

# Imaginarities of Jurong Industrial Estate, Singapore<sup>1</sup>

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Jurong Industrial Estate is a symbol and metaphor for Singapore's transformation from a colonial entrepôt port to an industrial export economy in the 1960s and 1970s. It is regularly referred to as 'Goh's Folly', so-named after Goh Keng Swee, Singapore's Minister for Finance at the time and the architect of the project. Used in the context of Jurong's development into a vibrant industrial hub, the epithet repudiates accusations of bad economics and demonstrates the sound thinking of Goh, and by extension the Singapore government. This official imaginary of Jurong is central to Singapore's economic history.



Lee Kuan Yew (middle) and other Singapore officials in Jurong, c. early 1960s. Photo is obtained with permission from Alex Tan Tiong Hee.

In his memoirs, former Prime Minister Lee Kuan Yew recounted an epic story of Jurong in multiple initial failures and eventual success; of Goh's alleged folly, Lee imagined that "He was not that self-deprecatory when Jurong was barren".<sup>2</sup> Current Prime Minister Lee Hsien Loong recently retold this narrative in hailing the role of the statutory board most closely associated with Jurong's history – JTC Corporation (formerly Jurong Town Corporation) – at the 50th anniversary of its formation in 1968. While Jurong's narrative arc is well-known, less so are other early imaginaries which helped realise the government's vision of industrial development. The first was the work of international experts who advised the government on industrial policy around the same time in 1960–61: Albert Winsemius on the feasibility of Singapore's industrialisation; Y. Yanagisawa's team of Japanese experts on heavy industry in Jurong; and Philippe Schereschewsky's response to a proposed iron and steel project. The other imaginary lay in the origin of Jurong's showpiece heavy industry: National Iron and Steel Mills, a product of the imaginaries of the Singapore government, local investors, and foreign advisers.

## Jobs, Jurong, and politics

Singapore's industrialisation was not a purely technical matter but one shaped by the socio-economic and political contexts arising after the Second World War. The impetus for manufacturing was the belief that it would provide more jobs than the existing entrepôt trade. Unemployment and under-employment had been part of the socio-economic landscape of colonial Singapore, but with the

rapid growth of the population after the war, had become problematic for the future of postcolonial Singapore. Between 1947 and 1957, as families settled down with multiple children instead of returning to their home countries, Singapore's population grew at a rapid rate of 4.5% per annum. These settled families and locally-born children could no longer be repatriated in an economic downturn, and the entrepôt trade would not likely supply the jobs they needed, especially as newly-independent states in the region began to develop their own ports and industries, bypassing Singapore.

In the late 1950s, the British colonial government launched estates for light industries at Redhill and Tanglin Halt, which obtained their workforce from residential areas nearby.

An Industrial Promotion Board was set up in 1957 to promote and develop manufacturing. The British also commissioned the first expert surveys of industry, including a 1958 study by F.J. Lyle, who endorsed the prevailing sentiment for the island to establish a common market with the Federation of Malaya. Singapore and Malaya, despite having long-standing political and economic ties, had been separated into two administrative units after the war. These late-colonial efforts constituted the first imaginaries of Singapore's industrialisation.

In 1959, Singapore became a self-governing state. The newly-elected People's Action Party (PAP) government managed domestic – including industrial – affairs, while the British retained control over foreign policy and security.

By this time, many of the 'baby boomers' had reached working age. The PAP declared a policy of industrial expansion to create jobs for the general population, which was implemented with the 1961 State Development Plan. For various practical reasons, the industrialisation programme centred on Jurong, a largely-undeveloped region in the western part of Singapore. The state owned most of the land there, and the population was sparse, comprising of farmers and fishermen, which minimised the task of resettlement. Unlike the much smaller existing industrial estates, the development of Jurong was a milestone: it would be built from scratch, mainly for heavy industry and with no catchment population residing nearby.

**Jurong was a milestone: built mainly for heavy industry, with no catchment population nearby**

The politics of the early 1960s were embedded in the industrialisation programme in several ways. The government was expected to fulfil its electoral promises in order to succeed at the next polls. (This pressure was the political factor that, as

we will see, shaped the work of Winsemius and Schereschewsky). There was also the question of the common market with the Federation of Malaya, which the government endorsed. Although the island's politicians looked upon the reunification of Singapore and Malaya as a matter of faith, the Malay-dominant Federation government was less keen, fearing the political influence of Singapore's majority-Chinese population and by extension, the PAP. The third political issue was a growing

rift between the Fabian socialists and left wing socialists within the PAP. The party had won the 1959 elections largely because of the left's support among workers, Chinese-stream students, squatters, and farmers. However, the leftists were not given a major role in the government, which was controlled by the Fabians led by Lee Kuan Yew and Goh Keng Swee. Still, the leadership was under pressure to demonstrate its anti-colonial and anti-capital credentials. Industrial programming had to negotiate difficult questions on the nationalisation of industry, relationship between capital and labour, and dominance of British capital.

