

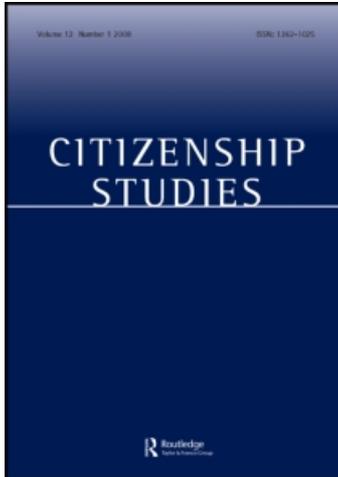
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Blood donors, development and modernisation: configurations of biological sociality and citizenship in post-colonial Singapore

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This article examines the governmental apparatus organised around Singapore's Blood Transfusion Service (SBTS) and the knowledge, experts and techniques associated with transfusion medicine. I term this apparatus, which was in place in the Singapore from its first steps towards political independence in 1959 until 1990, 'Singapore's haemato-logic assemblage'. Drawing on the work of Foucault, the article explores how this assemblage overflowed into and reconfigured understandings of biological sociality and citizenship in post-colonial Singapore. More specifically, it argues that, in the 30 years following independence, this assemblage brought into being a new figure of the biological citizen by creating a sphere of possibilities for Singaporeans to think and act accordingly. This new figure of the citizen is 'the blood donor'. Articulated around the SBTS and the knowledge and techniques of transfusion medicine, this donor is a Singaporean who gives blood to save the lives of fellow citizens and participates, thereby, in the development and modernisation of the newly independent nation. To substantiate this argument, the article shows how the haemato-logic assemblage helped to realise this new figure of the citizen by creating – through narratives, statistics, spaces and rewarding schemes – a sphere of possibilities in which Singaporeans could think and act as blood donors.

Keywords: biological citizenship; bio-sociality; subjectivity; identity; blood donor; Singapore

Introduction

The present article focuses on the governmental apparatus organised around Singapore's Blood Transfusion Service (SBTS) and a combination of knowledge, experts and techniques associated with modern transfusion medicine. I term this governmental apparatus, which was in place in the Southeast Asian Republic from the country's first, decisive steps towards political independence in 1959 until 1990, 'Singapore's haemato-logic assemblage'. Drawing on the work of Foucault and others (Hacking 2002, Isin 2002, Foucault 2004, Miller and Rose 2008), this article explores how the knowledge, institutional forms, experts and techniques that make up this governmental apparatus overflowed into and reconfigured understandings of biological sociality and citizenship in post-colonial Singapore. More specifically, it argues that, in the 30 years following independence, Singapore's haemato-logic assemblage participated in the making of a new figure of the biological citizen by creating a 'sphere of possibilities' for Singaporeans to think and act accordingly (cf. Hacking 2002, Chap. 6). This new figure of the citizen is 'the blood donor'. Articulated around the SBTS and the knowledge and techniques

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of transfusion medicine, this donor is a Singaporean who gives blood to save the lives of fellow citizens and thus participates in the development and modernisation of the nation.

To substantiate this argument, the article draws on archival and fieldwork research recently conducted by the author in Singapore. On the basis of this research, the article shows how the haemato-logic assemblage helped to realise this new figure of the citizen by creating – through narratives, statistics, spaces and rewarding schemes – a sphere of possibilities in which Singaporeans could think and act as blood donors. It is important to note that the existence of such a sphere of possibilities does not, of course, mean that Singaporeans effectively thought and acted accordingly. This is, in any case, not a claim that is made in this article, even though the marked success of blood donation in post-colonial Singapore would seem to support it.

The article makes an original contribution to two bodies of work. First, it contributes to a growing literature that examines the intersections between developments in medicine and biology and forms of citizenship and identities; a site of empirical inquiry variously termed ‘bio-sociality’ or ‘biological citizenship’ (e.g. Rabinow 1996, Rose and Novas 2005, Callon and Rabeharisoa 2008). This literature has focused on configurations of citizenship related to recent developments in molecular genetics, which have emerged in advanced liberal democracies in Europe and North America in the last 15 years. It has, in particular, argued that these configurations are characterised by: ‘molecular’ understandings of the human body made possible by new medical technologies such as genetic testing; ‘active citizens’ organised in patient associations and internet-based communities; and a market economy of health dominated by pharmaceutical companies and centred on the pursuit of ‘bio-value’. Interestingly, although this literature has recognised that there are other forms of bio-socialities beyond contemporary Western society, it has made little effort to explore this historical and geographical diversity. Similarly, it has not spent much time examining bio-socialities related to fields of medicine and biology other than molecular genetics. The present article seeks to address these deficiencies by depicting another configuration of citizenship that was brought about by blood transfusion medicine in a post-colonial and developing Asian country.

The second body of work to which this articles makes an original contribution is the literature on citizenship and identity in Singapore. Much of this literature has focused its attention on how, in the period following independence, the government sought to build the young nation-state by creating a comprehensive national identity and a figure of the Singaporean citizen (e.g. Chua 1995b, Hill and Lian 1995). These authors have showed how this common Singaporean identity and citizenship was constructed through the establishment of a national language, a national curriculum for schools and a series of national cultural institutions. More recently, some authors in this field of study have started to look beyond Singapore’s nation-building programmes. Some have worked on racial and sexual identities on the Southeast Asian island (e.g. Lian 2006, Tan and Jin 2007), while others have explored the impact of globalisation and neo-liberalism on Singaporean citizenship (e.g. Chew 2006, Ong 2006). Interestingly, this second body of literature has failed to address the way medicine and the biological sciences have participated in the construction of Singaporean citizenship and identities. The present article remedies this situation by adding a biological dimension and examining how blood transfusion medicine has transformed subjectivities in Singapore.

The article starts by outlining Singapore’s haemato-logic assemblage. It then shows how this governmental apparatus has, between 1959 and 1990, brought into being a new figure of the biological citizen: the blood donor. It does so by showing how narratives, statistics, spatial arrangements and rewarding techniques associated with Singapore’s

haemato-logic assemblage have created a sphere of possibilities that allow Singaporeans to think and act as blood donors.

