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Can the Geo Speak?
The Emergence of Southeast Asia Through Geological Assemblages

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Abstract
The engagement delves into the relationship between the emergence of economic geology as a modern science, geological materials, and their entanglements with Southeast Asia as an area. It asks if the geo can speak by foregrounding the role of geological materials and the geological knowledge of the British, Dutch, and American Empires in assembling the region. During the nineteenth century, the Dutch and British Empire assembled Borneo Island and other islands into a geo-colonial assemblage. In the course of World War II and the period of decolonization, the Japanese Empire and national movements challenged this geo-colonial assemblage. As the new Empire of the twentieth century, the US competed with the Japanese Empire in a geological War, while facing challenges from the new nation-states in the Cold War era. Eventually, the American Empire re-assembled Borneo's geo-colonial formation into the new entanglement of Southeast Asian geological assemblage. This engagement provides insights into the geological development of the British, Dutch, and American Empires in Southeast Asia and how geological materials and knowledge, i.e., economic geology, are essential elements in rethinking the future of Southeast Asian studies.

Keywords
imperial assemblage; geological assemblage; economic geology; geological provinces; geological war; Southeast Asia

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Introduction

This engagement explores the entanglements of economic geology, or the science of geological materials with practices of colonialism and state-formation in the area that came to be known as "Southeast Asia." Historians have described the practices of British Imperial Geology as colonial sciences shaped by, and contributing to, expansions in many parts of the world (Stafford 1990; Sangwan 1994; Grout 1995). The geographer Kathryn Yusoff (2018, 2024) has recently emphasized the racial aspects of geological knowledge production. Others have developed a so-called political geology in which geological resources become foundational of politics and scientists are political agents (Bobbette and Donovan 2019). These perspectives "foreground the ways in which the geological sciences were perhaps some of the most profoundly significant sciences in shaping the modern world because they provided the knowledge that drove extractivism" (Bobbette 2023, 1). Relatedly, Whitington and Oguz propose the notion of "earth as praxis" as a strategy of recovery from violent processes that subjected the earth "to modes of expropriative power and, in turn, how such practices participate in the constitution of dehumanized, racialized, dispossessed, or exhausted bodies and peoples" (2023, 151).

European geology has always been invested with various kinds of political-economic interest. We are especially interested in economic geology; or the science of mineral deposits (Emmons and Hayes 1905; Skinner 2005; Jébrak 2006; Babb 1909). Economic geology focused on the identification, classification, and assignment of value to geological materials.[1] Economic geologists also took an interest in "broad questions of international use of natural resources" and "questions of international trade, tariffs and shipping" (Leith 1921, 2). Early in the last century, they were discussing "Political and Commercial Geology and the World's Mineral Resources" (Spurr 1920). Josiah Spurr asked, "Who Own the Earth?" and he replied that:

> As based upon the territorial and commercial control of the fundamental minerals, it appears that the earth is owned by the two great Anglo-Saxon nations, the United States and the British Empire (ibid., 541).

Following the introduction by Casper Bruun Jensen and Fadjar Ibnu Thufail (2025), we explore how Southeast Asia emerged as an "area" from the intersection of various processes of imperial assemblage. We interrogate the proposition that geological knowledges emerge in changing geo-assemblages where scientists grapple with geographical materials, properties and events as part of imperial and economic agendas. We examine how geological assemblages shape regions, including state formations, focusing on the transition from Dutch and British Empires' geo-colonial assemblages to the American Empire's Southeast Asian geological assemblages. The concern of this engagement is that geological knowledge, *whether as a description of rock materials and events or in applied fields like economics, petroleum, or mineral*

[1] There were two early schools of economic geology: the North American School, which established a geology publishing company in 1905, and the European School, founded in 1913 by Louis de Launay (Jébrak 2006) . The Dutch also contributed to the development of economic geology. In 1949, Reinoit W. van Bemmelen (1949b) published a foundational text, which focused on mapping geological resources across Indonesia.

geology, is deployed in forming geological assemblage as part of Empire making and global capitalism ways of organizing nature in serve of continuous accumulation.

Can the Geo Speak?

