Being Needed but Hated: The Exodus of Dutch Scientists in Indonesia, 1945–1959

*WILDAN INSAN FAUZI YON MACHMUDI ABDURAKHMAN

Department of History, Faculty of Humanities, Depok Campus, Universitas Indonesia,
Depok City, Indonesia
*Corresponding author: wildaninsanfauzi@upi.edu

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Abstract. The Japanese occupation in 1942 compelled Dutch scientists to depart from Indonesia or face imprisonment as prisoners of war. The Allied victory led to the liberation of captive scientists and encouraged Dutch scientists to return to Indonesia. This article aims to analyse and describe: (1) the process of Dutch scientists' reentry to Indonesia in 1945 to 1949 and 1950 to 1959 and (2) the factors that caused the departure of Dutch scientists from Indonesia from 1949 to 1959. The archives at the National Archives of the Republic of Indonesia (ANRI) and the National Research and Innovation Agency (BRIN) are used as sources for this article. Dutch scientists are discussed more extensively since they were the most impacted by the dynamics of Indonesian nationalism. In 1945 to 1949, Dutch scientists had more opportunities than their Indonesian counterparts. However, the Dutch, including their scientists, were obliged to leave Indonesia in 1949 following the Konferensi Meja Bundar agreement. The exodus of Dutch scientists prompted the government to recruit scientists from various countries to fill vacant positions from 1950 to 1959. Nevertheless, bureaucratic inefficiency, different regulations regarding the supervision of foreigners and the emergence of anti-foreign sentiment in an unstable social, political and economic situation encouraged foreign scientists to return to their homeland.

Keywords and phrases: expatriate, Dutch scientists, exodus, survival phase, technocracy

Introduction

The Dutch East Indies ceased to exist on 9th March 1942, when the Dutch East Indies government capitulated to the Imperial Japanese Army (IJA) (Dai-Nippon Teikoku Rikugun). Many international experts and scientists had been exiting the

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Dutch East Indies since the onset of Japanese occupation (AIPI [Akademi Ilmu Pengetahuan Indonesia] 2016). These scientists hastily departed without any forward planning for knowledge development, abandoning their current research and laboratories (AIPI 2016; Goss 2014). Dutch scientists who were not in military service reportedly continued their work as usual. D.F. van Slooten, the managing director of the botanical gardens since 1940, remained in Buitenzorg and was even permitted to hire scientists, alongside receiving his salary. The Japanese hoped to staff research institutes in Buitenzorg (now Bogor) with Indonesian or Japanese scientists. However, as the Dutch had trained a strikingly small number of Indonesian scientists and a boat filled with Japanese scientists was sunk by a torpedo attack en route to Southeast Asia, the Japanese authority soon turned to Dutch scientists (Goss 2014). Approximately 100 Dutch scientists were taken from internment camps to various biological research institutes in Buitenzorg in August 1942. Although they were confined in camps away from their families and under constant surveillance, they continued to receive their salaries. There is no evidence to suggest that the biological scientists working for the Japanese government refused their appointments, despite their limited choices and lack of freedom of movement (Goss 2014).

After the war, C.G.G.J. van Steenis insisted he did not cooperate with the Japanese. He contended his work was "solely for the good of the institution and had no relation to the war being waged by the Japanese side". There is no evidence suggesting his work, or that of his Dutch colleagues, was intended to assist Japanese military efforts. However, some research conducted by van Steenis and other academics did gain Japanese approval and was published in Japan, serving as a reflection of the endeavours of Japanese imperial institutions (Goss 2014). The ease with which the Dutch and Japanese established a unique professional alliance was primarily due to their shared interest in scientific research. The Dutch scientists were positioned under the guidance of other researchers, some of whom they were already acquainted with. The herbarium fostered a collegial environment with English serving as the instructional language. Kanehira, the head of the herbarium, had previously visited Buitenzorg before the war. During that time, he was collaborating with van Steenis on classifying plants from New Guinea (Goss 2014). In December 1941, Neervoort enlisted in military service. On 13th August 1942, he was captured by the Japanese in the Cimahi camp. Following his release, he was commanded to resume work at Cibodas, maintaining the status of a prisoner of war, under the strict supervision of two Japanese soldiers from Korea (Soerohaldoko et al. 2006).

The independence war of 1945 to 1949 and the subsequent democratic trial period were endeavours to construct a new identity, foster unity in confronting

foreign forces and establish a more judicious order (Ricklefs 2008, 428). For scientists, nationalism could be perceived as an unwelcome hindrance to scientific exploration, especially in a country undergoing drastic social transformations (Macedo and Valentines-Álvarez 2016; Walker 2012). Political actors (including countries) engage and negotiate with scientists for mutual benefits, as both parties are reliant on each other (AIPI 2016; Walker 2012).

Prior to gaining independence in 1945, research endeavours were predominantly undertaken by the Dutch intellectual elite, adhering to European scientific traditions. Native contributions were notably undefined within this context (Ibrahim 1987). Post-independence, the imperative to advance the state of science and technology became clear. Numerous foreign scientists, including those of Dutch origin, returned to Indonesia after the Netherlands had recaptured some regions through military operations and diplomatic manoeuvres. At the outset of 1946, H.M.J. Hart, the newly appointed Director of the Coordinating Commission for Science, endeavoured to restore the physical infrastructure and scientific intellectuality of Indonesia.