## Singapore in international society

Outside of these local contexts, Singapore's industrialisation also took place against a broader backdrop of what Akira Iriye has termed a "global community" and an "international society" after the war.<sup>3</sup> The end of war heralded a move away from the intense national competition that had brought about the global conflict towards technical cooperation on developmental matters. In the 1950s and 1960s, Singapore received much technical assistance from the United Nations (UN) and Colombo Plan, and from Britain and Japan.

Key to the collaboration were the technical experts who routinely advised the governments of colonies and newly-independent states. In the current literature, they are often criticised for imposing their narrow experiences, usually drawn from their own countries, or ignoring local conditions, often with underwhelming results. Singapore's encounter with the experts

was more nuanced. The PAP government was, from the start, willing to consult experts who were not doctrinaire socialists. To the extent that the city-state eventually became an 'Asian Tiger', the experts emerge as generally positive and benign influences. As an economist noted in the early 1970s, the industrialisation policy was guided by international expertise, some of it tracing to the late-colonial period.<sup>3</sup> It is, however, instructive to examine how the experts negotiated the socio-economic and political dimensions of Singapore's industrialisation.

### Albert Winsemius

The first expert discussed here is also the best known in Singapore – Albert Winsemius, the Dutch economic planner credited with his country's economic recovery after the war. Winsemius led two UN teams to study the feasibility of industrialisation for Singapore in October-December 1960 and March-May 1961. He possessed no knowledge of the city-state, which was "neither an underdeveloped, nor a half-developed or a highly developed country." Winsemius concluded that Singapore should, and could, industrialise, as the country's "greatest asset is the high aptitude of her people to work in manufacturing industries. They can rank among the best factory workers in the world."<sup>5</sup>

Two of Winsemius' economic recommendations became policy. First, Singapore should manufacture for the world rather than the home market. On the potentially tricky question of the common market, Winsemius deftly sidestepped it by positioning it as one of several regional export markets Singapore should cultivate. Winsemius also proposed that industrialisation be led by foreign private capital, rather than state capital. This proposal was opposed by the leftist chairman of the Industrial Promotion Board, James Puthuchery, who advocated state ownership of heavy industry. But Winsemius was able to convince Goh Keng Swee to limit the state's role to only providing infrastructure and a conducive environment for industry, and in ensuring stable relations between capital and labour.

However, interestingly, Winsemius delved into political matters. He felt that his unwritten mandate was to help the government win the next elections. Privately, he advised Singaporean leaders that industrialisation hinged on two non-technical factors: retaining the statue of Stamford Raffles (the British founder of Singapore) as a gesture to foreign investors, and getting rid of the communists who controlled the militant unions. Lee Kuan Yew laughed at the second suggestion, though his government soon broke with the left.

Winsemius is the only expert among the trio to have rendered political advice and stepped beyond the UN's narrow terms of reference. Remarkably, his opinions were well-received, and he became an unofficial economic adviser to the Singaporean government for two and a half decades.

### Y. Yanagisawa

Winsemius provided a blueprint for industrialisation, but the site for it still had to be determined. The role of Japanese experts led by Y. Yanagisawa, an engineer, in the physical planning of Jurong industrial town in November 1960 has long been forgotten. The team endorsed the prospects for heavy industry in Singapore: "the possibility of success is very high."<sup>6</sup> This was a bold statement, for Winsemius had initially been sceptical about heavy industry and had preferred that Singapore focus on light industry, although his report did make technical studies for the shipbuilding/repair, metal and engineering, electrical, and chemical industries.

