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Indonesianizing Knowledge, or: The Postcolonial Invention of ‘Colonial Science’?

JULY 17, 2018 ~ SEBASTIAAN BROERE

“We are living in a new age,” President Sukarno proclaimed at the First National Science Congress in 1958, “the age of atomic revolution, of nuclear revolution, explorers and sputnik, of interplanetary communications with the moon and the stars, and the content of the sea.”^[1] And the new age, he reasoned, necessitated new roles. If it was up to him, scientists and other academically trained elites would guide Indonesia’s development into the future. Yet there seem to have been two problems. Although Indonesians had conducted scientific research during the colonial era, their number remained insignificant. As a result, Indonesian culture lacked a sense of scientific authorship and ownership.^[2] At the same time, “science” had overtly Western and imperialist connotations, against which the new Indonesian state postulated its postcolonial identity. Here I discuss three discursive strategies that Sukarno employed during the 1950s and early 1960s to resolve these tensions and Indonesianize the production of academic knowledge.

In 1951, using the term “ilmu pengetahuan,” which means academic knowledge, Sukarno declared, “knowledge

without action is futile, action without knowledge is aimless.”[3] Sukarno opposed the view that the production of knowledge could be a goal in itself. It was a means to an end. Technology, for example, was nothing but a tool to make life more comfortable. “Collect knowledge for the sake of national development,” Sukarno stated in 1962.[4] Indonesia knew what it wanted to become, namely “a just and prosperous society,” and simply needed the expertise with which to turn ideology into reality.

Sukarno contrasted postcolonial knowledge production with what he called “colonial science,” ascribing the latter to the Dutch, who had ostensibly devoted themselves exclusively to pure science, producing knowledge that befitted only themselves and thus sustained colonial inequality. Indonesian science, on the other hand, primarily involved applied research. Whereas knowledge produced by the Dutch remained locked up in ivory towers, Indonesian knowledge entered society to advance the lives of millions.[5] “During colonialism,” a state official maintained in 1962, “science was only for a few of our nation, but after Independence, and especially after the foundation of the Council of Sciences for Indonesia (MIPI) in 1956, the first National Science Congress in 1958, and the publication of *Manifesto Politik*, Indonesians have explicitly changed this old attitude.”[6]

We cannot take Sukarno’s distinction between colonial and Indonesian science at face value. In the Dutch East Indies, European scientists were themselves frequently engaged in applied research and used the applied–pure dichotomy to characterize their own efforts. Indonesian state officials, in other words, seem to have constructed separate practices that, viewed from below, would have been much harder to distinguish between. Sukarno’s structuralist articulation of “colonial” versus “Indonesian” science fulfilled a different purpose, however: to disassociate the concept of science from its colonial or imperialist connotations.

The president did not stop at juxtaposing “Indonesian science” with its forerunner “colonial science.” He likewise positioned science diachronically in Indonesian history. After all, as Anthony Reid reminds us, “perceptions of the future and the past are interdependent.”[7] But which perceptions of a scientific past could the president mobilize in constructing Indonesia’s future? Indonesians generally accepted that “science” was something alien to Indonesian history, which partially explained to them why Indonesia had fallen victim to colonization in the first place. Sukarno maintained that knowledge of physics, mathematics, and navigation had caused the Commercial and Industrial Revolutions, which together resulted in “modern imperialism.”[8] Accordingly, mechanically produced goods in Europe were both cheaper and of a higher quality than Indonesian products, causing Indonesia to lose its economic independence.

At the same time, however, Sukarno discursively merged Indonesian culture and modern science by emphasizing that ancient Indonesia presented, above all, a “*spiritual* heritage.” The figure of Airlangga, a king of Balinese descent who ruled a kingdom in East Java in the eleventh century, represented Sukarno’s exemplary model. The president referred to Airlangga as the Indonesian Hammurabi, who had made “the rivers flow over the fields” to establish “the land of

milk and honey.”[9] Airlangga had managed to restrain the Brantas river in East Java and establish irrigation systems, using technology to transform the river into a source of people’s happiness. By presenting such examples, Sukarno lent historical depth to his idea that Indonesian knowledge was useful knowledge.