Singapore's haemato-logic assemblage

What I term, drawing on Foucault's notion of 'assemblage/apparatus' (Foucault 1994, p. 298, Rabinow and Rose 2004, pp. xv–xvii, Collier and Ong 2005), 'Singapore's haemato-logic assemblage' is a governmental apparatus that was in place in the city-state from its first decisive steps towards independence in 1959 until 1990. This governmental apparatus is characterised, first of all, by a combination of knowledges, experts and techniques associated with blood transfusion medicine and articulated around a particular institutional form: SBTS. It is, furthermore, characterised by its incorporation within a larger political project that has informed the thinking of the Singaporean leadership ever since 1959: the development and modernisation of the newly independent Republic of Singapore.

Singapore's blood transfusion service and the knowledges, experts and techniques of transfusion medicine

The SBTS was established by the British in 1947 as part of the Colony of Singapore's Medical Services and was housed, from 1953 onwards, in the specially designed Blood Transfusion Centre (cf. Colony of Singapore 1948, pp. 94–97, 1953, pp. 178–184, Ministry of Health 1965, p. 231). Unsurprisingly, the British colonial authorities modelled the mandate and organisation of the SBTS on the United Kingdom's National Blood Transfusion Service (NBTS) that had been created two years earlier. Like the NBTS, the SBTS was designed as a centralised, state-run institution that had both the responsibility for and the monopoly over the collection, storage and redistribution of blood for transfusion across the whole colonial territory. So too, the SBTS was manned by experts – 'medical officers', 'laboratory technicians', 'nurses', 'clerical officers', 'donor organisers' – that mastered the knowledges and techniques associated with transfusion medicine (Colony of Singapore 1953, p. 179, Ministry of Health 1963, p. 228, 1967, p. 110). These different knowledges and techniques were, like the SBTS's mandate and organisation, brought over from the UK by the British colonial authorities in the 10 years that preceded Singapore's political independence. Technical equipment was shipped over from the metropolis, and the local physicians were sent to London to be taught the relevant theories and trained in the latest procedures (cf. Colony of Singapore 1948, p. 96, 1949, pp. 126–129, 1951, pp. 175–197, 1953, p. 178, 1955, p. 172).

The knowledges, experts and techniques associated with transfusion medicine and characteristic of Singapore's haemato-logic assemblage can, for the purposes of this presentation, be divided into four different categories according to the particular function they serve. The first of these categories comprises all the elements that make the drawing, storage and transfusion of blood materially possible. This includes, first of all, medical knowledge relative to human blood and its transfusion such as Landsteiner's theories about ABO and Rhesus blood types. Furthermore, it includes certain types of experts such as physicians and laboratory technicians. Finally, it also includes technical equipment and procedures to draw, store and transfuse blood such as 'blood taking and giving sets'; 'a venesection room with beds'; 'an assembling and cleaning room' with 'an electrode boiler, a boiling tank and drying cupboards'; 'pyrogen-free double-distilled water' and other 'sterilisation procedures'; 'a fully equipped laboratory'; 'compatibility tests'

and other 'cross-matching methods'; 'an automatic blood grouping system'; 'Hepatitis B antigen screens'; 'a cold room used for storing blood'; and 'anticoagulant solutions' (Colony of Singapore 1948, pp. 96–97, 1949, p. 126, 1953, p. 179, Ministry of Health 1975, p. 30, 1980, p. 30, 1981, p. 22).

The second category includes all the knowledges, experts and techniques that make it possible 'to enlighten and educate the population' about blood transfusion medicine, its benefits and the importance of being a blood donor (Colony of Singapore 1951, p. 194). This comprises to start with, the belief that 'public opinion can effectively be moulded' (Lin 1965, p. 2). It also comprises a variety of experts in 'publicity' and 'propaganda' (Colony of Singapore 1948, p. 96, Ministry of Health 1963, p. 228). Furthermore, it comprises a series of methods to mould public opinion. These include, among others, 'lantern slides' and '1 min advertisement films on blood transfusion' 'shown at all major Chinese and English cinema theatres'; 'appeal pamphlets' 'displayed in Post offices' throughout the nation; 'public lectures and demonstrations' made at 'community centres,' 'schools' and 'church organisations'; 'mobile exhibitions comprising pictures, charts and diagrams depicting aspects of blood donations'; 'advertisement bill boards on all major traffic circuses [and] at the rear of buses'; 'news features' in the daily press; and 'talks and discussions' on Radio Singapore and national television (Colony of Singapore 1953, p. 180, 1954, p. 163, 1956, p. 189, Ministry of Health 1962, p. 201, 1964, p. 210, 1966, p. 192, 1978, p. 14, Singapore Government 1966, pp. 1–2).

The third category consists of all the knowledges, experts and techniques that make it possible to know, represent and analyse the amount of blood for transfusion collected and the characteristics of those providing it. It comprises both knowledge about and experts in statistics. It also comprises recording techniques that enabled one to know and capture a particular reality such as a 'computerised register of blood donors' (Ministry of Health 1975, p. 30). Furthermore, it comprises techniques that allow one to represent and analyse the reality captured by the recording techniques such as charts, tables and graphs as well as weekly information bulletins with the blood bank balance (e.g. Ministry of Health 1976, p. 31, 1984, p. 29). The fourth and last category consists of all the elements that make members of the public effectively come forward and give their blood for transfusion. This comprises the belief that, in order to enrol and retain blood donors, the act of giving blood has to be rendered effortless and attractive (Ministry of Health 1964, p. 163). Furthermore, it comprises experts such as 'donor organisers' and other 'clerical officers' (Ministry of Health 1963, p. 228, 1967, p. 110). It also comprises techniques such as 'regular announcements reminding the public of the need to support the blood bank', 'pleasant and commodious' spaces to give blood as well as 'medals' and 'medical privileges' for 'regular blood donors' (Colony of Singapore 1954, p. 162, Singapore Government 1966, pp. 1–2, Ministry of Health 1967, p. 110, 1976, p. 31).

The will to develop and modernise the nation

Although the knowledges, experts, techniques and institutional forms that make up Singapore's haemato-logic assemblage were brought over from the UK, they were not incorporated into the same political project as the N BTS and British transfusion medicine. In the UK, the N BTS and transfusion medicine were part of the post-WWII governmental project developed by William Beveridge and others to build a society characterised by 'social solidarity' and articulated around a strong 'welfare state' (Fontaine 2002, Reubi 2009, Chap. 3).¹ In Singapore, these same knowledges, experts, techniques and institutional forms were, after the country's independence, taken up by the country's new

leaders and re-aligned to serve a very different project: the development and modernisation of the newly created Republic of Singapore.