When Japan was defeated in 1945, the Dutch, along with European prisoners, were freed. Throughout 1945 and 1946, Dutch scientists enjoyed greater liberty of movement and opportunities compared to their nationalist, scientific counterparts. H.J. van Mook, in 1945, entrusted L.G.M. Baas Becking with responsibility over all scientific matters, including those related to the research station. However, this situation was short-lived. The Konferensi Meja Bundar/Dutch-Indonesian Round Table Conference (KMB) reasserted Indonesian sovereignty, forcing the Dutch to depart in 1949. The inception of an independent government in 1945 further marginalised the scientific community, leading Dutch scientists to return to their homeland.

The nationalisation of Indonesia heralded a change in the country's scientific paradigm, with the nationalisation of science shifting towards the acquisition of scientific institutions by Indonesians, while striving to apply science for societal wellbeing. Despite the Dutch's attempts to retain control over the republic, native intellectuals made efforts to conduct research, involving various national elements, with the aim of improving the prosperity and contentment of Indonesians (Fadeli 2021; Mashad 2008). The Indonesian revolution of 1945 to 1949 offered opportunities for social mobility and positioned Indonesians in roles previously held by the Dutch, including within research institutions (Cihuy 2019; Kahin 2008, 133).

This article aims to examine and elucidate two main points: Firstly, the process of Dutch scientists returning to Indonesia between 1945 to 1949 and 1950 to 1959 and secondly, the factors that precipitated the departure of these Dutch scientists from Indonesia from 1949 to 1959. In the 1950s, Indonesia grappled with a crisis in research and technology, a period Makagiansar termed the "survival period" (Mashad 2008). Post 1950, all research and higher education institutions were required to abide by all regulations pertaining to government nationalisation and to align with the state's vision and mission. Therefore, since 1949, foreign scholars have been gradually leaving Indonesia, resulting in a significant vacuum in the country's scientific institutions. During the 1950s, research institutions faced numerous challenges in recruiting scientific staff. The prevailing political and economic environment made it increasingly difficult to retain Dutch scientists and their exodus led to a notable research vacuum in Indonesia (Adam 2009).

The research environment deteriorated after 1950, primarily due to the departure of Dutch researchers from Indonesia, coupled with the scarcity of local researchers. However, around 1955, conditions improved as Indonesian graduates from both national and foreign institutions began entering the research field. The bachelor academies, which were established in the 1950s, required time to address the existing vacuum and most Indonesian experts in various technological fields, who had recently graduated from foreign institutions, were directly hired as lecturers by their respective alma maters (Sudariyanto 1992; Goss 2014). This shortage of expert resources compelled the government to urgently establish a range of universities, leading to the formation of both state and private institutions (Paauw 1978, 5).

Scholars from various scientific disciplines have already investigated the presence of foreign scientists in Indonesia. In 1945, Pieter Honig and Frans Verdoon successfully collated the works of scientists from the Dutch East Indies, including a list of these scientists, into a book titled *Science and Scientists in the Netherland-Indies* (Honig and Verdoon 1945). Goss's 2014 work, *Belenggu Ilmuwan dan Pengetahuan dari Hindia Belanda sampai Orde Baru* (*The Shackles of Science from Dutch East Indies to the New Order*), provided a perspective on the relationship between scientists and governmental politics in Indonesia. Several other researchers have also examined the role of foreign scientists in Indonesia. For instance, Acciaioli (2014) explored the part played by these scientists in the advancement of anthropology in Indonesia. Boomgaard (2001) penned his insights on foreign scientists in Indonesia during the Dutch colonial era. Jompa et al. (2015) analysed the association between Australian scientists and Indonesia, including a study of Australian scientists who travelled to Indonesia in the early stages of Indonesian independence. Lastly, Besari (2008) investigated the history of science

and technology in Indonesia, including a study on the role of foreign scientists in the development of Indonesian science and technology.

Research Methodology

"Heuristics" is the initial step following the selection of a topic or research problem. This phase involves tracing, exploring and collecting historical sources necessary for a study (Gottschalk 1986; Sjamsuddin 2007). The researchers visited multiple libraries in an attempt to locate archives pertaining to the progression of foreign scientists from 1945 to 1959. At PDII LIPI (now Badan Riset dan Inovasi Nasional or National Research and Innovation Agency, BRIN), they discovered several journals published by the Indonesian Science Council (MIPI), The Indonesian Institute of Sciences (LIPI) and Agency for the Assessment and Application of Technology (BPPT). At the ANRI, they found data on the arrival and departure of foreign scientists documented in the archives of the State Secretariat of the Prime Minister's Cabinet for 1950 to 1959, Volumes 1 and 2, as well as the State Secretariat: Law Product Series from 1949 to 2005, Volumes 1 and 2. The critique of these sources was supported by the fact that the archives released by ANRI had passed both internal and external critical source tests.

Results and Discussion

The process of Dutch scientists' returns to Indonesia in 1945 to 1949 and 1950 to 1959

Dutch scientists found themselves in a precarious position during the Independence War of 1945 to 1949, caught between the demands of their professional bodies and the burgeoning nationalism. Several scientific institutions were seized and commandeered by nationalists who showed little inclination to carry on previous studies. Dutch scientists urged van Mook to make efforts to safeguard these institutions from falling into the hands of the Republicans (those advocating independence). Initially, they attempted to straddle both sides, but the situation eventually made it impossible for them to maintain this stance. A Dutch botanist, van Steenis, was ultimately unable to continue his work at the herbarium and was compelled to leave Indonesia (Goss 2014).