This engagement presents *Southeast Asia as a geological assemblage*, *a region shaped by many properties* prominently including earth materials. By geologizing Gayatri Spivak's (1988) seminal question "Can the subaltern speak?" we think it is possible to open new avenues of inquiry concerning the role of earthly materials in the making of states and areas. The term "geo" derives from the Greek word for earth. Here, it refers to all materials on or beneath the earth's surface. We ask whether and how the geo can speak, and we ponder what the answer might tell us about the relations between geological materials and collective human life. By focusing on geological materials, we might better gain understanding of how geologists help empires or corporations to exploit the *geo*. Spivak reminds us that "Western intellectual production is, in many ways, complicit with the Western international economic interests" (ibid., 271). Scholars in Southeast Asian studies often overlook that geology is part of Western intellectual production tied to economic interest in the region. While Spivak's work foregrounds Indian women as the subject of the third world subaltern, we depart from her in revealing the empire narration in the area as a Western subject "pretends it has 'no geo-political determination'" (ibid.) in producing geological knowledge. By asking if the geo can speak, we foreground those materials and knowledges that are usually taken for granted in the area studies work on natural resources extraction, commodity studies, and regional politics although they made extraction, commodification, and economic regionalization possible in the first place. Processes of extraction, which involve systematic removal of earth materials for human use, reshape the physical environment as well as political and economic landscapes. Geological assemblages contribute to making national boundaries (e.g., Indonesia, Malaysia and Brunei) and areas like 'Southeast Asia.'

Our usage of geological assemblage draws on Marx's conception of the commodity. He suggests that commodities arise from various properties gathered and assembled during production processes. According to him, "Every useful thing, such as iron or paper, can be examined from two perspectives: quality and quantity. It is an assemblage of many properties and can, therefore, be utilized in various ways" (Marx [1867] 1999). We extend this idea of commodities emerging from an assemblage process to the formation of regions, specifically Southeast Asia. He continued, "To discover the various uses of things is the work of history" (ibid.). In this context, we examine the contested historical development of Southeast Asia as a region, focusing on the various properties assembled, such as geological materials that contribute to its formation and emergence.

We then combine this understanding with Michael Watts's (2012, 442–3) concept of the *oil assemblage*, the entire set of relations between actors and processes that shape contemporary hydrocarbon capitalism. Watts discusses the oil-rich regions in the Nigerian Delta, as large areas with shared geological histories and geological provinces (ibid., 445). Geological provinces, however, include many extractable resources besides oil. We modify and expand on his idea by emphasizing that geological materials, both above and below the Earth's surface, have also been assembled with significant consequences for the shaping of Southeast Asia

as an area. Beyond hydrocarbons the geological assemblage encompasses all the earth materials: minerals, forests, rivers, and seas.

In this context, economic geology serves the roles of classifying, extracting, and transforming these resources into global commodities. It has thereby contributed to the shaping of nation-states as well as areas like Southeast Asia. Southeast Asia is a frontier region in which territorial and economic formations have long been shaped by resource extraction. The Southeast Asian geological assemblage involved the intersection of natural sciences, such as forestry and marine science, with social sciences like politics, economics, and history. In countries like Indonesia, as Paul Gellert (2010) notes in his study of coal and other extractive industries, multiple commodities have always been extracted under different extraction regimes. What we call the geological assemblage, therefore, *is a spatial and temporal ordering of landscapes and territories marked by political boundaries and the extraction of diverse geological materials*.

To grapple with Southeast Asia as a geological assemblage means, we must "ask not only how things are assembled, but also how they are disassembled, conceptually and politically severed from the conditions that made them possible" (Stoler and McGranahan 2018, 478). Before the rise of the American Empire in the region, the term "Southeast Asia" did not exist. The region was known by other names: Jawi, Nusantara, Nanyang, and Nanpo. European powers, particularly the Dutch and British, constructed these territories differently and employed different terms. Following World War II, new actors gradually replaced, reshaped, and re-assembled those colonial social structures and power relations.

The making of areas can be understood as intertwinements of assemblage, dis-assemblage, and re-assemblage. Where assemblage evokes a process of building up, dis-assemblage involves tearing down parts and dismantling components of previous arrangements, like frontier mining infrastructures. Crucially, these processes connect to risks, challenges, and resistance from both human collectives and forms of nature. In turn, assemblage transforms both natural and built environments. The following sections examine how these processes come together in the making of Southeast Asian geological assemblages.

Geo-Colonial Formations in Nineteenth-Century Borneo

As a geological province that provides essential earth materials for global commodities and the trans-global economy (Tagliacozzo 2013), Borneo is a prime example of how geological assemblages contribute to the making of areas "in" Southeast Asia and to Southeast Asia "as" an area. Exploitation of Bornean minerals expanded in the colonial era. This happened in various places and involved increasingly diverse geological materials in line with world industrial demands after the invention of the steam engine in the mid-nineteenth century. Thus, geological resources played a crucial role as Dutch and the British empires developed their territories, eventually leading to the colonial state formation of Borneo itself.