Statue of King Airlangga, here as Vishnu mounting Garuda, the king of birds. Referring to a book by the colonial archeologist W.F. Stutterheim, Sukarno claimed in several of his speeches that Airlangga meant *Pelangga air* or “Water Gulper,” although at least nowadays the name is translated as “He who crossed the water.” The president used the historical figure as a primary example of Indonesian leadership employing technology to bring happiness to the Indonesian people. Statue found in an eleventh-century temple in East Java. Image via [Wikimedia Commons](#).

This synthesis of cultural heritage and modern science was embodied in the institution of the university, which Sukarno described as a “gigantic rainbow connecting the past with the future, thereby perpetuating the innate propensity for our national ideals.”[10] Many Indonesian universities bore the names of Indonesian heroes. The act of name-giving thus rooted a relatively new phenomenon, the production of scientific knowledge, in Indonesian history, culture, and urban landscape. The state universities of Indonesia were imagined to embody and continue the pioneering spirit of the revolution.

Constructing Indonesian science as the ostensible antithesis of its Western, imperialist counterpart and situating it in the course of Indonesian history were two of the strategies deployed by Sukarno. Let’s briefly examine a third: the construction of an Indonesian scholarly persona. Scholarly personae can be thought of as “ideal-typical models of scholarly selfhood” that practicing scholars and students use to shape their “attitudes, character traits and abilities.”[11] These normative images are communicated through numerous media, including obituaries, textbooks, and speeches by prominent statesmen or scholars. So what vices and virtues did the normative Indonesian scholar embody?

Sukarno’s still rudimentary ideal type of the scholarly persona was bound up with his ideas about Indonesian politics and society. With regard to scientific vices, Sukarno maintained that scholars should not “work for the money” but instead

dedicate their lives to the “intrinsic goal” of developing Indonesia.[12] The university should not turn into a “diploma mill” to secure students government positions.[13] If they pursued only their personal happiness, Indonesians would just think of themselves and their families, thereby obstructing the process of building the societal structures that Indonesian so badly needed. Sukarno demanded patriotic dedication and selflessness from the Indonesian scholar.

Scientific virtues identified by Sukarno included Indonesia-centeredness, creativity, and lack of prejudice. He urged Indonesian scholars “to study, to be creative, to search, to be creative, to search.”[14] Answers, he asserted, could not be found in textbooks: “you can open textbooks until you become bold, but you won’t find *the how* for the future.”[15] Scholars and scientists had to feel a fierce longing for a better, more equitable future. Indonesia’s first Minister of National Research advocated a similar point of view, stating that “the thirst of knowledge” and “the love of Nusa and the Nation,” would drive the scholar’s “dynamic blend of scientific knowledge, research experience, and creative imagination.”[16]

Sukarno and others put particular emphasis on being unprejudiced in the conduct of scientific work. In 1958, he encouraged the students at Universitas Padjadjaran in Bandung to “welcome knowledge and science regardless of its origins and take whatever is useful to us... . We must plunge deep into the sources of knowledge and drink from it, whether it is American or Soviet.”[17] “Go to other countries,” he told another group of students in 1962, “search for foreign books, search for foreign knowledge, collect knowledge from anywhere. Keep what is good, dispose [of] what is not... . You do not have to become citizens of the world of western science, but become citizens of the world of science.”[18]

Sukarno rhetorically wrested scientific knowledge from Western hegemony in a way that resembled Nehru’s strategies to localize science in India.[19] Science, Sukarno suggested, was not an exclusively Western preoccupation but had both universal and local features. Making Indonesian science meant actively engaging with the broader world of science and selecting what was useful for the construction of a just and prosperous society. Indonesian scientists, the president argued, were the legitimate heirs to scientific world culture; they would appropriate the production of knowledge in ways that fit Indonesia’s national development.[20]