Several science institutions experienced unfortunate events during the revolution; the Cibodas Botanical Garden was set alight on 7th July 1946, causing substantial damage to the manager's house, laboratory, library, catalogues, archives and more (Soerohaldoko et al. 2006, 40). Neervoort assumed the manager's role in March 1947. For two years, he held the curator's position, successfully refurbishing the

damaged buildings, preserving the herbarium collection and maintaining ongoing studies. Neervoort departed for the Netherlands in 1949, along with thousands of Dutch scientists and Schroeter replaced him. Tragically, this young scientist was shot dead at his workplace and it was suspected to have been committed by an Indonesian (Soerohaldoko et al. 2006, 41). From 1952 onwards, the garden was managed by an Indonesian, specifically Mien Soekanta, who remained in charge of the institution until 1962.

Before departing Indonesia in 1950, van Steenis was posted to Australia, specifically to Brisbane (Queensland), Sydney (New South Wales), Melbourne (Victoria), Canberra (Federal District) and Adelaide (South Australia), with the purpose of seeking assistance from science institutions there in compiling documents on "Malesiana Flora". He also intended to process a barter and scientific material loan on botany, conduct studies on botany and plant clusters in Australia, as well as collect seeds and plant fruits for the Bogor Botanical Garden (ANRI [National Archives of the Republic of Indonesia] 1950).

Scientists were also returning to Indonesia when most regions were reclaimed by the British and Dutch, including Baas Becking. Van Mook highlighted that Baas Becking oversaw science in Indonesia, including transforming the botanical garden into a research centre. Baas Becking was committed to achieving van Mook's objective of aligning science with the nation's social, economic and political demands. In 1947, Baas Becking assumed the position of Director at the Bogor Botanical Garden and endeavoured to reinstate the institution's function, vision and mission. However, by 1948, he was replaced by van Slooten.

In 1946, H.M.J. Hart was appointed Director of the Coordinating Commission for Scientific Matters (Komisi Koordinasi untuk Urusan Ilmu Pengetahuan). Hart planned to restore the scientific facilities and harboured ambitions to develop applied sciences for the prosperity of the colony. Alongside Hart, Pieter Honig and V.J. Koningsberger proposed building a scientific station and coordinating with other institutions. In 1946, Hart (representing Nederlandsch-Indischen Natuurwetenschappelijiken Dienst [Dutch East Indies Natural Sciences Service]) proposed to van Mook the establishment of the Department of Natural Science of the Dutch East Indies. This venture failed, but the effort was continued by Peter Honig in 1947, leading to the formation of the Organization for Scientific Research (OSR). This organisation later served as the blueprint for science management in Indonesia (Goss 2014, 226).

In February 1948, the Indonesian government itself issued a decree to nationalise science. This led to Indonesian scientists replacing Dutch scientists at the helm

of scientific institutions. Moreover, it was decided that science should serve the Indonesian nation (Goss 2014, 230). At the Bogor Botanical Garden, van Slooten was replaced by Koesnoto Setyodiwiryo and the OSR staff positions, previously filled by two Indonesians and 12 Dutch individuals, were replaced by six Indonesians and two Dutch individuals. The nationalisation of scientific institutions was not intended as a rejection of science or foreign scientists but as a repudiation of Dutch leadership in Indonesian science.

The Indonesian government itself issued a decree in February 1948 to nationalise science. This decree mandated that science institutions formerly led by Dutch scientists be succeeded by Indonesian scientists and it stipulated that science should be beneficial to the Indonesian Nation (Goss 2014, 230). At the Bogor Botanical Garden, van Slooten was replaced by Koesnoto Setyodiwiryo, whilst six Indonesians and two Dutch individuals took over the OSR staff positions previously held by two Indonesians and 12 Dutch individuals. The nationalisation of science institutions was not a denunciation of science or foreign scientists, but rather a rejection of Dutch leadership in Indonesian science.

Since 1950, issues concerning foreign scientists have arisen due to political shifts following the recognition of sovereignty. Changing regulations perplexed foreign scientists applying for residency clearance. Ultimately, the Ministry of Home Affairs assumed the responsibility of handling applications for residency and entry clearance. In 1950, a journal published by OSR conveyed a farewell message from the Dutch scientists departing Indonesia. This was not warmly received by Indonesian scientists, even though some perceived it as a setback for Indonesian science. The OSR was eventually transformed into the Organisasi Penyelidik Ilmu Pengetahuan Alam (Natural Science Research Organisation) in 1951.

Post-1950, all scientific and higher education institutions were required to comply with regulations on governmental nationalisation, as well as the state's vision and missions. Consequently, from 1949 to 1950, foreign scholars began to leave Indonesia progressively, resulting in a significant gap in Indonesian scientific institutions. These institutions required assistance in sourcing staff. The political and economic climate made retaining Dutch scientists difficult and their departure left a void in the Indonesian research landscape (Adam 2009, 46).

Koesnoto, in his role as Director of the Bogor Botanical Garden, attempted to persuade Dutch scientists, including M.A. Donk and Douglas, to remain and contribute their skills to the Botanical Garden, given that there were no Indonesian scientists qualified enough to take their places at the time. However, due to their dismissals in 1955, both eventually departed from Indonesia. This event led to

other Dutch scientists feeling that their careers in Indonesia were over (Goss 2014, 255). In Landskoepokimrichting (now known as Bio Farma), Dutch employees serving as doctors and analysts began departing from the institution in 1950 (Holid 2011, 70). Meijer was the final scientist to exit the institution in late 1950. Nonetheless, scientists like Ir. Kramers and Grober remained, with the former staying until his retirement and the latter eventually leaving the country. The institution then proceeded under the leadership of Indonesian experts, specifically A. Kusdarminta, Dr. Sumiatno, Dr. Lo Siauw and Dr. H. Ahmad Soedjai.

