

Friends, partners, and orphans

Relations that make and unmake a hospital

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Editors' note: This essay is intended to be read alongside the commentary by Rethy Chhem (this issue).

Abstract

The essay juxtaposes three moments of medical infrastructure and technology aid in Phnom Penh, Cambodia: 1960, 2010, and 2005. The operative terms of these moments are relationship terms: 'friendship', 'partnership', and 'orphan'. The 1960 gift of a hospital, equipment, and training made a friend, and reciprocity involved political alignment at the level of the nation-state. The 2010 gift of equipment and training made a partner, and reciprocity involved brand alignment spread across diverse government ministries, public hospitals, private universities, and private businesses. Focusing on the materiality of technology and infrastructure gifts brings us to the orphan. The orphan is a gift that turns toxic. Its toxicity is health-threatening if there is no infrastructure to secure it. The elaborate partnerships required to identify and secure orphan sources of radiation show how gifts of medical technology and infrastructure exist beyond their immediate utility to humans. What technology of partnership will the medical physicist of 2050 unearth, and what ethic of relationality will come to care for, repair, and secure it?

Keywords

Cambodia, global health, technology, history

1960

The grounds of the Khmer-Soviet Friendship Hospital teemed with ministers, foreign dignitaries, and hospital staff in white coats. Conversations were held in a combination of Khmer, Russian, and French. The August sun was blazing. Sihanouk, the prince and elected leader of post-independence Cambodia, was beaming with achievement: a brand-new hospital, the largest in Southeast Asia, a *vaste cité médicale* with cutting-edge equipment and training. Dancers waited to perform ballet in the opening ceremony, sweating under costumes and make-up, their gold headdresses glowing, the green and red silk of their costume radiating.



Figure 1. The Khmer-Soviet Friendship Hospital. From a feature on the opening in *Cambodge d' Aujourd'hui*, 1960. Courtesy of the Center for Khmer Studies Library, Siem Reap.

The hospital, commonly called 'Russian Hospital' by staff, patients, and locals, was a gift from the Soviet Union to the government and people of Cambodia.¹ The buildings were designed, constructed, and equipped by the USSR. They are massive, angular, symmetric, and aspiring, 'like a bird with two wings', the Russian ambassador said in his speech to the

¹ <http://embrusscambodia.mid.ru/web/cambodia-en/documents-and-photos>

crowd assembled for its inauguration on 29 August.² Built of solid modernist concrete but open to the outside, the hospital's structural elements, such as open-air passageways, lattice walls, and window slats, shaded the sun and allowed air to flow. The hospital was a delicate alignment – modernist in material and form, tropical in element, and multiple in language – at a time when the Cold War had not yet crushed Cambodia's struggle to remain nonaligned.

In 1960, the Sangkum government assembled what it could to build the new nation, and the framework of that era was 'friendship' between old and new nations. 'Friendship' is a term that marks a historical moment, rather than a particular political economic ideology; it names gifts given on both sides of the Cold War. Cambodia was one of sixteen new countries in Asia and Africa targeted by the USSR for 'noncapitalist development', which meant development of the state without necessarily a communist revolution (Franke and Chasin 2005, 370; Skachkov 1960; Tsvetkova n.d., 22). Part of this aid involved educating foreigners in the USSR, as well as establishing training institutions in foreign countries (Tsvetkova 2008). Cambodian students and officials welcomed Soviet aid in fields that seemed politically neutral, such as medicine and technology, and rejected aid in fields that could be overtly ideological, such as education (Tsvetkova n.d.). Up until 1963, when it severed diplomatic relations, Cambodia also received military and other aid from the United States. In 1959, the Khmer-American Friendship Highway was inaugurated. In 1960, the Khmer-Soviet Friendship Hospital.

These infrastructure projects were opened to great ceremony, with ballet and song composed especially for the events. According to the Russian Hospital inauguration program, written in Khmer, Russian, and French, the opening ceremonies included a performance of Khmer dance by the Royal Ballet Corps and a song giving thanks to the Soviet minister of public health, S. V. Kourachov, and the people of the USSR.³ The first two verses of the song read:

² National Archives of Cambodia (NAC) BOX 315, Remarks by Secretary of States at the Inauguration Ceremony of the Khmer-Soviet Friendship Hospital (29 Aug. 1960: 5).