In 1962, the recently founded Department of National Research Affairs launched the Scientific Front for Development campaign (Front Ilmiah dalam Pembangunan), which these stamps commemorated. This governmental body was tasked with, among other things, cultivating a thriving research environment by convincing the Indonesian people that scientific research would dramatically increase national production. Similar to Sukarno’s speech acts, stamp releases like these helped create a symbolic field in which the production of particular knowledges could occur. The stamps’ visual discourse is clearly informed by Sukarnoist ideology. The atoms proclaimed the Republic of Indonesia’s arrival in the atomic age as well as the country’s endeavor to marshal nature’s smallest constituent units for national development. The three colors appear to have represented *Nasakom*, an acronym formed from *nasionalisme* or nationalism (blue), *agama* or religion (green), and *kommunisme* or communism (red) to denote Sukarno’s preferred undemocratic style of Guided Democracy. Modelled after a traditional village system of deliberation and consensus overseen by local leaders, Guided Democracy comprised a system of co-operative governance between the most important factions in Indonesian politics under the guidance of Sukarno himself. Combining these elements, this collection of stamps both popularized and celebrated science as an Indonesian state enterprise to unlock nature’s hidden forces for nation-building. Images via Old-Stamps.com.

In one of his many aphorisms, the French scholar Bruno Latour contends that “scientific facts are like trains, they do not work off their rails.”^[21] Years before historians of science thought about the circulation of knowledge, Latour hinted that scholars should not be content solely with the analysis of knowledge production but also had to offer additional accounts of how scientific knowledge moves. Whether to facilitate the movement of trains or knowledge, constructing infrastructure involves all kinds of practices and materials. Of course, you need wooden beams, bolts, screws, and massive pieces of iron, but the construction process also involves planning, negotiation, talking to all sorts of people, a particular conception of space (namely, the idea that it is worthwhile to connect Y to Z), and many other things. Sukarno’s endeavors to Indonesiasize science should be understood as discursive practices that

contributed to the making of knowledge infrastructure. In his speeches, Sukarno contributed to a “symbolic field” in which the production of particular knowledges could take root and thrive.[22]

Sukarno shaped the normative image of Indonesian science in juxtaposition to “colonial science.” The latter was of a “pure” or “basic” nature, served imperialist interests, and sustained inequality and capitalist exploitation. Indonesian science, on the other hand, was applied science, would serve all Indonesians to make their lives more agreeable, and would lay the foundation for Indonesia’s route to self-sufficiency and national development. Sukarno’s neat dichotomy, however, hid the many ways in which the methodologies and epistemological orientations of colonial and anti-colonial scientists often overlapped in practice.[23] John Krige and Jessica Wang argue that “nation-building and colonial rule in the late nineteenth and early twentieth centuries constituted flip sides of the same coin of modernist developmentalism ...” After all, “both forms of governance shared the modern state’s drive to lay claim over peoples in distant locales and assert direct authority over their lives by making their societies legible and controllable.”[24] Perhaps the concept of “colonial science” was first coined by postcolonial nationalists like Sukarno to emancipate their technocratic development dreams from a colonial straw man, while at the same time continuing colonial knowledge practices.


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1. “Amanat P.J.M. Presiden Soekarno pada Sidang Penutup Kongres Ilmu Pengetahuan Nasional Pertama,” in *Laporan Kongres Ilmu Pengetahuan Nasional Pertama* (MIPI and Kementerian Penerangan R.I., 1958), 11. □
2. For a comparison with India and the concept of “scientific authorship,” see David Arnold, “Nehruvian Science and Postcolonial India,” *Isis* 104 (2013): 360–70. □
3. Sukarno, “Ilmu dan Amal,” in: Sukarno, *Ilmu dan Perjuangan: Kumpulan Pidato Ketika Menerima Gelar Doctor Honoris Causa Dari Universitas Dalam Negeri* (Jakarta: Inti Idayu Press, 1984), 2. □
4. Sukarno, *Kumpulkan Ilmu Pengetahuan untuk Pembangunan: Amanat Presiden Sukarno pada Hari Sardjana di Istana Olahraga “Bung Karno,” Senajan Djakarta, Tanggal 29 September 1962* (Department Penerangan R.I., 1962). □
5. See, for example, Sukarno, “Pidato Promovendus, Presiden Sukarno,” in: *Pidato P.J.M. Presiden Sukarno pada Upatjara Pemberian Gelar Doktor Kehormatan oleh Universitas Hasanuddin di Makassar* (Jakarta: Departemen