This project or will to develop and modernise the country has permeated and informed the way of thinking of Singapore's ruling elite ever since independence and the arrival to power of Lee Kuan Yew and his People's Action Party (PAP) (Reubi 2009, Chap. 5; cf. also Margolin 1989, Chua 1995a, Perry *et al.* 1997, Rodan 2006). Modernising, for Lee and his allies, meant above all improving the population's material conditions. To do so, they adopted an export-based model of industrialisation. According to this model, Singapore would seek to attract large foreign multinational companies (MNCs) to open factories on the island where they would manufacture products for worldwide export. As elsewhere in Asia, at the heart of this process of modernisation and industrialisation was 'the developmental state': a strong, authoritarian central government that planned and directed the country's development (Thompson 1996, Perry *et al.* 1997). In Singapore, the developmental state was articulated around a series of different bodies. These included the PAP, which has been in power ever since independence; the Cabinet, which was headed by Lee Kuan Yew from 1959 to 1990; the various ministries and state administrations; and a series of specialised governmental agencies such as the Economic Development Board.

To attract foreign MNCs, the government used a series of strategies as illustrated by Singapore's first *Development Plan* (Ministry of Finance 1961; cf. also Economic Planning Unit 1964). Besides the provision of financial and technical assistance and the construction of a first-class industrial infrastructure, these strategies also comprised policies to transform the population into a disciplined and productive workforce and citizenry (cf. Margolin 1989, Chap. 4, Chua 1995b, Chaps 3 and 5, Hill and Lian 1995, Perry *et al.* 1997, Chap. 3, Purushotam 1998). The assumption behind these policies was that a disciplined and productive population would, by providing both a qualified workforce and a stable, peaceful environment, attract foreign MNCs to relocate their production in Singapore. These policies were manifold. They included, among others: (1) the development of the country's educational system in order to improve the skills of and instil a respect for hard work among Singapore's labour force; (2) the expansion of Singapore's health care services to ensure that the population is healthy and productive; (3) the creation of official parapolitical and intermediary structures (Residents' Committees; Citizens' Consultation Committees; Civil Defence Committees; National Trades Union Congress, etc.) to control the population and the workforce; (4) the articulation and teaching of a national identity and a spirit of common loyalty to build a strong and stable nation; (5) the elaboration of the concept of 'multiracialism' in order to organise and ensure the equal and peaceful relationships between the population's four officially recognised racial groups – 'Chinese,' 'Malay,' 'Indian' and 'Other'; and (6) the construction of large housing developments and community centres to organise and manage the population.

From 1959 onwards, the SBTS and the knowledge, expertise and techniques associated with transfusion medicine were taken up by Singapore's governing elite and incorporated into its project to develop and modernise the country. This is visible, first of all, in the way the collection, storage and redistribution of blood was shaped by some of the policies deployed to transform the population into a disciplined and productive workforce and citizenry. So, for example, some of the parapolitical and intermediary structures established to control the population were regularly used by the SBTS to encourage Singaporeans to come and give blood (Ong 1979, Yeo 1984). Similarly, the concept of multiracialism mentioned above led the SBTS to record and analyse the amount of blood donated and transfused in relation to the racial identity of the donor. This allowed the

SBTS to ascertain that each of the country's four racial groups gave and received blood in equal measure, thus diminishing the risks of racial tension (Ministry of Health 1965, p. 230, 1966, p. 190).

The incorporation of the SBTS and transfusion medicine into Singapore's modernisation project is even more visible in the way the country's elite viewed transfusion medicine as a policy to transform the population into a disciplined and productive citizenry in their own right. First, the SBTS and the knowledge, experts and techniques associated with transfusion medicine were, as a key component of Singapore's health care services, deemed essential in ensuring that the national population was healthy and productive. As the Minister for Home Affairs, Prof. Wong, explained:

One of the important factors of economic and social progress is the maintenance of our high level of health services. In this the Singapore Blood Transfusion Service plays an essential role ... [By making] blood readily available, [the SBTS ensures that] patients can be treated without delay and return quickly to their homes and to their place of work. To the families, this means less loss of family income, if the patient is the breadwinner. To trade and industry, this means less hours lost due to sickness and accidents ... [As such, the SBTS] is playing an [important] part in the economic and social development of the Republic. (Wong 1971, p. 1)

Second, the nationwide system of collection and redistribution of blood managed by the SBTS was also considered to be a vehicle to build a strong and cohesive nation-state. Indeed, in the eyes of the governing elite, the act of giving blood demonstrated patriotism and a willingness to sacrifice oneself 'to build a better Singapore' (Yeo 1984, p. 2). This association between blood donation, patriotism and nation-building is well illustrated in the following speech by Lee Kuan Yew:

[We are] not giving [enough] blood ... Why is this? It is because for decades everybody who came [to Singapore looked only] after himself and his family ... We must slowly change our attitudes. We must daily consolidate our society. All the racial groups must unite and make this a strong country ... There are few countries in Southeast Asia with our standard of life. And we must be prepared to organise and keep and improve on this ... Each and everybody must contribute [and] give. It is as in the case of the blood donor. We should not only receive blood. We should give as much as we take out of this [country]. (Lee 1966)

Periodisation

Thus characterised, Singapore's haemato-logic assemblage was in place from 1959 to 1990. Indeed, while both the SBTS and the combination of knowledge, expertise and techniques characteristic of this assemblage were in place before Singapore's political independence, it was only in 1959 that the country's new leadership developed and started implementing its project to modernise the nation. It was that year that Singapore made its first decisive step towards political independence, becoming a self-governing country within the British Empire before gaining full independence in 1963. It is also that year that the authors of Singapore's development and modernisation project – Lee Kuan Yew and the PAP – came to power. Similarly, while many of the elements that typify Singapore's haemato-logic assemblage were still in place after 1990, the late 1980s were marked by a series of political and economic reforms that led to the revision of Singapore's modernisation project. The political reforms sought to soften Singapore's strong, authoritarian central government, while the economic reforms aimed to diversify Singapore's economy by replacing low-skills industries with high-tech industries and services. These reforms were confirmed with the replacement of Lee Kuan Yew – the last of the first generation of PAP leaders – by Goh Chok Tong in 1990. The revision

of Singapore's modernisation project brought about by these reforms also coincided with some other, smaller changes to the Republic's haemato-logic assemblage. One of these changes was the abolition of the SBTS's monopoly in the collection and distribution of blood to the profit of the Red Cross and private hospitals in the mid-1980s. Another of these changes was the SBTS's re-housing into a newly designed National Blood Bank in 1988.