³ NAC BOX 312 [Dance program 29 Aug 1960 for S.V. Kourachov, Minister of Public Health, USSR]. Original in Khmer, Russian, and French; translation by author. Nelson (2015) writes that these ballets, including 'Ballet of Khmer-American Friendship' (1959), and 'Ballet of Khmer-Chinese Friendship' (1960) illustrate political and performative flexibility in the Cold War.

Welcome to his excellency, the minister,
 please convey our sincerest thanks
 to the people of Russia, our friends,
 who have the generosity to help the Cambodian nation.

Friends, you have given the gift of a hospital,
 a great building of 500 beds,
 all the equipment needed for care,
 and treatment of all types of diseases.

These verses are remarkable for their specificity: the number of hospital beds, the mention of equipment. Also notable is that friendship operates at the level of the nation: the Russian government and the Russian people are one and the same.⁴ The government periodical *Cambodge d'aujourd'hui*, which covered the hospital opening, also foregrounds numbers and nation. A page from the cover story presents data on the number of beds, the square meters of building, and the nationality of the administration and staff (all Khmer, with nine Soviet advisors).

The Soviet model prioritized high-tech urban hospitals for training, care, and research, which merged with the Cambodian government's goal to build a modern hospital network. *Actualités* (French-language government news reels) and promotional films from the 1960s depict how medicine would be part of modern Cambodia. A 1960 Khmer-language film about women's roles in the new nation shows women manufacturing pharmaceuticals in a factory, operating an X-ray machine, assisting in surgery, and performing experiments in a medical laboratory (in addition to sowing rice, dancing, teaching, playing basketball, sailing, painting, and performing military exercises).⁵ An undated *actualité*, most likely from the early 1960s, devotes two of its five chapters to health-related activities: women being trained in 'modern midwifery' (*wetyia chmop tumnup*) at a Phnom Penh training center, and 'A day at the Takmao Health Center' which tells us that the United States, World Health Organization, and Cambodia are working together for prevention and treatment. In addition to breastfeeding mothers, a maternity ward, and children receiving vaccinations, we are also shown that the center has a lab and microscopes so that 'health will rise up and blossom' (*sathiaronaq sokhaphibal luhk loah*).⁶

⁴ See Ssorin-Chaikov (2006) for analysis of how, within the socialist state gift economy, gifts differentiated the Stalinist moment from both prerevolutionary Russia and the capitalist world.

⁵ Bophana Centre, NSI_VI_001568, *La Femme Cambodgienne à la heure du Sangkum*, 1960.

⁶ Bophana Centre, DDC_VI_001282, *Actualités* No. 58, Sangkum (no date).

Russian Hospital became known for expertise in radiology and radiotherapy, pulmonology, and surgery. It published a medical journal, *Revue Médico-Chirurgicale de l'Hôpital de l'Amitié Khméro-Soviétique* (*The Medical-Surgical Review of the Khmer-Soviet Friendship Hospital*) from 1961 to 1971. The *Revue* contained case studies, epidemiological reports, comparative studies of treatments, and discussions of clinical and experimental activities underway at the new hospital. The journal documented efforts to establish an inventory of diseases, treatments, and techniques relevant to Cambodia – a ‘Cambodian pathology’ (Grant 2017a, see also Warren on ‘national physiology’ in Peru, this issue) – though these efforts toward a national medicine were less extensive than in other postcolonial nations, such as Uganda or Kenya. *Cambodge d’Aujourd’hui* dedicated a whole page to radiology and cobalt therapy, showing the centrality of these medical technologies to the new hospital and new nation. As Sihanouk wrote in the preface to the 1968 edition of the *Revue*: ‘our superior work shows that Cambodia has taken its place amongst nations that contribute to the progress of humanity’ (Norodom 1968, iii). Participation in cutting-edge medicine was one of the ways Cambodia did so.