A.W.E. Weijerman was dismissed from his position as Commissioner of the Nederlands Indische Spooreg Maatschappij in December 1953. Prof. Dr. G.K. Seidel, a parasitologist, was relieved of his post as the Research Professor at the Faculty of Veterinary Medicine of Indonesia University (UI), citing health concerns. Similarly, Prof. A. Kraal, a professor at the Economics Faculty of University of Indonesia (Indonesian: Universitas Indonesia, abbreviated as UI), was dismissed in 1957 due to health issues. However, since he had subsequently recovered, his dismissal was later revoked.

In 1955, the Treub Laboratory still retained L.M. Olah, a Hungarian cytologist and A.J.G.H. Kosterman, a Dutch national. E.W. van Orsoy de Felines, a curator for ceramics amassed since 1932, relocated to the Netherlands in 1957. Ir. J. Henkel, a staff member of Koninklijke Luchtvaart Maatschappij and photogrammetrist working for the Direktorium Pengukuran dan Penggambaran Peta (Directorate of Measurement and Map Drawing), served from 1953 to 1959. During his tenure, Henkel utilised his vehicle, which was shipped directly from the Netherlands and he requested it to be duty-free. Henkel's expertise was crucial, given the government's intention to establish the Department of Central Photogrammetry in Bandung. The challenge Indonesia faced was the need for substantial resources to retain foreign employees, given their demands for high wages and comprehensive facilities.

An exodus of experts, notably those from the Netherlands, led to an increased demand for foreign professionals, primarily from the Netherlands, Germany, Switzerland and Italy, at the onset of the 1950s. Dutch specialists found employment in private Indonesian firms. The experts required by Indonesia in the 1950s included engineers, geologists, chemists and physicists (ANRI 1953a). The importation of experts from Europe occurred due to the typical Dutch salary being roughly 50% of an American's. These foreign workers served as scientists, consultants and experts across various institutions. A member of the House of Representatives of the Republic of Indonesia, J.P. Snel, questioned their presence due to apparent wage discrimination (ANRI 1953a).

The government categorised foreign workers into four groups. Groups A and B comprised urgently required experts, while Group C contained less urgently needed specialists, whose positions and skills were inferior to those in Groups A and B. Group D included those whose skills were not particularly required by the government. These individuals were dismissed on 1st January 1952. The classification had an impact on the number of Dutch staff dismissed and the salary of those retained. The enforcement of this regulation caused some panic (ANRI 1951). Under the Ministry of Transportation and Departments, there were 704 foreign workers and 600 personnel who experienced a salary reduction. This led to several foreign workers seeking alternative employment or returning to their home countries.

The government established the Panitia Tenaga Ahli Bangsa Asing (TABA) or the Committee for Foreign Experts, according to Government Regulation No. 10 of 1951. The committee's function was to source foreign scientists from abroad. It was led by Prof. Seokardjo, Goenarso and Mr. Pardede. They visited the Netherlands, Belgium, Switzerland and Germany to perform this task. The total number of foreign scientists needed was 1,500, among them were engineers (232), geologists (10), bacteriologists (1), geophysicists (5), biologists (38), pharmacists (10), doctors (294), veterinarians (9), accountants (91), lawyers (21), economists (35) and teachers (355). Foreign scientists from Austria and Germany, especially doctors, displayed enthusiasm for working in Indonesia. However, Swiss, Swedish and Norwegian scientists might have been more enthusiastic if the salary had not been so low. The experts were to be paid in both rupiah and their home country's currency. It appears that the government prioritised foreign experts in critical fields which were not readily available in Indonesia.

In 1951, due to escalating international political tensions, the country imported two sinologists and a slavist from the Netherlands. The Eastern Political Affairs Office at the Attorney General's Office required these three experts. Specialists in Chinese/Japanese were selected from Leiden University: Prof. J.J.L. Duyvendak, J.W.J. Grevelink and A.B. Kremer and W.P.J. Jansen for sinology, while a slavist was recommended by Prof. B. Becker (a Russian language linguist from Amsterdam). The Welfare Ministry in 1950 recruited D.W.B. van Chranti, a specialist in artesian drilling (ANRI 1953a). Some of the foreign scientists that the government imported on 2nd September 1951 are shown in Table 1.

Table 1. Foreign scientists imported on 2nd August 1951

No.	Employees' names	Deployment	Expertise
1.	Drs. W. Meyer	Herbarium Bogoriense, Bogor	Biology
2.	J. Zeeman	Bosscha Sterrenwatch of Lembang	Astronomy
3.	Ir. O.J. Hofsommer	Faculty of Engineering Science of Bandung	Physics engineering
4.	Ir. J.A. de Bruyn	Faculty of Engineering Science of Bandung	Chemical engineering
5.	F. Kunz.	Government doctor	Medical
6.	H. Zomponi	Government doctor	Medical
7.	F.J. Hausler	Government doctor	Medical
8.	R. Lemperg	Government doctor	Medical
9.	H. Witasek	Government doctor	Medical
10.	W. Grafinger	Government doctor	Medical
11.	E. Sauerwein	Government doctor	Medical
12.	K.R. Waltinger	Government doctor	Medical
13.	Ir. C.J. Kips	Faculty of Engineering Science of Bandung	Chemical engineering

Source: ANRI (1951b)

In the subsequent month, the government reimported several international scientists on the 25th September 1951. The Indonesian government established a coordinating institution in The Hague, namely The Committee for Foreign Nation Affairs in 1952 under the leadership of Mohamad Sadiono. This committee issued an instruction on the 27th March 1952, outlining three categories of foreign workers permitted to work in Indonesia: newcomers from Western Europe, former Indonesian government staff (with wachtgeld, onderstand or pension benefits, or without) and workers on leave receiving verlofsalaris benefits. The committee rejected foreign worker applications for several reasons, such as dismissal, being discharged by the Nederlandse Garantiecommissie, an inability to adapt to Indonesian conditions, criminal behaviour, or being a woman under a short-term work contract. The committee urged all ministries to appoint former government staff as foreign workers to optimise state finances. Moreover, the ministries were asked to investigate their expertise in advance, including their religious and political backgrounds.