The figure of the citizen blood donor

This article argues that, in the 30 years following independence, Singapore's haemato-logic assemblage participated in the making of a new figure of the biological citizen by creating a 'sphere of possibilities' for Singaporeans to think and act accordingly (cf. Hacking 2002, Chap. 6). This new figure of the citizen is 'the blood donor'. Articulated around the SBTS and the knowledge, expertise and techniques of transfusion medicine, this donor is a Singaporean who gives blood to save the lives of fellow citizens and, thereby, participates in the development and modernisation of the nation.²

This figure of the blood donor did not, of course, stand in isolation. On the contrary, it stood alongside and combined with the multitude of other forms of citizenship, which were brought into being during the same period and which have been extensively documented in the literature (cf. Margolin 1989, Chua 1995b, Hill and Lian 1995, Perry *et al.* 1997, Purushotam 1998). Like the blood donor stemming from Singapore's haematologic apparatus, these other forms of citizenship were the product of governmental policies that sought to mould the population into a discipline and productive citizenry in the name of modernisation. They included the figure of the obedient and highly skilled worker employed by a Western multinational company which has relocated its production in Singapore; the figure of the English-speaking citizen of Chinese, Malay or Indian origin who lives in and participates in a harmonious multiracial society; and the figure of the Singaporean denizen loyal to his/her country and adhering to a common, national identity comprising the so-called 'Asian values' and a respect for authority and hard work. The blood donor was a part of this rich combination of forms of citizenship, to which it conferred a specifically biological dimension.

To substantiate the argument made here, the remainder of the article analyses four elements of Singapore's haemato-logic assemblage. First, it concentrates on the narratives about blood donors disseminated through the SBTS's propaganda campaigns. Second, it explores the statistics about blood donors regularly issued by the SBTS. Third, it analyses the spaces where Singaporeans could come and give their blood for transfusion. Fourth, it examines the techniques through which the SBTS would recognise and reward the citizens who gave blood for transfusion. As this analysis makes clear, these four elements were instrumental in making the new figure of the citizen blood donor in post-colonial Singapore. Together, they created a 'sphere of possibilities' in which Singaporeans could think and act as donors and give their blood to save lives and develop the country (cf. Hacking 2002, Chap. 6). The narratives brought into being the figure of the blood donor as an entity that can be thought of and discussed. The statistics helped generate the figure of the blood donor as a unit that can be registered, counted and analysed. The spaces allowed Singaporeans to enact the figure of the donor by creating an environment in which to give blood. The recognition and reward techniques helped bringing into being the figure of the blood donor by enticing citizens in the Southeast Asian Republic to give blood through a system of incentives. While these four elements certainly created a sphere of possibilities for Singaporeans to think and act as blood donors, it is important to note that

such a sphere of possibilities does not mean that they effectively did so. This is, in any case, not a claim made in this article, even though the success of blood donation in post-colonial Singapore – attested by the 61,000 blood donations received by the SBTS in 1989 compared to 6000 received in 1958 – would seem to support it (Ministry of Health 1958, p. 183, 1989, p. 19).

Narratives

Year after year, the SBTS led ‘intense and sustained publicity [campaigns]’ to educate and enlighten the population about the importance of transfusion medicine and the donation of blood (Ministry of Health 1966, p. 192). As already explained, these included ‘films shown widely at all major cinema theatres throughout the island [and] on TV’; ‘a distribution of appeal pamphlets for all’; ‘regular announcements on radio reminding the public to support the blood bank’; ‘an island-wide display of posters’; ‘frequent news items about the SBTS put out in the local press’; ‘mobile exhibitions on the work of the SBTS at the main Community Centres throughout the island’; and ‘public lectures and demonstrations’ made by the SBTS at ‘various youth organisations and teaching institutions’ (Ministry of Health 1966, p. 192, Singapore Government 1966). These intense and continuous propaganda campaigns conducted by the SBTS were replete with narratives about the blood donor. These narratives generally contained (1) accounts about the importance of blood transfusion and the way it works; (2) statements on the donors’ key role in blood transfusion and the absence of danger when giving blood; and (3) declarations about how blood donation saved lives and participated in the development and modernisation of the country. It was these accounts, statements and declarations that helped to create an intellectual and discursive realm in which the figure of the donor could be thought of and discussed in Singapore.

The accounts contained in the SBTS’s propaganda on the importance of blood transfusion and the way it works generally started with declarations that blood transfusion has become a key part of modern medicine today. As a government official argued, ‘blood transfusion has become an essential part of modern medicine’ and ‘enables patients to face operations with less risk, speed up convalescence and a return to gainful employment’ (Chor 1969, p. 1). These declarations were usually accompanied by a list of medical interventions in which transfusion medicine played a key role. For illustration, one government member explained that blood transfusion is important ‘for major surgical operations, for women bleeding in childbirth, for the victims of major road or industrial accidents and for patients with various disorders whose lives can now be saved because of blood transfusion’ (Wong 1971, p. 2). Most of the time, declarations about the importance of blood transfusion were followed by accounts about how blood transfusion works. These accounts normally included graphic descriptions of blood taking, detailed depictions of the way the SBTS matches, stores and redistributes blood as well as explanations about ABO and Rhesus blood groups and their importance in transfusion (Ministry of Health 1965, pp. 230–231, 1966, pp. 192, 231, Yong 1965, pp. 1–2, Yeo 1985, p. 1).