In fact, Borneo's geological formation was instrumental to the emergence of no less than three modern Southeast Asian nation-states—Indonesia, Malaysia, and Brunei—during the period of decolonization. In these colonial contexts, the emergence of geological knowledge, especially relating to economic geology, prompted states to pursue exploitation of mineral resources as a means of supporting technological

(industrial) development. The drive for exploitation by private business led to extensions as well intensifications of the mining activities. In turn, the need for more geological knowledge grew, driving further advances in the science of geology. Thus, the colonial geological assemblage in Borneo marks the co-emergent rise of three geo-actors in the nineteenth century: the colonial state, the corporation and the scientific institution.

Borneo is an island located in the southeast of the Eurasian plate. It is bordered by the South China Sea's marginal oceanic basin to the north, the Philippine Mobile Belt and the Philippine Sea Plate to the east, and the Banda and Sunda arc systems to the south. The Sunda Shelf borders Borneo to the west, followed by the Paleozoic and Mesozoic continental crust on the Malay Peninsula. The Greater Borneo block is surrounded by active or formerly active plate boundaries and arc systems to the north, east, and south during the Tertiary period. To the west of Borneo are unexplored shelf areas that may conceal terrane boundaries (Bemmelen 1949a).

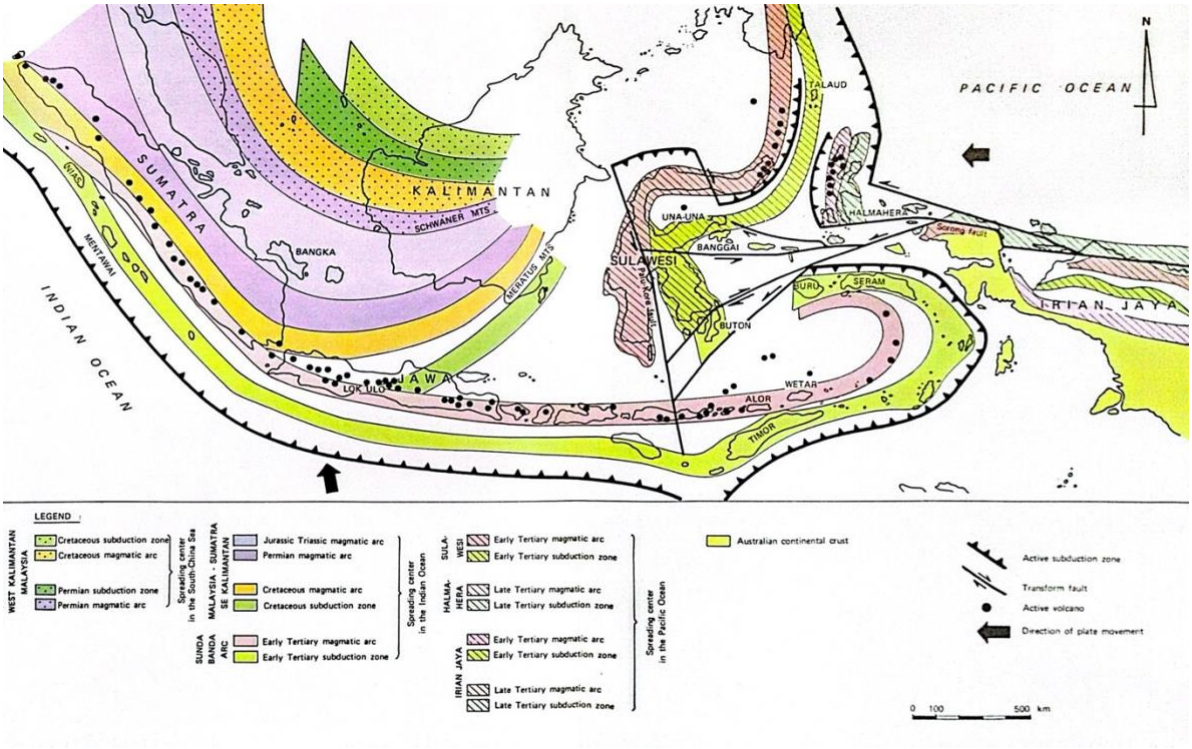

Figure 1. Tectonic Scheme of the Indonesian Archipelago (Source Katili 1974, with permission from the Ministry of Energy and Mineral Resources, Indonesia).