2010

On an October morning, the small auditorium in Russian Hospital hummed with conversation, and an occasional pop song rang out from a cell phone. The room was filled with hospital staff in white coats or scrubs; I sat next to radiologists I knew from the imaging ward. We were assembled for a ceremony celebrating the handing over of medical equipment from General Electric (GE), a US multinational corporation, to Russian Hospital. We in the audience faced one of the gifts – a mobile patient monitor – which seemed somehow both grand and small, a slender, new mechanical object untethered to the source of its power, a star oddly out of place, so far from the scene of its care.

The door opened and sun poured in, annihilating the barely perceptible flicker of fluorescent lights. The silhouettes that entered soon became recognizable as representatives of Russian Hospital and the Ministry of Health, officials from GE, and the US Ambassador. The first speaker, the hospital director, told us that the equipment was brand new and high quality (*thmey thmey kunpheap l’a*), and the hospital could not have afforded it otherwise. ‘Most equipment donated to us has been used’, he said. ‘When broken, these machines were difficult for the hospital to repair because there were so many different types. This was the first time in the history of the hospital for receiving such support. Russian Hospital is committed to maintaining the machines’, he said.

The second speaker, the vice president of GE Corporate Citizenship, told us that GE began working ‘to improve access to quality health care for the average Cambodian’ about two

years ago. By the end of the year, he stated, GE will have worked at twenty-three hospitals: ‘An x-ray machine for every hospital in Cambodia!’ The technology would help dedicated staff at such a large hospital, he said. ‘Please use the equipment to care for people. I want to unofficially rename this the “Khmer-GE Friendship Hospital”’. It was a joke, eliciting a ripple of chuckles from the room, but revealing nonetheless: GE replaces the USSR as the world’s superpower.



Figure 2. End of the commissioning ceremony

At other commissioning ceremonies that I attended across Phnom Penh, hospital directors echoed this praise of GE for giving new machines, praise that marked the anomaly of GE’s gift, emphasizing that health-related aid in the past three decades had rarely involved objects of such high value.⁷ Yet in the biography of Russian Hospital, this was clearly not the case. The Soviet Union had built and equipped the entire hospital. What future requires the erasure of these origins? Was this just a different form of corporate gift giving as a way to

⁷ I analyze these ceremonies in detail in Grant 2017b.

make distinctions between giver and receiver (Cross 2014)? Was it a capitalist displacement of what was originally a noncapitalist gift? Is it a method of staking out the new world order?

In fact, in 2010 it was more typical to find the phrases ‘corporate social responsibility’, ‘corporate citizenship’, and ‘partnership’ in GE discourse than ‘friendship’. Russian Hospital was one of seven hospitals in and around the capital that were partners in GE Foundation’s Developing Health Globally (DHG) program. DHG had projects in Southeast Asia, Africa, India, and Latin America, and Cambodia was the newest DHG country, chosen because of its rankings based on indicators such as infant mortality and per capita income. DHG Cambodia donated mobile ultrasound and X-ray machines, suction pumps, ventilators, anesthesia machines, incubators, and regular and fetal monitors⁸ to government hospitals, and trained staff in their use. The donation to Russian Hospital was valued at US\$13 million. With the US-based NGO Engineering World Health, GE Foundation institutionalized a biomedical equipment technician-training program at the University of Puthisastra and a Center of Excellence for equipment training and repair at Calmette Hospital.⁹

A DHG promotional video, made after the commissioning of equipment at the Phnom Penh Municipal Referral Hospital (October 2009), suggests that Cambodia’s recent history adds significance to, perhaps even justification for, GE’s work toward a market-based future in a postsocialist land. In the video, Kitty Yeo, the GE employee ambassador to the hospital, explains the project: ‘Cambodia, as everybody knows, has gone through quite a lot. ... It is an extremely important corporate citizenship project that GE has embarked on and one that will really help us as we develop both our presence in the emerging markets and also ultimately, probably, our business profile there’.¹⁰ These brief comments (which, the videographer told me, rolling his eyes, ‘took *forever* to get right’)¹¹ illustrate how new corporate actors in Cambodia use the country’s history to justify intervention in terms of ‘corporate citizenship’ and ‘partnership’.