The government had plans to import 8,000 foreign workers into Indonesia in 1952 (ANRI 1952b). These workers were to be imported by different ministries, subject to a selection and screening process conducted by the Attorney General's Office

and the civil police. Workers who were given priority were those who had worked in Indonesia during the Dutch East Indies period (though many returned to their countries during the Pacific War period), as their expertise was urgently needed. The foreign scientists to be imported hailed from a range of countries including China, India, Pakistan, Sri Lanka, Burma, Arab countries, Palestine, Egypt, Syria, Jordan, Iraq, Iran, England, the Netherlands, other European nations, as well as the USA.

At the beginning of 1952, the Minister of Personnel Affairs approved the appointment of two foreign experts as civil servants in Indonesia, without any prior proposal sent to the Council of Ministers, due to urgent reasons. Following approval and assignment, the minister presented the appointments to the Council of Ministers. On the 2nd September 1952, the Council of Ministers approved the appointment of 21 foreign scientists as Indonesian civil servants. The Council of Ministers requested a revitalisation of the bureaucracy in the process of appointing foreign workers, namely, direct involvement by the Minister of Manpower, not the related minister. Here follows the list of experts.

Table 2. Foreign experts imported on 18th August 1952

No.	Name	Deployment	Expertise
1.	N.J.P. Hobelink-Belloni	Medical Faculty of Surabaya	Medical
2.	Prof. Karl Lauer	Ministry of Forestry	Research
3.	Dr. Fellix S. Manipol	Government doctor	Bacteriology
4.	Dr. Floriano Ghezzo	Government doctor	Medical
5.	Dr. W.E.O. Daust	Government doctor	Medical
6.	Ir. W. Haanstra	Hoofdingenieur	Engineering
7.	E.E. Schmid	Bacterioloog	Bacteriology
8.	Dr. Gustavo Opromolla	Government doctor	Medical
9.	Dr. Umberto Wenzel	Government doctor	Medical
10.	Dr. Ronucci Giorgio	Government doctor	Medical
11.	Dr. Roberto Berti	Government doctor	Medical
12.	K.W. Bulthoff	Weapon and gunpowder factory	Weapons engineering
13.	J.J.A.F. Cornrlis	Weapon and gunpowder factory	Weapons engineering
14.	J.A. Voadan	Ministry of Defense	Weapons engineering
15.	Asghar Hoesain	Engineering Faculty of Bandung	Chemical engineering
16.	Gualtiero Frangini	Government doctor	Medical
17.	J. Luttmer	Land surveyor	Soil expert

(Continue on next page)

Table 2. (Continued)

No.	Name	Deployment	Expertise
18.	Dr. Kurt Weigner	Chemist	Chemical engineering
19.	E. Jany	Animal expert	Natural science
20.	J.R. Sethi	Chemical engineer	Pulp and paper expert
21.	Dr. R.S. Carpentier	Government doctor	Medical

Source: ANRI (1952c)

The ministry of economy proposed employing four foreign experts in the department. The foreign experts were proposed to the Council for Manpower on 10th October 1952. However, since September 1952, they had already worked in the Ministry of Economy since they were urgently required. Their names are listed in the following table.

Table 3. Foreign experts imported on 10th October 1952

No.	Employees' names	Deployment	Expertise
1.	M. Martin von Gelderen	Directorate of Economic Cooperation	Economic law, trading bank affairs
2.	E.W. Nielsen	Directorate of Trade and Industry	Trade
3.	Mr. E.H. von Barnau Sythoff	Directorate of Trade and Industry	Trade law
4.	J.M. Pieters	Directorate of Grassroots Economy	Credit affairs of the Directorate of Grassroots Economy

Source: ANRI (1952d)

On the 8th October 1956, 48 foreign experts were recruited, serving in various ministries. These experts originated from Germany (14), the Netherlands (11), Austria (8), Italy (5), India (4), England (2), China, Russia, Switzerland and France (1 each). The experts were distributed among various ministries, including Ministry of Health (27), Ministry of Education, Teaching and Culture (PPK) (13), Ministry of Economy (4) and one each in Ministry of Agriculture, Ministry of Defence, Ministry of Social and Ministry of Finance. What were their areas of expertise? The majority were doctors (28), followed by pedagogues (6), technicians (3), botanists (1), geologists (1), chemists (1), veterinarians (1), agriculturalists (1), natural scientists (1), linguists (1), financial experts (1), legal experts (1), monthly officers (1) and senior officials (1). As per Law No. 21 of 1952, these experts could commence work in Indonesia following approval from the Ministry Council. The

previous year (1955), the Ministry Council had encouraged ministries to bring in experts from Europe and Asia-Africa.

In addition to importing foreign scientists, the government permitted roughly 50 retired Dutch experts (receiving a pension from the Republic of Indonesia) to work for the Dutch government, although under strict supervision to prevent any detriment to the Indonesian government. The government authorised 53 foreign workers in 1957, who were distributed among the Ministry of PPK (12), the Ministry of Health (39) and the Ministry of Agriculture (2). The majority served as government doctors (40), while those in the Ministry of PPK were predominantly appointed as lecturers at higher education institutions (11) or teachers at vocational schools (1), in addition to agriculturalists (2). Most of the scientists hailed from Germany (15) and the Netherlands (14), with the remainder from England and Italy (5 each), Austria (3), China (3), India (2) and 1 each from Belgium, Portugal, Spain, Denmark, Pakistan and Australia.