These descriptions of physical geology are suggestive for economic geologists on the lookout for geological materials. Thus, we can read that "the plate tectonic approach emphasizes the search for continuity of structural belts of different types and ages and calls attention to favorable terrains, including offshore areas, in which to look for petroleum as well as metallic deposits (ibid., 9—see figure 1)." Coal reserves, formed by subsidence of the continental crust caused by the collision of the Sunda Plain and Australian plates, are found

in Barito, located in the south and Muara in the north of Borneo. Organic materials accumulate in swamp environments that are periodically flooded by seawater or brackish water (Posewitz 1892; Bemmelen 1949b; Gorsel 2018). Complex geo-ecological histories have created diverse environments where valuable mineral deposits of gold, diamonds, coal, petroleum, copper, nickel, tin, bauxite, and iron ore are found.

Gold and diamonds played into a widespread imagination of Borneo as a "Land of Gold" (*Suvarnadwipa*) and a "Diamond Island" (*Puradvipa*) (Bennett 2009; Borschberg 2015; Broek 1962). Early on, the geologist Carl A. L. M. Schwaner (1853, 1854), a member of the Commissie naturalists (*De Natuurkundige Commissie voor Nederlandsch-Indië*), which funded naturalists to study and collect natural specimens for the Natural History Museum in Leiden while searching for potential mineral and coal deposits, had noted that Dayak communities in the Kahayan and Barito River basins practiced *mendulang pasir emas* (gold panning) and *menabuk* (digging) in the hills. The Dusun Ulu community excelled in melting, purifying, and forging gold and other metals. They used local materials to construct smelters (see figure 2), including wood for air pipes, clay for ovens, and iron for furnaces. In the eighteenth century, before European colonization, local rulers invited Chinese miners to expand gold mining in the area. The miners established *kongsis*, political entities based on gaining economic power from mining (Harrison and O'Connor 1970; Ooi 1995; Gorsel 2022; Chew 1990). The Chinese *kongsis* controlled the mines in Borneo by tracking *areng* (gold veins) deep into the interior. Moor (1837, 5–8) described a traditional mining method where miners dug *parit* (ditches) to create water channels that directed flow toward *areng*. These channels ended in dams that collected water and minerals, using fast-moving water to separate gold from impurities.

Figure 2. Traditional gold smelter in Borneo (Source Schwaner 1853, 110, in the public domain via: https://books.google.co.id/books/about/Borneo.html?id=LwVdAAAAcAAJ).

The discovery of mineral deposits stimulated interest in exploration and exploitation, both colonial administrations and privates. It can lead to negotiations over territorial boundaries, or annexations, to claim mining rights (Rutter 1922; Horton 1986; Treacher 1890; Sidek and Bala 2022; Hughes-Hallett 1940). In southeastern Borneo, Carl Schwaner's exploration of the Barito River in 1844 led to the discovery of coal deposits at Riam Kiwa. This supported the development of stratigraphy and sedimentology, and his discovery of foraminifera fossils in rock structures was important for establishing paleontology as a science (Schwaner 1853, 1854). Additionally, his discovery led to the opening of the first coal mines in the Dutch East Indies between 1844 and 1849 (Veth 1869; Posewitz 1892). This initiative eventually resulted in the establishment of the first state mining company in Southeast Borneo, known as Oranje Nassau company (ibid.; Gorsel 2022). Furthermore, this establishment of the state company within the territory of the Sultan of Banjar, which had been explored by General Governor Rochusen, was followed by a reorganization of Dutch Borneo which created the South-East Borneo Residency with Banjarmasin as the capital (and the West-Borneo Residency) in 1849, and the annexation of the Sultanate a decade later (Irwin 1955, 158; Listiana 2013, 50–58, 75).

These increases in mining called for geological knowledge. Starting in 1850, the Dutch East Indies experienced an influx of miners who had received training from the Delft Royal Academy and gained practical experience in England and Germany. A group of mining engineers from the Dutch East Indies were hired to search for valuable minerals. As a result, the area of geological investigation and mining materials expanded throughout the archipelago (Posewitz 1892) and pressured licensing of mining permits for private business. It was accommodated by the Dutch East Indies to amend the first Mining Law in 1850, which previously stated that mining operations should solely be operated by Dutch nationals (Ruiter 2016).

Private business had already been involved in mining activities in northern Borneo, which significantly influenced and changed political boundaries, ultimately allowing the British Empire to establish a colonial state on the island. The Sultanate of Brunei had permitted Brooke (a private colonialist who led Sarawak to become a protectorate of the British Empire in 1888) to open coal fields in Labuan and Sabah (Horton 1986). He subsequently attempted to acquire all of Labuan evoking a series of threats that involved the British military. In 1846, the island, which was famous for its coal content, became a "crown colony." Eventually the Sultan of Brunei was left with only one district surrounded by British colonies (Parnell 1923).