Engineering World Health (2012) describes historical turmoil as cause of a deficit of senior tradesmen and technicians and thus motivation for their partnership with the GE Foundation:

⁸ Monitors are small machines that measure temperature, blood pressure, blood oxygen levels, and other vital signs.

⁹ <http://www.ewh.org/professionals/bmet-training/locations/cambodia>

¹⁰ <http://www.ge.com/innovation/dhg/index.html>, accessed 12 October 2010.

¹¹ Conversation with author, 27 October 2010.

Cambodia is an amazing country with a complex and tragic history. Colonialism, decades of civil war, and genocide have left Cambodia with a severely debilitated base of human resources, lacking in expertise, education, and training. The country suffers a great deficit of senior tradesmen and technicians.

Consequently, much of the medical equipment in Cambodian hospitals is nonfunctional, abandoned without experienced technicians to service and maintain the technology that is available. In response to this problem, GE Foundation has partnered with Engineering World Health to develop and deliver a BMET [biomedical equipment technician] training program in Cambodia as the next step in their partnership with the Cambodian Ministry of Health, the first step being a nationwide program of medical equipment donations.

This narrative of tragedy, abandonment, and lack is never far from the lips of development workers and from Cambodian health professionals themselves. Since the US-backed coup in 1970, war, political conflict, and mass dislocation have caused very serious problems for people's health and for health infrastructures.

An important question is what work these narratives of technology and of partnership do. What is brought forward and what is left out? Anne Guillou (2009, 186) observed in the postconflict 1990s that invoking Cambodia's turmoil performed two actions: 'brushing aside' (*balayer*) the hard work done by governments and individuals to reconstruct the country in the 1980s, and justifying Euro-American intervention on humanitarian grounds. Twenty years later, the actors have changed: a corporation instead of an NGO.

In this conjuncture, the corporation is both a donor and a vendor. Many of the technologies donated to government hospitals are available in the private sector, part of what GE called a 'Total Package Solution' of technologies for emerging markets. Under the rubric of corporate citizenship, technology donation works together with building a business profile (Rajak 2011). GE's Cambodia office was set up in 2007, and at the opening, chronicled in a press release from the US Embassy, 'emerging markets'¹² was a key concept for all parties. Then US Ambassador Joseph A. Mussomeli said, 'The fact that an American company as prestigious as General Electric is opening an office in Cambodia illustrates the promising

¹² US Embassy, Phnom Penh (2007). It is interesting that, according to this document, GE started operating in six Southeast Asian countries in the late 1960s, a very turbulent time for the region. The press release states that GE had 'significantly grown its emerging markets strategy, with projections that the company will get 55% to 60% of its revenue from outside the United States within the next 5 years, compared with 50% now'. GE's Southeast Asian operations generated US\$6 billion in annual revenue.

investment opportunities that exist here. Cambodia is open for business, and we hope that many more American companies will follow in GE's footsteps'. Pornlert Lattanan, then president of GE Thailand/Cambodia, said: 'Emerging markets are becoming vital to global companies due to their explosive growth. GE has been growing 20 per cent annually in Southeast Asia, and we expect a similar growth pattern in Cambodia'. Cambodia's representative, Deputy Prime Minister Sok An, named 'public-private partnerships' as a significant aspect of emerging markets: 'We welcome more public and private-sector partnerships to create a dynamic and stabilizing economy. GE's presence in Cambodia really helps affirm our place in the emerging markets'.

Since 2007, GE has developed different branches of its business in Cambodia, the most prominent being GE Power, GE Healthcare, and GE Grid. In 2011, GE signed a memorandum of understanding with the Cambodian Ministry of Industry, Mines, and Energy. In 2015, it signed another memorandum of understanding with Cambodia's Secretariat of Civil Aviation, the first step in establishing an aviation consulting project. Gifts make partnerships. Biomedical technologies and training form a field of exchanges that includes energy contracts and permission to operate in an emerging market.