The Indonesian government frequently imported foreign scientists to participate in the exploration survey project of the Indonesian wealth sources at the start of 1959 in fields such as gas, oil, forestry, fisheries, public works, geology, hydrology and vegetation. These foreign scientists were accompanied by Indonesian scientists and were tasked with training Indonesian scientists in their areas of expertise. Foreign scientists could only carry out the processing, printing and other laboratory work within Indonesia and were strictly prohibited from taking samples abroad. Notably, the Indonesian scientists who assisted them were also assigned to supervise the activities of these foreign experts.

The factors that caused the exodus of Dutch scientists from Indonesia in 1949 to 1959

The archives merely provide data on foreign scientists and the general movement of the workforce, lacking detailed analysis of the dynamics at play. A thorough study is required to link the social, political and economic situation with the archival data to fully understand the factors contributing to the departure and arrival of foreign scientists within the given context.

In 1952, it was documented that over 3,000 Dutch scientists left Indonesia. To investigate the reasons behind this significant departure of Dutch personnel, the government formed the Panitia Penyelidik Kedudukan Pegawai Belanda (Dutch Officer Position Research Committee). The committee concluded that the retention of foreign experts could be achieved by enhancing their prosperity, including providing them with salaries in both rupiah and their home country's currency.

This mass exodus was further exacerbated by labour movements demanding that foreigners should not hold positions of authority in companies, farms, laboratories, scientific institutions and state institutions and instead, these roles should be filled by Indonesians, regardless of their lack of expertise or experience.

The following factors contributed to the exodus of Dutch scientists from Indonesia between 1949 and 1959: Firstly, bureaucratic inefficiencies and discrepancies in the regulations regarding foreigner supervision played a significant role. Indicative of state management in the 1950s was the weakness in state administration (Kanumoyoso 2001, 12). Concurrently, the government was compelled to fulfil its functions, particularly in the realm of promoting prosperity. According to Law No. 21 of 1952, all foreign workers in service to Indonesia must receive approval from the Council of Ministers. On the 20th March 1952, the immigration department requested the Ministry of Justice to detail the procedure for summoning foreign experts (ANRI 1952a). To bring in these experts, companies were required to meet several prerequisites: an urgency letter from the relevant Ministry as well as the Ministry of Labour, a statement from the company owner pledging to cover all departure and arrival costs for the workers, a copy of the Memorandum of Understanding and a clearance of residency (ANRI 1952a).

The procurement of foreign workers encountered numerous bureaucratic obstacles within related ministries and provoked conflicts between foreign and native workers. The authorisation of foreign experts in The Hague for assignment to pertinent ministries created an adverse atmosphere within these ministries (ANRI 1952a). This situation triggered issues concerning the proposal for foreign ministry experts. Both the Ministries of Economy and Agriculture expressed their dissatisfaction with the situation. The Ministry of Economy feared that the difficulties in importing foreign workers and attracting tourists could impact the state's foreign exchange earnings. Furthermore, foreign companies urgently needed these workers due to the lack of similarly skilled experts within Indonesia (ANRI 1953c).

A notable case to study is a letter from the Ministry of Home Affairs sent to the prime minister on 21st February 1953. The ministry implored the prime minister to consider the security implications and potential benefits to the state of accepting foreign workers. The Ministry of Home Affairs observed that many foreign companies employed ex-Koninklijke Nederlandsch-Indische Leger soldiers (former Dutch soldiers) and workers in agricultural fields. The skills of these foreign workers were questioned and their procurement was deemed unnecessary given the presence of experts in Indonesia in those fields. Furthermore, the Minister of Home Affairs suspected they were associated with the disturbances occurring within Indonesia

(ANRI 1953c). The Minister of Personnel Affairs urged all ministries to be more selective in recruiting scientists classified as kortvebrand (employees with shortterm agreements) (ANRI 1953b). The scientists were required to possess skills in Indonesian language or English, clear working experience and not be assigned as counsellors. Beyond bureaucracy, varying regulations on foreigner supervision also contributed to the exodus of foreign scientists from Indonesia. In the early 1950s, immigration offices often targeted foreigners with incomplete residency documentation. A noteworthy debate occurred between the attorney general and the Minister of PPK in 1954 regarding the status of Chen Se Hua (Morian Chen). Chen Se Hua was a political teacher at Chung Hua Commercial High School in Jakarta and the vice principal at Pa Hua School in Patekoan, Jakarta. The attorney general, Soeparpto, ordered Chen Se Hua's deportation and banned all his written works. The reason for his expulsion was that his political teachings did not align with Indonesia's politics and culture. The Ministry of PPK consequently revoked his teaching license but later revised this decision. The attorney general did not accept the minister's decision and ordered Chen Se Hua's immediate deportation, to which the minister eventually conceded.

Following the enforcement of Emergency Law No. 9 of 1953 on the supervision of foreigners, the oversight of foreign nationals, including scientists, became more intensive. Despite its enforcement, some members of the House of Representatives viewed the supervision as irregular since it should have been preceded by the National Citizenship and Immigration Law. However, the law needed immediate enforcement due to suspicious activities conducted by foreigners, thought to pose a threat to state security. It was suspected that there were efforts by foreigners to commit treason, as revealed from meetings at the Des Indes Hotel and Societeit Harmonie, smuggling of foreigners in Kalimantan, Riau, Maluku and West Papua, as well as indications of Vatican representatives interfering in state politics (ANRI 1954).