The Yanagisawa team's frame of reference was thoroughly Japanese (as Winsemius' was Dutch). The team assessed Jurong's waterfront to be suitable for heavy industry, as it was similar to Japan's southern coasts. It also advised on other technical matters that later became policy: land reclamation and

levelling of the hills to develop the coast for heavy industries and shipyards, while the deep waters off Jurong suited the construction of a port for industrial cargo (which became Jurong Port). Jurong would be zoned as a complete town, not only with industry and housing, but also a civic centre, social amenities and green areas for a large population of up to 200,000 people. The Yanagisawa team presented only a preliminary report to the government, but it became the basis of a five-year crash programme in the State Development Plan to develop the first phase of Jurong. The plan, put together by Goh Keng Swee, reiterated the team's assessment, explaining that Jurong was "probably the only waterfront area in Singapore that possesses all the necessary conditions for development as an integrated town with sea access."<sup>7</sup>

However, British officials believed that the Japanese intended to use Singapore as a 'foothold' and 'stepping stone' for their industry to expand into the region.<sup>8</sup> The Japanese appeared to have been particularly interested in iron and steel, an industry widely viewed as the backbone of a modern industrial economy. Following the Yanagisawa survey, Fuji Iron and Steel, a major Japanese steel company, indeed despatched a team of experts to Singapore to study the feasibility of a steel mill. This brings us to the third imaginary of Jurong.

### Philippe Schereschewsky

The UN had already organised an iron and steel study for Singapore led by French industrialist Philippe Schereschewsky. Although, like Winsemius, Schereschewsky had little knowledge of Singapore, he claimed relevant expertise from his experience in Latin America. His role, forgotten like Yanagisawa's, was critical, for the government had made iron and steel separate from the remit of the Winsemius mission. An earlier study in 1954 by the International Bank for Reconstruction and Development had deemed the industry impractical because Malaya and Singapore lacked coking coal. In November 1959, Goh Keng Swee revisited the subject by asking the UN for a feasibility study for an iron and steel plant, based on imported iron ore and coal from the region and to be established over two or three stages. The plant would act

as a catalyst to industrialisation by creating secondary industries and jobs.

In July 1960, the month that Schereschewsky carried out his preliminary study, the government announced that the "proposed iron and steel plant will be the core of the medium and heavy industry centre in Jurong, around which ancillary industries...can be established."<sup>9</sup> The envisioned plant consisted of two parts: a large blast furnace of at least 500,000 tons, producing pig iron for export, primarily to Japan, and an integrated steel mill of medium size (60,000 tons) producing for Singapore and the immediate region. Schereschewsky assembled a team to undertake a full study, which supplemented its fieldwork in Singapore with trips to shipbreaking and rolling mills in Japan, Hong Kong, the Philippines, and Australia. The team concluded that the iron and steel project was on the whole viable, but was to be broken into three constituent projects by order of feasibility. The most realistic undertaking, based on the precedent in Hong Kong, was a rolling mill for scrap. Though having a modest annual capacity of 20-30,000 tons and producing mostly for the local market, it would have important knock-on effects on industrial activity. The mill would expand Singapore's small shipbreaking industry, which would provide the scrap, and thus generate jobs. Schereschewsky deemed this mill, despite not being in the government's initial plan, "the indispensable base of the new steel industry," and called for it to be implemented promptly.<sup>10</sup>

On the proposed larger projects in the government's mind, the Schereschewsky study preached caution. The integrated mill merited further research, though raw materials were available in the region: iron ore from Malaya and coal/coke from Australia and Indonesia.

Subsequently though, UN officials judged the project to be unsound. They urged no immediate action on the blast furnace, though this was the project on which the Singapore government was the most keen, as it depended on investment from "a Japanese iron and steel group."<sup>11</sup>

### National Iron and Steel Mills

The imagined Japanese role highlighted how financial and political considerations underpinned the iron and steel project. From the beginning, the government was anxious to ensure that the plant was self-supporting. Politically, the left saw in the project the question of British economic influence in Singapore. In December 1960, James Puthuchery expressed what colonial officials deemed to be "wild ideas" to obtain Japanese investment for the purpose of "smashing British capitalism" and establishing socialism.<sup>12</sup> Goh Keng Swee assured the officials in February that the Yanagisawa mission was free of charge with "no strings attached."<sup>13</sup> But they still reckoned in September 1961: "We are right at the heart of the politics of Singapore's industrialisation ... The Government are well known to be, for political reasons, in a hurry to get some form of iron/steel started ... are known to be suspicious of British 'economic imperialism' and to favour some spreading of the net among foreign capitalist interests."<sup>14</sup>

As it turned out, this policy proved difficult to implement, and the Singapore government encountered considerable difficulty in finding Japanese investors. From August 1960 to the following spring, the government commenced preliminary discussions with Japanese steel companies, and Goh Keng Swee spoke with steelmakers in Tokyo. As Schereschewsky intimated in his 2nd progress report in early 1961, the Japanese government made an informal offer to help Singapore establish, through Fuji Iron and Steel, a steel plant. Fuji sent three successive missions to Singapore that year, and at one point was ostensibly prepared to help build the mill. In April 1961, Goh Keng Swee appeared to confirm Fuji's involvement in a public speech.