The joke about the 'Khmer-GE Friendship Hospital' illuminates an important difference between Cold War friendship and contemporary public-private partnership: technological aid to governments is not aimed at strengthening the state or making a new 'friend'. The gift is intended to improve the health of a segment of the population while generating new markets for a multinational corporation's products and expertise. The joke about 'Khmer-GE Friendship' lauds the largesse of the giving friend, rather than the emergence of a new friend on the scene, at least, not in the form of the state. The 1960 gift made a friend, and reciprocity involved political alignment at the level of the nation-state. The 2010 gift made a partner, and reciprocity involved brand alignment spread across diverse government ministries, public hospitals, private universities, and private businesses.

2005

On a dry March day, they dug up the ground. The medical physicist had found radiation focused around a spot of earth near the oncology department of Russian Hospital. The medical physicist is trained to scan and radiate the body. His work involves doses. Calibration. Aim. Protection of healthy parts. Protection of staff bodies. But he also scans the environment near the oncology ward, looking for unhealthy presences. Finding them, he traced the radiation to an area that would later be named a 'surface radiation hot spot' (Popp et al. 2012). What was down there? The hospital staff worried. So they began digging.

As they dug past the grass and surface level of hard dirt, radiation dose rates were significant. They placed Cerrobend shields in the hole. These shields can be cut to the patient, to individualize the field of radiation needed to treat the tumor and protect nearby organs. No cut was needed for this field (how large must a shield be when the ‘patient’ is the subterranean soil?).¹³ On top of the shields, they layered other objects on hand that could possibly repress the radiation: the lid of an ammunition box, concrete blocks. They built a small fence around the area and mounted a sign familiar to all Cambodians living with the remains of war: ‘Danger, Mines!’

The following year, the Cambodian Ministry of Industry, Mines, and Energy asked the Australian Nuclear Science and Technology Organization (ANSTO) for help removing the source of the radiation. These unknown sources are called ‘orphan sources’, and are objects of concern to the International Atomic Energy Agency, or IAEA (Deatsch-Kratochvil et al. 2013). Cambodia joined the IAEA in 1958, withdrew its membership in 2003, and rejoined in 2009. Between 2003 and 2009, radiation safety ‘guidance’ was left to three French NGO – *Physicien médical sans frontières*, *Cancérologues sans frontières*, and *Energie sans frontières* – that had been instrumental in rehabilitating the Marie Curie Radiotherapy and Oncology Department at Russian Hospital in 2003 (Eav et al. 2012, 270).

From 2006 to 2010, ANSTO worked with the New Zealand National Radiation Laboratory and the US National Nuclear Security Administration to survey the land around Russian Hospital (see Popp et al. 2012 for a synopsis of this work). They determined this was a Category 2 source, meeting IAEA criteria for classification as a danger with short exposure and possible death with long exposure. After lengthy discussion with the Cambodian government about cost and security of transport and disposal, ANSTO decided to leave the orphan source in the ground. They added layers of protection, built a metal fence, and added the IAEA symbol for ‘Danger, Radiation, Run!’ ANSTO surveyed further and found thirty-one cobalt-60 brachytherapy sources buried around the oncology building. These were Category 4, less dangerous, so they were unearthed and placed in a shielded storage facility within Russian Hospital.

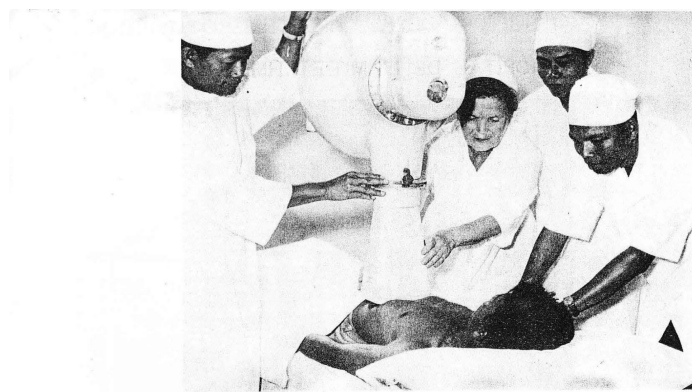
Here we encounter another episode of partnership, one not directly focused on global health, though health is a concern. Its keywords are ‘partnership’ and ‘security’. The Southeast Asia Regional Radiological Security Partnership was formed in 2004,¹⁴ involving

¹³ Popp and colleagues (2012) estimated the high-activity cobalt-60 source was buried thirty to fifty centimeters below the surface, and measured surface radiation dose rates for a two-by-two meter area surrounding the hot spot. Thirty-one low-activity cobalt-60 sources were found in a later survey of the 5,000 square-meter area surrounding the oncology department.