The second element generally contained in narratives about blood donors found in the SBTS’s propaganda were statements on the donor’s key role in blood transfusion and the absence of danger when giving blood. The donor’s key role was usually conveyed by reminding Singaporeans that scientists could not produce blood synthetically and that, therefore, human beings were the sole source of blood for transfusion. As the Minister for Health argued, ‘there is no artificial substitute which has all the properties of human blood’ and transfusion medicine, therefore, ‘depends on human beings for blood supply’ (Yeo 1985, p. 1). This talk about the importance of the donor generally came together with

assurances that donating blood was not dangerous for the donor. For example, the Minister of Health assured Singaporeans that

Blood donation is a simple procedure, free from pain and without ill effects ... Our bodies contain an average of 10 pints of blood which is manufactured and renewed all the time, in our bodies, every 10 weeks. That is why a blood donation of about 1/2 pint is without ill-effect because this amount of blood will be regenerated in a matter of days through our own body system. (Yong 1965, pp. 1–2)

These assurances were given to dispel the 'fears' and 'false beliefs' about blood donation that prevented many Singaporeans from giving their blood. As a member of the government explained, 'fear of pain and the needle, ignorance about the non-effect of blood donation on future health and superstitions about giving away something vital to life are the main factors inhibiting people from donating blood' (Wong 1971, p. 2). These 'false beliefs are deeply ingrained in the people,' he continued, even though 'the SBTS has done everything possible to allay [them] through regular publicity programmes' (ibid.).

The third and last element contained in narratives about donors was declarations about how blood donations saved lives and participated in the development and modernisation of the country. The association between giving blood and saving lives could be found everywhere in the SBTS's propaganda. The Minister of Health, for example, reminded Singaporeans that 'in offering your valuable blood' you will 'save the lives of thousands of your fellow citizens' (Yong 1966, p. 1). This association was also present in advertisement films such as *The Life Saver* and on posters that encouraged citizens to 'be a blood donor and help save life' (Colony of Singapore 1956, p. 190, Ministry of Health 1965, p. 230). Besides being associated with saving lives, blood donation was also connected with the development and modernisation of Singapore in the SBTS's propaganda. According to the latter, 'the act of giving blood' had to 'be regarded as a part of the normal duty of every citizen' and Singaporeans who gave their blood were 'loyal, patriotic citizens' who contributed to 'the strength and health of the nation' (Tan 1981, p. 2, Teh 1982, p. 2). Furthermore, as a senior minister explained, it was important for Singaporeans to 'realise' that 'by donating blood [they were] not only helping to save lives but also playing a part in the economic and social development of the Republic' (Wong 1971, p. 2). Similarly, another high-ranking official argued that, by donating blood, Singaporeans participated in the national effort to achieve 'a higher standard of living' and ensure that 'the nation progressed' (Yeo 1984, p. 2).

Statistics

Throughout the 30 years that followed independence, the SBTS regularly issued a series of statistics relative to the number of blood donations and donors in Singapore. This information, which was compiled and prepared by statisticians using the SBTS's computerised donor registration system, was broadcasted daily on Radio Singapore and published in both the SBTS's *Weekly Bulletins* and the Ministry of Health's *Annual Reports*. This statistical information usually comprised: (1) the amount of blood donated and transfused in Singapore and other secondary statistics; (2) the variations in the quantity of blood donated and transfused each year as well as comparisons between the amount of blood donated in Singapore and elsewhere; and (3) analyses about the amount of blood donated and transfused in relation to the racial groups of the donors. It was these numbers, comparisons and analyses that helped to create, in Singapore, an intellectual space in which the figure of the donor could be counted, numerically represented and statistically investigated.

The amount of blood donated and transfused in Singapore was the key statistical information regularly issued by the SBTS. The amount was expressed in ‘units of blood’ – with one unit being equivalent to 1/2 pint of blood received from one donor in one session – collected over a determined period of time. So, for example, the SBTS’ *Weekly bulletin no. 6/75* informed the reader that the ‘weekly statistics’ for the ‘for the week ending on 9th February 1975’ were the following:

Total number of Blood Donations received during the past week was 741 units, an average of 105 units per day. Total number of Blood Transfusions given during the past week was 599 units, an average of 85 units per day. (Singapore Blood Transfusion Service 1975)

Similarly, the Ministry of Health’s 1982 *Annual Report* informed its readers that, during the course of the past year, ‘an all time record of 59,711 units of blood were collected’, while ‘53,408 units of blood, also a record number, were transfused’ (Ministry of Health 1982, pp. 24–25). Besides the information about the amount of blood collected and transfused, the SBTS also issued some secondary statistics. One of these was the number of blood donors. The SBTS divided these donors between ‘regular donors’, who gave blood at least twice per year, and ‘irregular donors’, who gave blood less than twice per year. For illustration, the Ministry of Health’s *1970–71 Report* explained to its readership that, for the year 1970, ‘the donor panel was [constituted of] 23,682 [donors]’ of which ‘only 6970 (29%) were regular donors who made two or more donations during that year’ (Ministry of Health 1971, p. 28). Another secondary statistic often issued by the SBTS was the state of the Republic’s blood stocks. So, for example, the SBTS’ *Weekly bulletin no. 6/75* informed the reader that, at the beginning of February 1975, the levels of the ‘reserve blood stocks’ for ‘groups O and A’ were ‘low’, while those for ‘groups B and AB’ were ‘above average’ (Singapore Blood Transfusion Service 1975).

The second element usually found in the SBTS’s regular statistical information was the variations in the quantity of blood collected and transfused each year as well as comparisons between the amount of blood donated in Singapore and elsewhere. Statistics about the fluctuations in the annual quantity of blood collected and transfused would always figure in the Ministry of Health’s *Annual Reports*. As illustration, the Ministry of Health’s 1982 report explained that, during the past year, ‘an all time record of 59,711 units of blood had been collected, an increase of 8.5% over the previous year,’ while, at the same time, ‘53,408 units of blood, also a record number were administered’ (Ministry of Health 1982, p. 24). These yearly statistics were frequently presented in the forms of graphs which allowed the reader to better visualise the fluctuations in the annual quantity of blood collected and transfused over the years (cf. Figure 1, below).