On 1st July 1957, Major General Nasution, as the Head of Army Staff, established the Badan Koordinasi untuk Pengawasan Orang Asing or "Coordination Board for Foreigner Supervision". The board coordinated various ministries, including the Ministry of Justice, Ministry of Home Affairs, Ministry of Foreign Affairs, Ministry of Labour, the Attorney General's Office of the Republic of Indonesia, Indonesian army, Bureau of Prime Minister's Security, Indonesian national police and immigration (ANRI 1957). This intensive supervision expanded to include private schools and foreign teachers in April 1958. Foreign and Indonesian teachers working at foreign schools were required to obtain clearance from the Minister of Teaching, Education and Culture. The existing schools had to process

the application and the establishment of new schools was not allowed unless for exceptional reasons (ANRI 1958b).

The government also regulated cities and permitted the establishment of foreign schools (ANRI 1958c). The primary reason for the supervision was the increasing proliferation of foreign schools, whose teaching systems were not in accordance with the established national Education system. Government data shows that up until 1957, there were 2,000 foreign schools with 415 students dispersed across 700 locations in Indonesia (ANRI 1958d). This control decreased the number of foreign schools in 1958 to only 158. Moreover, the attorney general discovered indications that a Chinese school in Nusa Tenggara frequently conducted political activities benefiting the People's Republic of China. The government of the People's Republic of China lodged a protest against this action.

Secondly, anti-foreigner sentiment amid unstable social, political and economic situations. In addition to bureaucratic inefficiency and convoluted regulations, the rise of anti-foreign sentiment amidst unstable social and economic conditions also contributed to the exodus of foreign scientists from Indonesia. The political situation and intense control of foreigners were compounded by a societal climate that threatened the existence of foreigners in Indonesia. Incidences of robberies, kidnappings and murders of foreigners were escalating. H.F.H. Budding was killed by a robber in his Banyuwangi home in April 1953. On 1st October 1954, a Dutch national, Eisen Raelof, was attacked by a member of his team over a salary dispute in Lubuk Pakam. Similar incidents occurred in Pati, i.e., A.J. de Ridder was assaulted by his employees in September 1954 and Jhon Vermulen in Deli in May 1954. Police records suggest their arrogance provoked resentment towards foreigners.

In Makassar, there were several kidnappings by armed mobs including Muller and Van Aalst in April 1953 and Dr. Wolfgang Wahl in April 1954. Muller and Van Aalst were successfully released. Two Dutch nationals, T.A. Leyssius and C.W. Heeren, were kidnapped on a farm in Sulawesi in December 1952. In Deli Serdang, on 5th July 1956, a Dutch man named Steenbeck was abducted and killed by an unidentified armed mob. Some cases blurred the line between pure criminality and anti-foreigner sentiment. Frederick Josep, a farm owner, was robbed and killed in Tanjungkarang in August 1955; in Makassar, a foreigner named G. Koffman was robbed in November 1955; a priest named C. Bekker was killed in Watowamer in April 1956.

The deteriorating economic conditions of the 1950s resulted in a high crime rate against foreigners, who were perceived to have a superior economic standing compared to the natives. This situation also contributed to the mass departure of foreigners from Indonesia. In 1951, the per capita income in Indonesia was only 28.3 gulden, which was even lower than the 30 gulden recorded during the malaise crisis of 1930 (Kanumoyoso 2001, 12).

Foreign scientists deemed their income in Indonesia to be insufficient. The low wages played a part in dissuading foreign scientists from working in Indonesia and encouraged those already working in the country to leave. Foreign scientists employed by the government received a salary based on the regulations issued by the Dutch East Indies in 1938 and 1949. The government continued to uphold these two regulations following the cession of sovereignty in 1949, since the foreign scientists' salaries were higher than those dictated by the Indonesian worker regulation issued in 1950. This was intended to attract foreign scientists. Until 1959, the government was still attempting to increase their salaries under government regulation No. 7 of 1959. The salary excluded special and expensive allowances. Besides the wage issue, the deteriorating relationship between Indonesia and the Netherlands made it difficult for Dutch experts to transfer their money to the Netherlands, requiring them to resort to indirect methods.

The Dutch viewed their situation in Indonesia as uncertain and bleak. In 1953, the Indonesian police issued a report on a group of 400 Dutch citizens congregated in Bandung in a meeting dubbed *armslatigen* (poor Dutch people), a situation the government considered threatening to public stability and security. These were Dutch individuals who were unwilling to become Indonesian citizens. The police urged the government to deport them to the Netherlands or Brazil immediately. The meeting, led by Duysing and H.H. De Mey Van Gerwen, protested against their uncertain lives in Indonesia, unemployment and suspicions of corruption regarding living allowances from the Dutch government.

Anti-foreigner sentiment, especially against the Dutch, was escalating due to the West Irian issue. The struggle to regain West Irian for Indonesia directly affected the status of Dutch experts. Dutch professionals were forced to vacate their positions at companies taken over by the Indonesian government. Moreover, the Indonesian government did not permit them to continue their work. However, several experts also left for the Netherlands due to the discomfort caused by the political situation in Indonesia. The Dutch government ordered them to return to their country. In 1959, the government began to expropriate Dutch assets in Indonesia, including the Church in Salatiga belonging to Frederika Suzanna Bernaards. The church requested dispensation from the takeover (ANRI 1959a).