Meanwhile, another private company Borneo Company Limited, established with support from Brooke, took over mining operations of antimony and quicksilver from the Sultanate of Brunei in Kucing (ibid.). Similar to Dutch East Indies, after Hiram Williams carried out the first geological survey in Western Sarawak in 1845, several travelers, including A. R. Wallace and Odoardo Beccari, continued to make geological observations of Sarawak during the nineteenth century. The Borneo Company Limited also published several accounts of prospects in the area, which increased geological work in the 1920s–1930s (Jackson 1968). Moreover, the early 1900s, saw a rapid increase in geological works that focused on practical problems of geological exploration and the discovery of valuable mineral reserves.

The interplay between geology, mining, and colonial power in Borneo was significant. In this context, scientific procedures concerning minerals were intricately linked with private business interests and governmental policies, all in accordance with international economic trends that influenced colonial geological formations in pre-Southeast Asia. A significant correlation exists between geology and state formation. Research in economic geology in Borneo played a crucial role in mining exploration and production, highlighting the interplay between the advancement of geological science, economic interests, and the establishment of political entities.

State Formation and the Geological Assemblage of Southeast Asia

Above we focused on the assemblage of colonial geology under the British and Dutch. During the twentieth century, this assemblage was threatened from several sides. Firstly, the imperial struggle against the Japanese Empire significantly contributed to dis-assembling colonial geological formations. Among other things, Japan's war in the British and Dutch colonies was motivated by its own ambition to build a colonial geological assemblage and access valuable materials. Since the early-twentieth century, Japan had been keenly interested in the geological resources of Dutch and British Borneo. Conversely, from the 1920s onwards, the British government in Borneo monitored Japanese movements targeting resources such as iron and oil (Ooi 2011, 16).

Due to the global impact of the great depression, Japan took more aggressive steps. As Ooi (ibid., 21) explains "resource rich Borneo, with its oil fields and installations, rubber, timber as well as its strategic location . . . figured prominently in Japanese military planning." The Dutch and British colonial governments began to destroy their oil infrastructure to prevent Japan from grabbing it (ibid., 35). Shortly after the occupation, the Japanese military re-assembled Dutch Borneo (which includes western and southern Borneo) and renamed it "Minami Borneo" under the control of the Imperial Japanese Navy (IJN). In contrast, British Borneo (comprising Sarawak, Brunei, and North Borneo) was designated as "Kita Boruneo" and placed under the authority of the Imperial Japanese Army (IJA) (Ooi 2013, 308). This reassembly of:

> Borneo's administration was related to its importance as a supplier of essential resources in particular oil and rubber as well as other minerals for the Japanese war effort (Ooi 2011, 38).

The geological war between the Japanese and the European alliance with the American Empire also saw emergence of the now conventional geographical concept of "Southeast Asia." The spatial concept was established through the creation of Southeast Asia Command, the allied military command under Admiral Lord Louis Mountbatten. After World War II, it was institutionalized into an agreement (SEATO), regional organization (ASEAN), and area studies in the Western universities (Fifield 1983, 2, 6; Emmerson 1984, 7, 9, 14). Discussions of Southeast Asia tend to overlook the fundamental geological aspects of the area's emergence. Yet, through the geological knowledge, as embedded, for example in reports on Java's oil fields during World War II (The Enemy Oil Committee 1945) was crucial and inseparable from the war efforts. In the post-war context, the United States Geological Survey (hereafter, USGS) continued to develop geological resource mappings of Southeast Asian areas (Steinshouer et al. 1999)—see figure 3.

In the early-twentieth century, American Empire engagement with Southeast Asia began through their geological expansion in the Philippines. This imperial overseas geological expansion was initiated by the department of Interior through its division of USGS to the Pacific Ocean. G. F. Becker was the first geologist from the USGS to serve with the U. S. Army during the conflict against the native population of the Philippines. In his 1901 report on the geology of the Philippine Islands, Becker covered both general and economic geology, detailing various minerals found in the country. He contextualized the Philippines within a broader Southeast Asian framework by comparing it with the geologies of Borneo, Java, and Banda, referencing the work of Posewitz in Borneo (Becker 1901, 9; 108). The USGS, established in 1879 through Congress recommendation stated that:

> The committee, therefore, recommend that Congress establish, under the Department of the Interior, an independent organization, to be known as the United State Geological Survey, to be charged with the study of the geological structure and economical resources of the public domain, such survey to be placed under a Director, who shall be appointed by the President, and who shall report directly to the Secretary of the Interior. (Institute for Government Research 1919, 7).