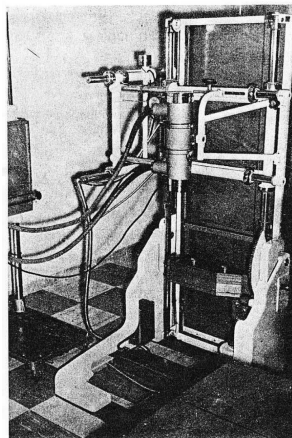
¹⁴ <https://inis.iaea.org/search/searchsinglerecord.aspx?recordsFor=SingleRecord&RN=40089832>.

ANSTO's Regional Security of Radioactive Sources Project, the United States Department of Energy National Nuclear Security Administration's Global Threat Reduction Initiative, and the IAEA. In addition to supporting regulatory and safety infrastructure, the partnership helps locate, identify, and secure orphan radioactive sources.

In the Russian Hospital case, the agencies involved treated the high-activity source as an orphan source, but oral histories suggest it is cobalt-60 supplied by the Soviet Union to Russian Hospital in 1960 (see figure 3). Cobalt therapy, a gift of friendship, was the best treatment for cancer at that time. Russian Hospital workers believe radiological supplies were buried around the oncology building at the beginning or end of the Khmer Rouge period (1975–1979).



Le nouvel Hôpital est doté d'une bombe au cobalt pour le traitement des tumeurs malignes (ci-dessus).



RADIOLOGIE

L'Hôpital est doté de 7 appareils de radiodiagnostic modernes. Outre l'examen radioscopique cet appareillage permet de prendre à 0m,50 des photos de pointage par séries et par panorama qui donnent une idée exacte de la dimension du foyer lésionnel. De plus il permet de prendre des clichés par couches, indépendamment de la profondeur du foyer lésionnel, ce qui est particulièrement important dans les diagnostics des affections des viscères thoraciques. Enfin les médecins ont à leur disposition un appareil à rayons X portatif permettant d'effectuer toutes les opérations au chevet du malade.

Le service de radiologie est également équipé d'appareils de radio-thérapie. La bombe au cobalt pour le traitement des tumeurs malignes qui exige une installation complexe pour assurer la sécurité du personnel est installée dans ces bâtiments. Au cours du traitement le malade est constamment surveillé par une installation de télévision et demeure en contact avec le médecin traitant.

Une salle de radiographie de l'Hôpital

Figure 3. 'Radiology', in *Cambodge d'aujourd'hui*, 1960. Courtesy of the Center for Khmer Studies Library.

Perhaps a film could help us document the origin of the orphan. In 1960, the Soviet Union's Central Documentary Film Studio produced a 19-minute film, *Making a Gift to the People of Cambodia*. A synopsis of this film includes the following description of footage segments:

Ready devices

Electricians plant 'Mosrentgen' collect X-ray therapy unit of the hospital in Cambodia
Packing the final of the machine to send.

Workers packed medical radiopushku 'Cobalt-400'.

Shipment of medicines and equipment to the ship in the port of Odessa

Soviet merchant ship from the sea

Animation: The Itinerary of a Soviet ship from Odessa to Cambodia.

Ships on the Mekong River

Ships in port Penh

Unloading a ship with Soviet Georgia in Phnom Penh.

Unloaded the box that says 'Export. Made in the USSR'

Trucks loaded medicines and equipment for cars.