- Penerangan R.I., 1963), 24. □
6. Sudjono D. Puspongoro, “Pidato Sambutan Menteri Research Nasional,” in: *Laporan Kongres Ilmu Pengetahuan Nasional* (Jakarta: Madjelis Ilmu Pengetahuan Indonesia, 1962), 1:28. □
 7. Anthony Reid, “The Nationalist Quest for an Indonesian Past,” in *Perceptions of the Past in Southeast Asia*, ed. Anthony Reid and David Marr (Kuala Lumpur: Heinemann Educational Books Ltd., 1979), 281. □
 8. *Lecture by President Soekarno before Students of the Padjadjaran University Bandung, November 17, 1958* (Ministry of Information R.I., 1959), 8. □
 9. *Ibid.*, 6–7. □
 10. “Address of President Sukarno at the Celebration of the 4th Anniversary of the University of Indonesia,” in: *Tiga Pidato pada Dies Natalis Ke-Empat dari Universitas Indonesia pada Tanggal 4 Februari 1954 di Djakarta* (Djakarta, 1954), 63. □
 11. Herman Paul, “What is a Scholarly Persona? Ten Theses on Virtues, Skills, and Desires,” *History and Theory* 53 (2014): 352 and 355. Also see Lorraine Daston and H. Otto Sibum, “Introduction: Scientific Personae and Their Histories,” *Science in Context* 16 (2003): 1–8. □
 12. Sukarno, “Ilmu Teknik Harus Mengabdikan Masyarakat Adil Makmur,” in: Sukarno, *Ilmu dan Perjuangan: Kumpulan Pidato Ketika Menerima Gelar Doctor Honoris Causa dari Universitas Dalam Negeri* (Jakarta: Inti Idayu Press—Yayasan Pendidikan Soekarno, 1984), 27–29. □
 13. “Address of President Sukarno at the Celebration of the 4th Anniversary of the University of Indonesia,” in: *Tiga Pidato pada Dies Natalis Ke-Empat dari Universitas Indonesia pada Tanggal 4 Februari 1954 di Djakarta* (Djakarta, 1954), 73. □
 14. Sukarno, *Kumpulan Ilmu Pengetahuan untuk Pembangunan*, 11. □
 15. Sukarno, “Ilmu Teknik Harus Mengabdikan Masyarakat Adil Makmur,” 21. □
 16. Puspongoro, “Pidato Sambutan Menteri Research Nasional,” 29. □
 17. *Lecture by President Soekarno before Students of the Padjadjaran University*, 8–16. □
 18. Sukarno, *Kumpulan Ilmu Pengetahuan untuk Pembangunan*, 18–19. □
 19. See e.g. Arnold, “Nehruvian Science and Postcolonial India,” 370. □
 20. For a comparable argument with regard to work cultural in general, see J. Lindsay, ‘Introduction’, J. Lindsay & M.H.T. Liem (eds.), *Heirs to World Culture: Being Indonesian 1950–1965* (Leiden: KITLV Press, 2011), 1–30. □
 21. Bruno Latour, “Give me a Laboratory and I will raise the World,” in: K. Knorr-Cetine and M. Mulkay (eds.), *Science Observed: Perspectives on the Social Study of Science* (London: Sage, 1983), 155. □
 22. This insight is inspired by a talk by David Arnold, “The Insurgency of Knowledge,” given at the Decolonizing Knowledge Workshop at the Netherlands Institute for Advanced Studies in Amsterdam, the Netherlands (May 28, 2018). □
 23. For a comparable argument with regard to the social sciences in late nineteenth- and early twentieth-century Egypte, see Omnia el Shakry, *The Great Social Laboratory: Subjects of Knowledge in Colonial and Postcolonial*

Egypte (Stanford: Stanford University Press, 2007). 

24. John Krige and Jessica Wang, "Nation, Knowledge, and Imagined Futures: Science, Technology, and Nation-Building, Post-1945," *History and Technology* 31 (2015): 173. 

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