The historical formation of the USGS demonstrates that the interests of geology and economic resources are deeply intertwined with the American Empire's interest in overseas expansion. Understanding raw materials and economic resources is a crucial aspect of geology, leading to the development of economic geology. The production of economic geology research on Philippines developed over time in American Economic Geology Journal (Smith 1909; Ferguson 1911; Pratt 1916). World War II and subsequent paths to independence dis-assembled colonial geological formations. But they also provided opportunities for further involvements of the American Empire in expanding its interest from Philippines to other countries in the region. Consequently, the imperial war in Southeast Asia can be regarded as a geological war. The establishment of the Geology Military Unit in 1942 during World War II further emphasized the American Empire's interests, as it assisted Allied forces globally including areas such as the Pacific, New Guinea, Burma and Philippines (Kiersch 1998, 125).

Those American efforts would be challenged by Sukarno, the first Indonesian president, who sought to re-assemble the previous Dutch and British Borneo's as parts of Indonesian territory. Following a tumultuous relationship with the United States, Sukarno sought to integrate all of Borneo into Indonesia. He wanted to integrate the area as part of a national geo-assemblage with a new name: Kalimantan. However, with British support, Malaysia aimed to unite the former British territories under the Malaysian federation. This disagreement, which is known as the "confrontation," shaped three modern Southeast Asian countries: Indonesia, Malaysia, and Brunei. The Sultanate of Brunei had been dis-assembled when the British Empire took over its territory for mineral and oil interests during colonial era. After 1945, Brunei remained independent by refusing to join Malaya Federation with other parts of the British Borneo in a unified Malaysian state. These clashes, too, involved disputes over geological resources. The "oil factor" played a crucial role in Brunei formation as a state, which was intertwined with disputes with Malaysia and internal rebellion (Majid 2007). As emphasized by Poulgrain (1998, 5), these confrontations showed:

The crucial importance of Brunei and Sarawak in the process of decolonization, which was the outcome of strategies executed not only by the British Colonial Office but also by an assortment of intelligence agencies and on other all-pervasive factor: the interest of major oil companies.