These graphs showed that the annual amounts of both the blood collected and the blood transfused had, with the odd exception here and there, continuously increased ever since independence. While the SBTS and other government officials did recognise the steady augmentation of the quantity of blood donated, they usually chose to highlight the increasing demand for blood instead. As a senior cabinet member remarked, ‘the demand for blood has increased tremendously [over the last decade] and will continue to increase’ (Wong 1971, p. 1). Highlighting the increase in demand allowed the government to call for renewed efforts in donating blood. So, for example, the Minister for Health argued that ‘unless we keep recruiting more donors, we cannot maintain adequate stocks to satisfy future demands [that keep augmenting]’ (Howe 1983, p. 2). The comparisons between the quantity of blood collected in Singapore and other countries, which also figured among the SBTS’s statistical information, served a similar purpose. Indeed, the comparison of Singapore’s ratio between the quantity of collected blood and the total population with the

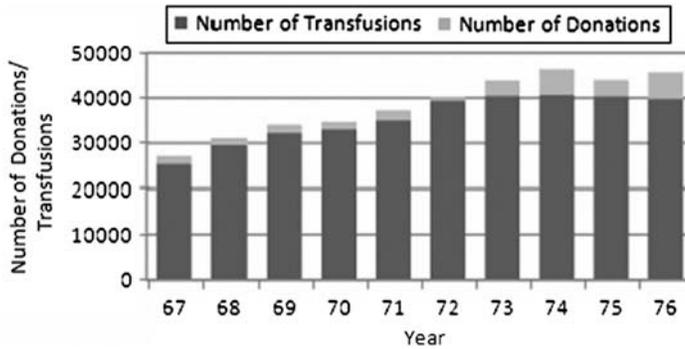


Figure 1. Graph with the annual statistics of donations received and of transfusions administered between 1967 and 1976 (Ministry of Health 1976, p. 32).

ratio of other countries allowed government officials to highlight Singapore’s potential to increase the number of donations. The following statement of Singapore’s Acting Minister for Health is a good illustration:

Let us see how we compare as a nation of blood donors. Today, we have about 23 blood donations to every 1,000 Singaporeans. In the developed countries, this ratio is very much higher. Germany has a donation rate of 48 per 1,000 persons. France has a rate of 71 per 1,000 people, while the rate for Switzerland is 81 per 1,000 persons. There is therefore room for improvement in our blood donor rate. (Yeo 1988, p. 2)

The third element usually found in the SBTS’s regular statistical information was the analyses of the amount of blood donated and transfused in relation to the racial identity of the donors. Regularly found in the Ministry of Health’s *Annual Reports*, these analyses divided the donations received and the transfusions by the racial groups – ‘Chinese,’ ‘Malay,’ ‘Indian’ and ‘Other’ – to which the donors and the recipients belonged. For example, the Ministry of Health’s 1965 report stated that ‘an analysis of the number of donations received and transfusions given by racial groups show that the Chinese who were responsible for the use of 13,583 or 77% of the transfusions contributed only 6521 or 36% of the blood donations’ (Ministry of Health 1965, p. 230). ‘All other racial groups,’ the report continued, ‘contributed more blood donations than they used’ (ibid.). These analyses were generally accompanied with a graph in which the donations given and transfusions received by each racial group were marked (cf. Table 1).

Table 1. Table analysing the number of donations received and transfusions given by racial groups for 1964.

	Donations received	Percentage	Transfusions given	Percentage
Chinese	6,113	35	12,213	75.95
Malay	4,818	28	1,872	11.64
Indian	2,018	12	1,369	8.52
Europeans	3,404	19	358	2.22
Eurasian	848	5	144	.90
Other	178	1	125	.77
	17,379	100	16,081	100

Source: Ministry of Health 1964, p. 212.

These analyses and tables were one of the tools through which the concept of 'multiracialism' was operationalised. As already alluded to, this concept was developed by Lee Kuan Yew and his allies in the late 1950s in order to ensure harmonious relations between the country's different racial groups (cf. Clammer 1982, Hill and Lian 1995, Purushotam 1998). Assuming that the population that lived in the city-state was composed of four different racial groups – 'Chinese,' 'Malay,' 'Indian' and 'Other' – each with its own culture, language and religion, Lee and his allies argued that the construction of a strong and stable nation-state required the existence of peaceful and harmonious relationships between these four racial groups. This meant, in particular, that one had to ensure that the four groups contributed in equal measure to the efforts to develop Singapore and, in return, benefited evenly of the prosperity thus engendered. In relation to the collection and redistribution of blood, this meant that the four groups had to give and receive blood in equal measure. The analyses and tables described allowed the SBTS to verify whether this was really the case and, in case it was not, to conduct propaganda campaigns targeting the racial groups that did not sufficiently contribute to the collection of blood, as with the Chinese in the 1970s (Ministry of Health 1965, p. 230, 1966, p. 190).

Spaces

From independence until 1988, at which time the SBTS was re-housed in the newly built National Blood Centre, the Service collected blood from donors in two different types of spatial arrangement. The first one was Singapore's Blood Transfusion Centre (BTC), which was built by the British colonial authorities just before independence. The second one was the SBTS's mobile units which held bleeding sessions all over the island and which were first set up by the British in the early 1950s. While the BTC was the main space where Singaporeans could give blood until the late 1960s, the mobile units overtook it in importance from then onwards (Chor 1969, Ministry of Health 1971, pp. 27–28). By providing *ad hoc* spaces to donate blood, both the BTC and the SBTS's mobile units helped to create an environment where Singaporeans could come and enact the figure of the blood donor by giving their blood, saving lives and participating for the development of the country.

Located next to Singapore's General Hospital in the city centre, the BTC was the home of the SBTS between 1953, when the BTC was opened by the British colonial authorities, and 1988, when the SBTS moved into the newly erected National Blood Centre. Aside from 'offices', 'a laboratory, assembling and cleaning rooms and an air-conditioned room in which sterile solutions [were] made', the BTC also comprised a series of rooms to welcome and accommodate blood donors (Colony of Singapore 1953, p. 178). These rooms comprised, first of all, a reception area where donors were greeted and registered into the SBTS's computerised donor registration and filing system (Ministry of Health 1975, p. 30). Furthermore, they comprised a 'waiting room' where blood donors were brought after having registered to wait for their turn to give blood (*ibid.*). They also included a venesection room furnished with beds 'in which nine donors [could] be bled at a time' (Colony of Singapore 1953, p. 178; cf. also Figure 2). Finally, these rooms also comprised a 'refreshment room' where blood donors would come after giving blood to rest and refresh themselves before leaving the Centre (Colony of Singapore 1953, p. 178; cf. also Figure 3).

The BTC was so arranged as to guarantee that the act of giving blood was a pleasant and comfortable experience. As the Ministry of Health explained, 'everything possible [had to be] done to ensure [the donors'] comfort and wellbeing' (Ministry of Health 1964, p. 163). This meant, first of all, making the BTC a 'pleasant and commodious' place



Figure 2. A prospective blood donor examined by two nurses in the venesection room at the Blood Transfusion Centre (Colony of Singapore 1953, p. 166).

