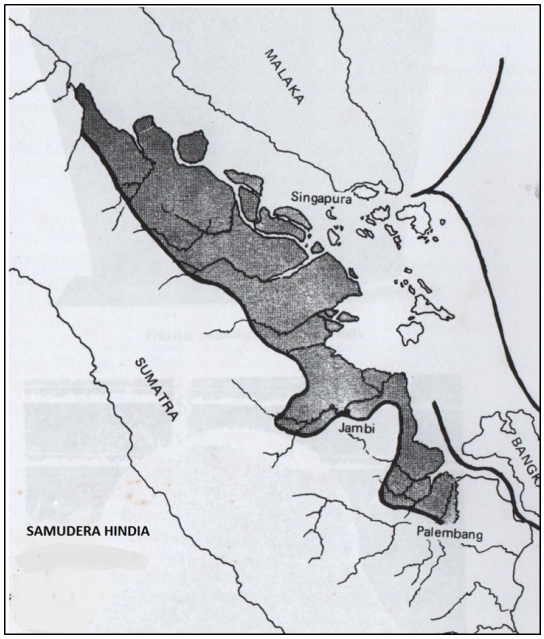

Figure 6. The coastline of East Sumatra in the Srivijaya Era according to Sartono
Source: Sartono, 1992.

bi (Muara Jambi), were not found in alluvium soil. The inscriptions about Srivijaya, namely the inscriptions of Kedukan Bukit, Talang Tuwo, and Telaga Batu are also found in tertiary soil, and not in alluvial one. These findings were corroborated by the geological research of Van Bemmelen which stated that the coastline at the Batanghari estuary extended around 7.5 kilometers in 100 years or 75 meters per year. Additional proof came from sedimentation due to the flow of the Musi River running faster there in Palembang, as the Musi River gets additional water supply from the Ogan and Komering rivers (Van Bemmelen: 1949). In the Van Linschoten map published in 1595 it is also still visible that Jambi was located in a shallow bay (Suares, 1999), see Figure 5 and 6.

In further developments, research on geomorphological changes in the Malacca Strait region, Karimata Strait, and the east coast of Sumatra continues to be less developed but could produce the convincing findings that could explain the historical dynamics of the region. The research conducted by archaeologists showed that the existence of alluvial soil in the eastern coast of Sumatra has existed there since 7000 BC (McKinnon: 1984). Of course, this belief ignores the sedimentation rate of land that reaches around 75 meters per year. In the last few decades there has been a tendency of archeological research with focused on the discovery of artifacts from the downstream region to show that this region held an important role since the Sriwijaya era. The discoveries of such historical objects took place in Muara Kumpeh Hilir (Suak Kandis), Koto Kandis, etc. (Hall: 2011). The findings of geomorphological research and archeological research have not yet provided us with a coherent conclusion as there are still many unanswered questions that remain. This ultimately requires the courage of historians who would dare to construct the picture of the past based on existing facts and rational hypothesis that can be challenged by future research.

CONCLUSION

The description in the previous section provides a clear picture of neglect. In the past few decades, research on geomorphological changes in the western part of insular Southeast Asia has been largely ignored by researchers in history, geography and archeology. Yet, there are several issues that actually deserve to get ample

attention from the researchers. The first issue is related to the insufficient debate on and attention for the effects of geomorphological changes on the historical dynamics of the region. Despite some historians erroneously depicting the historical conditions of the region as experiencing limited change, some geologists believe that coastal geomorphological changes as a result of the sedimentation process in several large rivers with fast flowing river deltas providing a very strong argument that ancient cities such as Palembang and Jambi at the beginning of the first millennium were located in coastal areas.

The second issue that should be taken into account by historians is the fact that due to geographical and climatological factors, the coastal area of Southeast Sumatra has experienced very rapid sedimentation. This seems to be neglected by historians who continue to use contemporary maps to analyze historical events that occurred to about 2000 years ago. Such a practice certainly will lead to historical anachronisms that historians must avoid. A final issue is that there remain challenges that have not yet been thoroughly comprehended by historians in order to completely link these geomorphological changes in the region to the historical dynamics of the region. For example, historians have not yet been completely successful in linking geomorphological changes in the coastal areas of Southeast Sumatra and the Malacca Strait to the emergence and collapse of the Sriwijaya and Jambi kingdoms.

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