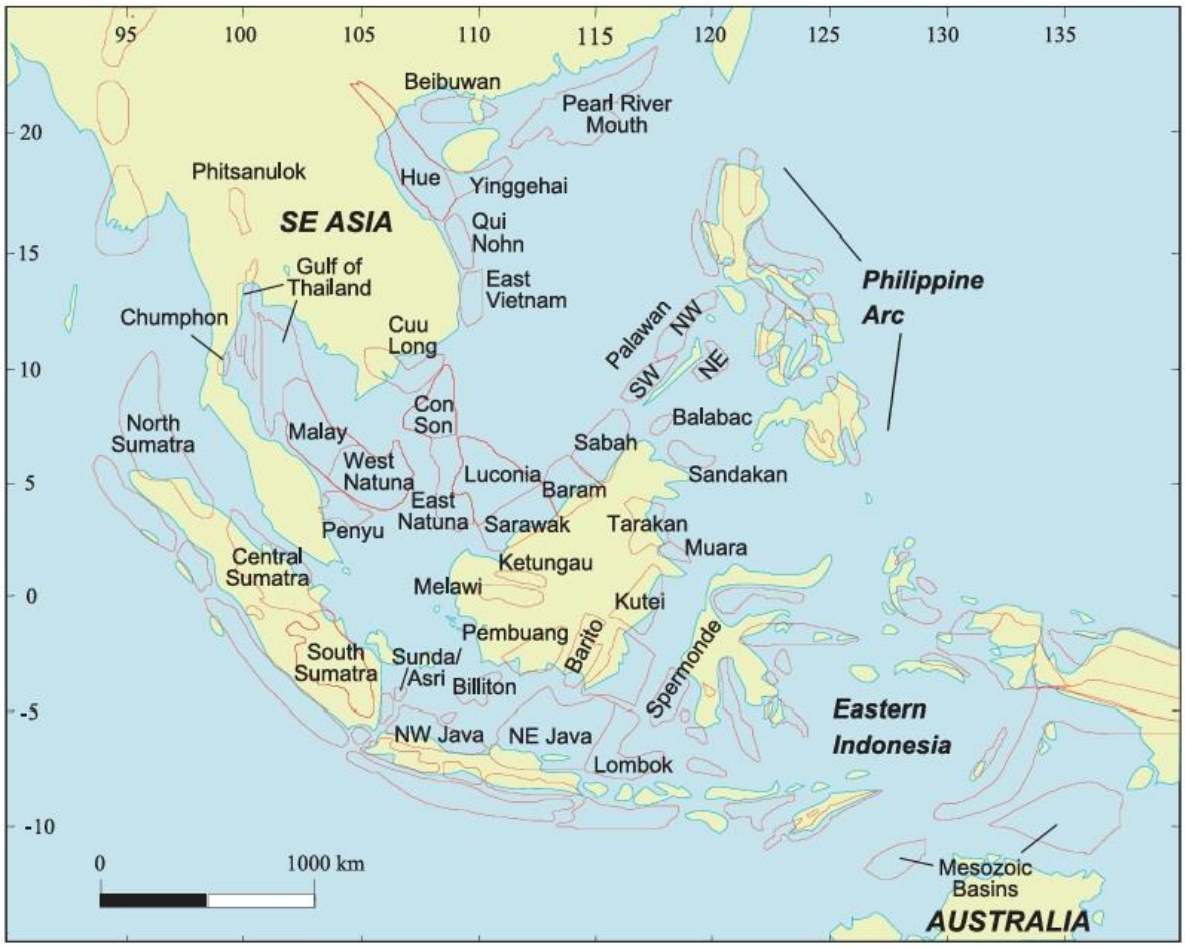

Figure 3. Location Map for Southeast Asian Tertiary Basin (Source Doust and Sumner 2007, with permission from the journal *Petroleum Geoscience*).[2]

[2]The map (Doust and Sumner 2007) is similar to the USGS Map on "Geology, Oil and Gas Fields and Geological Provinces of the Asia Pacific Region" (Steinshouer et al. 1999).