(Colony of Singapore 1954, p. 162). Both the waiting and refreshment rooms, for example, were furnished with comfortable sofas and armchairs arranged around low wooden tables allowing blood donors to relax and discuss before and after giving blood (cf. Figure 3). Photographs and paintings were often displayed on the walls of the two rooms. In 1966, for example, the Singapore Art Society was invited by the SBTS to hold an exhibition in both the waiting and refreshment rooms at the BTC (Singapore Government 1966, p. 2). Furthermore, refreshments, drinks and cigarettes offered by MNCs established in Singapore were served to blood donors that came to give their blood. These included, among others, Nescafé, Bourn-Vita, Ovaltine, Lucozade, Guinness Stout, Carlsberg Beer as well as Churchman and Consulate Cigarettes (e.g. Ministry of Health 1964, p. 211, 1967, p. 112). Ensuring that the BTC was a pleasant and comfortable place also meant providing 'free transport' to the donors who wanted to come to the centre, for which the SBTS had 'a motor bus for thirty passengers and a station wagon for twelve' (Ministry of Health 1965, p. 229). It also meant having flexible opening hours, welcoming donors not only during office hours but also in the evenings and on the weekend (Ministry of Health 1971, p. 27, 1984, p. 28).

The other type of spatial arrangement where Singaporean citizens could come and give their blood to save lives and contribute to the nation's modernisation was the SBTS's two mobile units. The first one was a group of physicians and nurses equipped with all the necessary material for bleeding donors, including beds. This material, which they stored and transported in a bus, allowed them to set up a venesection room anywhere in Singapore (Chor 1969). The second one was 'a fully equipped and self contained air-conditioned Mobile Blood Bank' manned by physicians and nurses that could be



Figure 3. Blood donors relaxing and enjoying drinks after giving blood in the refreshment room of the Blood Transfusion Centre (Colony of Singapore 1953, p. 167).

brought to any location across the island to carry ‘on-the-spot blood collection’ (Ministry of Health 1967, p. 110). These two mobile units allowed the SBTS to conduct blood collection sessions in government services such as the Armed Forces and the Police as well as in factories and offices run by large companies such as Shell and the Singapore Airlines Group. These sessions were coordinated with the heads of these services and companies who would authorise and encourage their personnel to stop work and give blood to the mobile units (e.g. Ong 1977, Tan 1981). Furthermore, the two mobile units also allowed the SBTS to carry out blood collection sessions at community centres throughout the island in the evenings and at weekends. Working together with Citizens’ Consultation Committees, Resident Committees and Civil Defence Committees, the SBTS would encourage residents to come out and give their blood to save lives and develop the country (e.g. Ong 1979, Yeo 1984). By inviting donors to give their blood where they lived and worked instead of having to go to the Blood Transfusion Centre, the two mobile units partook in the SBTS’s efforts to make blood donation as pleasant and effortless as possible.

Recognition and rewarding schemes

For most of the 30 years that followed independence, the SBTS ran two schemes through which it publicly recognised and rewarded Singaporeans who had donated blood to save lives and contribute to the nation’s development. The first one was the annual Blood Donor Medal Presentation Ceremonies which had been started by the British authorities in the early 1950s (Colony of Singapore 1953, p. 179). The second one was the Scheme of

Medical Privileges for Regular Blood Donors introduced by the Singaporean government in 1965 (Yong 1965). By setting up a series of incentives to give blood, these two schemes helped to create a realm in which Singaporeans were enticed to donate their blood, save lives and contribute to the development of the county.

Blood Donor Medal Presentation Ceremonies are public events during which Singaporeans who have made a large number of blood donations are presented with awards by a member of the government. The ceremonies, which take place annually, are generally held in conference halls or auditoriums that can accommodate a large number of people such as the Fort Canning Cultural Centre, Singapore's Conference Hall and the School of Nursing's Auditorium. Often, the member of the government who presents the awards is a high-ranking minister, which shows the importance attributed to these ceremonies by the Singaporean governing elite. So, for example, Lee Kuan Yew chaired the ceremony in 1966, while Goh Chok Tong (who succeeded Lee as Prime Minister in 1990) presided the awards presentation in 1980. The ceremonies, which are reported in the local media, are open to the members of the public and generally well attended. They are conceived as a platform to publicly acknowledge and give thanks for the service rendered to the nation by regular blood donors. So, for example, the Singaporean Government described these ceremonies as a way to 'give recognition publicly to the debt owed to the faithful and publicly spirited blood donors' (Singapore Government 1966). Similarly, the Minister of Home Affairs S. Jayakumar declared, while presiding over the 1987 ceremony, that

We are here today to honour a group of people for the dedicated and noble services they have contributed to our nation. They are our Champion Blood Donors who have given blood regularly over many years to help save lives. Blood donation is a commendable and highly civic-minded act. (Jayakumar 1987, p. 1)

They were five different types of medals given at each ceremony. First, there were 'Silver Medals' which were 'given to donors who have given [their blood] for a minimum of ten times' (Singapore Government 1966). Second, there were 'Gold Medals' which were given to donors who had their blood taken for a minimum of 20 times (*ibid.*). Third, there were 'Silver Plaques' for Singaporeans who had given their blood at least 30 times (Ministry of Health 1967, p. 112). Fourth, there were 'Gold Plaques' which were given to donors who had their blood taken for a minimum of 40 times (*ibid.*). Fifth and finally, there was the highest distinction of all, the 'Champion Blood Donor Awards', given to donors who had given their blood for 50 times or more (*ibid.*; cf. Figure 4).

The other type of recognition and rewarding technique was the Scheme of Medical Privileges for Regular Blood Donors. This was a system which gave Singaporean citizens who were 'regular blood donors' – that is who gave their blood a minimum of two times per year – a series of benefits in terms of medical treatment. The benefits included, first of all, 'priority and free treatment at [all] government outpatient dispensaries' (Yong 1965, p. 2). Furthermore, it comprised 'preference for early appointment dates and early admission to all government hospitals for any medical or surgical treatment in respect to non-emergency 'cold cases'' (*ibid.*). It also included the possibility to be upgraded to 'paying class A or B wards' in government hospitals for 50% of the charge for normal public wards (*ibid.*). Finally, this scheme of medical benefits also comprised an exemption to pay 'all other hospital charges (e.g. surgical operation fees, laboratory fees, X ray fees)' (*ibid.*). In 1976, this scheme of privileges was further developed with the introduction of the possibility for regular blood donors to 'nominate one member of their immediate family to enjoy [similar] medical benefits' to themselves (Ministry of Health 1976, p. 1).