Henceforth, however, the matter unravelled. At the end of September 1961, two local establishments were in the running with Fuji to set up the steel plant: Sim Lim, a company with interests in importing building materials and in shipbreaking, and Tat Lee, a rubber import-export firm. The government had difficulty reaching an agreement with Fuji, which initially wanted 70% holding of the mill while the government was only willing to allow 50%. Although the Japanese did agree to this, the main problem, according to a Sim Lim representative, was that "Fuji was not interested in the Singapore project, as such." British officials surmised that Fuji was only interested in setting up a small scrap mill, not a large smelting plant. The search for investment, the Sim Lim representative suggested, had been protracted because the government favoured a local firm, but "For political reasons ... they were set upon quick and spectacular results", and initially doubted Sim Lim's ability to deliver.<sup>15</sup> It may be that Tat Lee's involvement was decisive in this regard. The British noted the Singaporean government's parting ways with Fuji in March 1962.

In August 1961, National Iron and Steel Mills (NISM) was incorporated with a nominal capital of \$50 million. It was funded mainly by local and Indonesian-Chinese, rather than Japanese, capital. Sim Lim and Tat Lee contributed equally towards 80% of the capital. Soon Peng Yam of Sim Lim was appointed NISM's chairman, while Goh Tjoei Kok and Goh Seong Pek of Tat Lee became the vice chairman and managing director respectively. The company's driving force was Goh Tjoei Kok, an Indonesian-Chinese businessman who had settled in Singapore from Jakarta in 1949. The Economic Development Board (EDB), a government agency responsible for Singapore's industrial development, contributed 20% of the capital, aligned with Winsemius' call for a minor government role in investment. The mill would initially employ 200 workers.

### Conclusion

The three teams of experts worked productively with the Singaporean government through 1960-1961. While their imaginaries of

Jurong were rooted in external worldviews of industrial development – Dutch, Japanese, Southeast Asian, Latin American, and elsewhere – their advice was often reconciled with the Singaporean context. This involved accommodating the political as well as socio-economic circumstances and sentiments prevailing in the city-state, including disagreements between the government and the left, the question of the common market, and Britain's role in the economy.

Subsequent to the work of the three teams, Jurong slowly took shape as an industrial estate. The government allotted \$45 million – or 13% of the industry and commerce budget – in the State Development Plan to the development of Jurong. The EDB carried out the initial development of some 500 hectares, resettling farmers, levelling hills, filling mangrove swamps and prawn ponds, and building factories, infrastructure, public housing, and social amenities. As the Yanagisawa team had endorsed, the heart of Jurong was the heavy industries lining the seaford. Central to this swathe of industry was NISM, close to which were coastal lots for shipbreaking. The company duly implemented Schereschewsky's proposal for the rolling mill, which began processing scrap from ships in 1963. It employed 400 workers at the time. The light industries were located further inland near the first residential neighbourhood, Taman Jurong.

In 1968, the development of Jurong was passed on to the Jurong Town Corporation, which expanded it into a better-settled garden industrial town with a town centre and additional social amenities and green areas. By this time, Singapore's merger and common market with Malaysia had failed, the left was excised from domestic politics, and the island had become a sovereign state in single-minded pursuit of global capital investment, as Winsemius had urged. From 1969, Jurong grew rapidly, welcoming an influx of investors; a decade later, it had become the preferred site for the majority of them. By then, some 5600 hectares of land had been developed and allocated to over 1200 companies, which employed 93,000 workers. Goh Keng Swee's project had become a major industrial estate for multinationals and a new town for a young, growing population.

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### Notes

- 1 This article draws from the research project, 'Theatres of History and Memory: Industrial Heritage of 20th Century Singapore', which is supported by the Heritage Research Grant of the National Heritage Board, Singapore.
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- 9 CO 1030/1176, Singapore Government Press Release, 4 July 1960.
- 10 S-0175-1801-02 SING (130-2) PART B, Report on the Feasibility of a Steel Industry in Singapore, August 1961, p.19.
- 11 S-0175-1801-02 SING (130-2) PART A, Memo from Lurie to Schereschewsky, 8 March 1961.
- 12 CO 1130/1176, Memo from Bourdillon to Wallace, 9 February 1961; Memo from Woodruff to Bourdillon, 22 December 1960.
- 13 CO 1130/1176, Memo from Bourdillon to Wallace, 9 February 1961.
- 14 CO 1130/1176, Note of conversation between Whitley and Toh, 25 September 1961.
- 15 Idem.