Additionally, Minister Juanda halted the approval to bring in experts from the Netherlands, refusing clearance on the employment of experts from H.L. Anneveld and others, as the government was attempting to return West Irian to the United Nations of the Republic of Indonesia (ANRI 1959b). W.J.J.M. Jansen Anderweg, who was working at the Ministry of Trade, was sent back to the Netherlands in June 1959 (ANRI 1959a).

One of the resolutions from the KMB was that Indonesia had to permit and protect the existence of Dutch companies. However, the escalating "West Irian conflict" made the presence of these companies, which practically played a dominant role in the economy, no longer acceptable. As political patience wore thin, the idea of transforming the colonial economy into a national one grew more appealing. Therefore, efforts were made to nationalise Dutch companies, but this also triggered varied political and economic problems (Abdullah and Lapian 2012, 283). The West Irian conflict heated up due to a diplomatic deadlock that prompted Prime Minister Burhanuddin Harahap to annul the agreement from the KMB in 1956. On 1st December 1957, President Soekarno announced a move against Dutch companies, which initiated the nationalisation of Dutch businesses (Kanumoyoso 2001, 31).

Anti-foreign sentiment became widespread, leading to various conflicts between Indonesian and foreign officials, particularly those in significant positions. The unresolved West Irian conflict spurred various parties to call for foreign scientists and workers to leave Indonesia. In 1957, the Minister of Law enforced the expulsion of 50,000 Dutch citizens in three phases (Kanumoyoso 2001, 65). The Dutch who returned to their country were primarily the unemployed, those from the middle economic class and scientists whose skills were difficult to replace with Indonesian equivalents.

Following the Council of Ministers's decree on January 24, 1958, the government issued regulations on the mechanism for the dismissal of Dutch experts. They were categorised into two groups: experts no longer required for development and those lacking skills. Until 1957, there were 704 Dutch experts on record. The government openly proposed the policy to dismiss the Dutch experts in 1957. Until August 1958, about 500 to 6,000 foreign workers (including experts) left, meaning that since leaving Dutch Indonesia, approximately 36,500 had departed (Kanumoyoso 2001, 65). The initial criteria were somewhat unclear, yet some indicators emerged from the criteria, such as skills directly unrelated to development (e.g., philosophical professors), or working in an unsafe location.

In December 1957, Dutch experts arriving were denied entry to Indonesia and had to return to their homeland. The first step of the dismissal process was halting the currency transfer for several groups of workers who typically sent money to their families in the Netherlands. The Ministry of PPK requested the prime minister to review the policies, particularly for professors, lecturers and teachers working in universities and high schools whose skills were necessary for developing education. Some of the professors the ministry intended to retain were P.J. van Albada, M.W. Akkersdijk, Hoedija, Blydorf, Castelein, Dorst, Crosnewegen, Geyl, Houbult and Leeman. However, J.M. Westplat was dismissed from his position as a soldier in 1954. W.E. Book was relieved of his role as a senior police officer in Jakarta in 1957. Ir. E.A. van de Graaff was dismissed in 1954 from the Statistics Centre office and promptly returned to the Netherlands. His Dutch partner, Drs. A.S.E de Kanter, replaced De Graaff. Earlier, in 1953, Dr. H.J. Levelt was dismissed from the Ministry of Foreign Affairs (ANRI 1958a).

Conclusion

The social transformations instigated by the 1945 revolution had significant implications for the advancement of science and technology in Indonesia. Dutch scientists in Indonesia found themselves in a quandary: on one hand, their expertise was integral to the ongoing development of newly independent Indonesia. Numerous roles in fields such as medicine, engineering, education and economics were beyond the capability of Indonesian nationals to fill at the time. Consequently, the government earnestly endeavoured to attract foreign scientists during the period of 1950 to 1959. Conversely, these scientists were also the subject of animosity from many quarters. The independence war of 1945 to 1949 and the subsequent West Irian conflict following the KMB intensified anti-foreign sentiment. Nationalistic fervour impelled many to call for the expulsion of foreigners from the government.

This research yields two main conclusions. Firstly, Dutch scientists who returned to Indonesia in 1945, believing that Dutch supremacy could be re-established in the Dutch East Indies and that they could continue with the scientific projects interrupted by World War II, found themselves in a precarious situation. The Netherlands Indies Civil Administration, under van Mook, prioritised the ongoing war over the development of scientific projects. When the Netherlands acknowledged Indonesian sovereignty in 1949, the Dutch scientists swiftly departed, leaving behind numerous unfinished studies and laboratories without any plans for future knowledge development.

This mass departure, however, created opportunities for Indonesians to experience social mobility by assuming roles previously held by the Dutch, including positions within research institutions. Despite these opportunities, the research and development of science and technology suffered a decline as Indonesian scientists were yet to fully embrace a scientific culture and research spirit. The exodus of Dutch scientists in 1949 encouraged the Indonesian government to seek foreign scientists from various countries, including the Netherlands, to fill the vacant positions across multiple sectors. Although the government's aim was to attract 8,000 foreign scientists from 1950 to 1959, the actual number of scientists who arrived fell short of this target due to a variety of reasons.

Secondly, factors precipitating the exodus of Dutch scientists from Indonesia during 1949 to 1959 included: (1) bureaucratic inefficiency and inconsistent regulations regarding the supervision of foreigners and (2) the rise of anti-foreign sentiment within a tumultuous social, political and economic environment. Scientists found their situation exacerbated by increasing nationalism, weaknesses in state administration, relational difficulties between native and foreign workers, intensive surveillance, the state's mistrust of foreign workers, social conditions that threatened their existence in Indonesia (inclusive of an upsurge in robberies, kidnappings and murders of foreigners), a deteriorating economic situation in the 1950s, salary disputes and the West Irian conflict.

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