Figure 4. Dr Mattar, Minister for Social Affairs, presenting the Lady Champion Blood Donor Award to Ms Liew at the 1978 Blood Donor Medal Presentation Ceremony (Ministry of Health 1978, p.13).

The aim of this scheme was, of course, to ‘encourage regular blood donation’ (Ministry of Health 1985, p. 7). As the Ministry of Health (1967, p. 232) explained, ‘it is hoped that this scheme will be an incentive to members of the public to enrol as regular blood donors.’

Conclusion

This article first outlined the main characteristics of Singapore’s haemato-logic assemblage, a governmental apparatus that was in place in the Republic from the country’s first decisive steps towards independence to Lee Kuan Yew’s stepping down from power in 1990. One of these main characteristics is the SBTS in concert with a combination of knowledges, experts and techniques associated with transfusion medicine, all of which were imported by the British before 1959. As the article showed, this combination of knowledges, experts and techniques included (1) elements that make the transfusion of blood materially possible such as theories about ABO blood types, laboratory technicians and venesection rooms; (2) elements that make it possible to educate and enlighten the population about the importance of blood transfusion such as the belief that public opinion can be moulded, propaganda experts and appeal pamphlets; (3) elements that make it possible to know, represent and analyse the quantity of blood collected such as registration system, statisticians and graphs; and (4) elements that make it possible to entice members of the public to effectively come forward and give their blood.

Another key feature of Singapore’s haemato-logic assemblage was the integration of both this combination of knowledges, experts and techniques and the SBTS into the project to develop and modernise the newly independent nation devised by Singapore’s governing elite. Articulated around a strong centralised government, this project purported to improve the population’s material conditions by attracting large foreign MNCs to come

and open factories on the island. To attract these companies, the Singaporean government devised, among other things, policies to transform the population into a disciplined and productive citizenry. As the article showed, the SBTS and transfusion medicine were, in the eyes of the country's leadership, an integral part of these policies by improving Singaporeans' health and participating in the construction of their national identity.

The reminder of the article argued that the knowledge, experts and techniques that make up Singapore's haemato-logic assemblage overflowed into and reconfigured understandings of biological sociality and citizenship in post-colonial Singapore. More specifically, it argued that, over the 30 years following independence, this assemblage participated in the making of a new figure of the biological citizen by creating a sphere of possibilities for Singaporeans to think and act accordingly. This new figure of the citizen is 'the blood donor'. Articulated around the SBTS and the knowledge, expertise and techniques of transfusion medicine, this donor is a Singaporean who gives blood to save the lives of fellow citizens and thus participates in the development and modernisation of the nation.

To substantiate this argument, the article focused on four aspects of the haemato-logic assemblage and examined how, together, they created 'a sphere of possibilities' in which Singaporeans could think and act as donors and give their blood to save lives and develop the country (cf. Hacking 2002, Chap. 6). First, the article looked at the narratives about blood donors disseminated through the intense and continuous propaganda campaigns conducted by the SBTS. It showed how explanations about the way transfusion worked, statements about the role it played in saving lives and developing the country as well as reassurances about its risk-free nature helped to create a discursive realm in which the figure of the donor can be thought of and discussed. Second, the article examined the statistics regularly issued by the SBTS about the quantity of blood collected and transfused in Singapore. It showed how information on the annual amount of blood donated, comparisons with other countries and analyses about the racial groups' contributions participated in making a sphere of possibility in which the figure of the donor could be counted, represented and analysed numerically. Third, the article examined the different spaces in which the SBTS would collect blood for transfusion. It showed how venesection rooms, waiting rooms with sofas and refreshments as well as air-conditioned mobile blood banks contributed in making an environment in which Singaporeans could come and enact the figure of the donor by giving their blood. Fourth, the article analysed the two schemes through which the SBTS publicly recognised and rewarded those citizens who regularly donated blood. It showed how the presentation of medals at public ceremonies as well as a system of medical privileges helped to create a realm in which Singaporeans were enticed to enact the figure of the blood donor. Of course, as made clear in the article, the existence of such a sphere of possibilities does not necessarily mean that Singaporeans did effectively think and act accordingly – a claim resisted by this article, even though the remarkable success of blood donation in post-colonial Singapore would have constituted strong evidence in support of it.

The article made an original contribution to two scholarly bodies of work. The first is the literature on citizenship and identity in Singapore (e.g. Chua 1995b, Hill and Lian 1995, Lian 2006, Ong 2006, Tan and Jin 2007). By examining Singapore's haemato-logic assemblage's impact on subjectivities, the article added a biological dimension to the forms of post-colonial Singaporean citizenship described by this literature. The second body of work is the literature on identity and the biomedical sciences (e.g. Rabinow 1996, Rose and Novas 2005). By choosing to examine transfusion medicine in a developing Asian country instead of genetics in a Western advanced liberal democracy, the article

outlined a different form of biological citizenship than the one generally depicted in this literature. Indeed, the blood donor is not a bio-sociality articulated around molecular understandings of the body, active citizens working in patient associations and a global market for health driven by the pursuit of bio-value. In contrast, it is one characterised by venesection rooms and theories about ABO blood groups, a will to modernise embodied in a strong, authoritarian state and propaganda techniques to mould public opinion.

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Notes

1. Richard M. Titmuss' *The gift relationship: from human blood to social policy* (London: Allen & Unwin, 1970) represents the classic example of this way of thinking where the NBTS and transfusion medicine is seen as a key part of Britain's post-war welfarist project.
2. This figure of the citizen blood donor is not the only possible form of citizenship that can stem from transfusion medicine and SBTS-like institutions. Countries like France and the UK provide good illustrations. In these two countries, transfusion medicine was not incorporated into a Singaporean-like modernisation project but into projects to build a society characterised by 'social solidarity' and articulated around a strong 'welfare state' (Rabinow 1999, Chap. 4, Fontaine 2002, Reubi 2009, Chap. 3). This favoured the creation of citizens giving blood to transform the country into a socially just society characterised by solidarity and welfare for all instead of citizens giving blood to develop and modernise a newly independent nation as in Singapore.

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