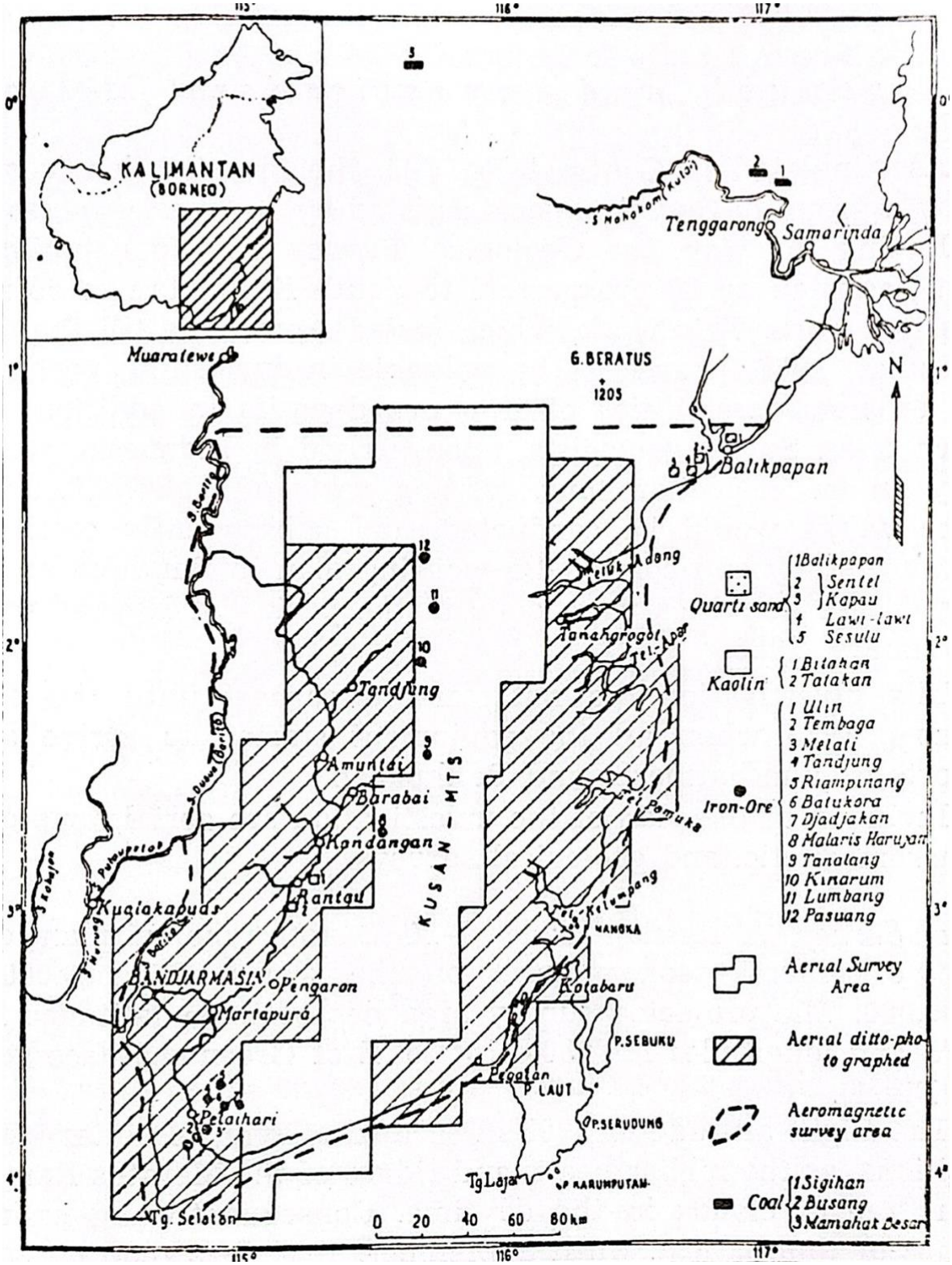

Figure 4. Investigation of Raw Materials for the Kalimantan Iron and Steel Project (Source Sastrosugito 1965, with permission from the Ministry of Energy and Mineral Resources, Indonesia).

After World War II, access to minerals became vital to Soviet power (Shimkin 1953). Along with Americans and former colonizers, the Soviets also began to seek resources in Borneo. One piece of information the Americans obtained was that the Soviets had a base in Kalimantan (Jones 2002). Indonesia and the Soviet Union specifically collaborated on the Kalimantan Iron and Steel Project (see figure 4, Sastrosugito 1965), which coincided with the Trikora project to develop the steel industry in Cilegon, Banten in the early 1960s (Krakatau Steel 2015). Thus, the challenge posed by Sukarno to the American empire linked Borneo to the escalating Cold War rivalry.

Competition from Japanese empire during the World War II and the Sukarno regime during the Cold War hindered American attempts to integrate Borneo into Southeast Asian geo-assemblage. The 1965 coup in Indonesia turned out to be a central moment for the confrontation in Borneo. Sukarno's fall reduced tensions and created space for the American Empire to re-assemble previous colonial formation into a new Southeast Asian geo-assemblage. In 1968, two American companies entered a production-sharing agreement with the Indonesian state company Permina, establishing their interests in the Sanga-Sanga area in Borneo and the Mengundjaja Kepahiang area in South Sumatra (Anon. 1968). Denis O'Hearn (1994, 148) has described this process as "producing imperialism anew." Although colonial infrastructure remained in place, the Americans amalgamated the separate Dutch, French, Spanish, and British geographical and territorial constructs into a single geological assemblage known as Southeast Asia after the two main challenges, the Japanese geo-assemblage in the region and Sukarno national geo-assemblage in Borneo ended.

Conclusion

In this engagement, we have drawn on an understanding of assemblage as what gathers heterogeneous elements such as states, geological materials, businesses, scientists, populations and changing political circumstances together. Rather than focusing on the local or global, or particular or universal—assemblage thinking is interested in how different relations and connections evolve over time, take form, are dis-assembled, and then re-assembled differently. These processes give rise to experiences of continuity and rupture among people and nature. They make *entangled areas*.

The engagement shows Borneo's transformation from a colonial geological assemblage formation to part of a Southeast Asian assemblage significantly shaped and generated by geological aspects. By foregrounding geological materials and knowledge as crucial elements of the British geo-colonial assemblage where oil as geological material influenced the reduction of Brunei's territory in the nineteenth century our account has shown important ways in which the geos speak. The Dutch and British geo-colonial assemblage in Borneo underwent dis-assembly due to challenges from rival imperial powers like the Japanese Empire and national movements under leaders like Sukarno. Similarly, the hunt for geological materials led to tensions between Indonesian nationalists and the Soviet Union against the American Empire during the Cold War in Borneo. Subsequently, a new imperial hegemon may emerge to reorganize and re-assemble the geological materials in the region.

At least two crucial factors distinguish the American Empire's assemblage from the previous Dutch and British geo-colonial assemblages. *Firstly*, the American Empire brought together the region previously

assembled by different colonial powers into a single regional unit. *Secondly*, under the American Empire, the assemblage could accommodate the geological interests of previous colonial empires from the Dutch, British, French, and Japanese, enabling them to share access to geological resources. In the present conjuncture, we are currently living in a time where Southeast Asia as a regional assemblage is facing the challenge of China's increasing power and its need for geological resources. This raise concerns regarding whether Southeast Asia, as a geological assemblage under American Empire, will experience disintegration or be able to survive with its current formation.

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