Cars with Soviet cargo leaving the port.¹⁵

Tracing orphan sources is a difficult task. 'Orphan' is a relationship term, like 'friendship' and 'partnership', its root in the Greek '*orphanos*', bereaved. Orphan sources are machines that have lost their makers, and the relations that brought them to where they are have been severed or obscured. Factories, governments, and friendships no longer exist, so it is unclear who ought to be responsible for digging through layers of earth, caring for emissions, storing dangerous gifts. What is more, these gifts were given before international laws were established that require suppliers to transport and securely store radiation sources. So, the orphan stays buried in the ground.

Conclusion

Russian Hospital came into being during a time in Cambodian history when medicine practices – building hospitals and health centers, training professionals, publishing texts – were a key part of decolonization. The Russian Hospital was an exemplary gift; gifts like these were available to newly independent nations (Lock and Nguyen 2010, 148), and to territories deemed on the path to self-governance (Street 2014, 59–86). The health infrastructures created by Cold War friendships may become ruin and debris, but they may

¹⁵ I thank Rethy Chhem for alerting me to the existence of this film. It is not digitized; what I know comes from the synopsis provided by the net-film.ru archive of Russian documentaries and newsreels.

also be the surprisingly sturdy roots that support contemporary research and care (Geissler et al. 2016; Mika 2016).

Russian Hospital is still an alignment of hybrid elements, but the terms of its development have changed. ‘Partnership’ and ‘corporate social responsibility’ have displaced ‘friendship’ – except in jokes – as the way to get things done. This displacement iterates a global shift in development practice. In Cold War friendship frameworks, inequality was explicit. ‘Friendship’ motivated an ‘old’ nation to give a ‘new’ nation a gift – a hospital, a cobalt therapy machine, a highway – in order to develop itself and become an ally. Friendships aimed to develop the state, allegedly removing dependence on others, but nonetheless exacting alignment in a bifurcated world order: the gift of friendship came with strings (Engerman 2011). In the partnership frameworks that are ubiquitous in global health and development (see Citrin, Bista, and Mahat, this issue), inequalities still undergird intervention, yet the term has a different ethic of relationality. ‘Partnership’ suggests a way of doing in which equals work together, whether partners be states, NGOs, or corporations (see Okeke, this issue; Taylor, this issue). Alignment is not about political ideologies, but rather health priorities, techniques, or brands. Partnerships may involve the state, but state building is not the objective. In fact, as anthropologists working in Africa have shown, contemporary interventions – humanitarian, corporate philanthropy, public–private partnerships, research as care – often bypass states to work directly with populations (Crane 2010; Nguyen 2005). Working directly with select populations and not investing in infrastructures signals a retreating (Samsky 2012) or absent (Redfield 2012) state, and archipelagos of sovereignty over health (Rottenburg 2009).

However, it is important to note that the scale of GE’s donation of technologies and its institutionalization of a training program is not archipelagic. Instead, it is more reminiscent of the grand development schemes of the post-independence period, now with a corporation instead of an empire. Elsewhere (Grant 2017b), I argue that GE works with and through the state, revivifying a government mandate for public health through provision of new technologies, while portioning this public off from others by growing a private market of the same technologies. Corporate philanthropy with an eye to the private market marks a (re)alignment of elements – public and private, business and charity – that constitute Cambodia’s public health field. Similar realignments in Sri Lanka and Myanmar suggest that tangible objects, such as technologies, satisfy a concern with the immediacy of the gift (Widger 2016, 47–48), a concern that may relate as much to Buddhist norms of giving and patronage as to postconflict humanitarian need.

Doctors and ministers of health understand that donation creates users and consumers. The gift appears free, but only momentarily. At commissioning ceremonies, public thanks for the generous gift, ‘the first time in the history of Russian Hospital’, was followed by private or

Khmer-language commentary about how training doctors on machines in government hospitals leads to doctors buying the same machines for their private practice (Grant 2017b). This is what Laidlaw (2000) helps us to see: the paradox of the gift is that it appears free – this is what makes it gift-like – but reciprocity, and thus interested social relations, are there. It may come in different fields of practice. Looking beyond health at GE’s memoranda of understanding with different arms of the Cambodian government, we can see donation as part of a chain of transactions, what Stirrat and Henkel (1997, 78), following Bourdieu, call ‘transubstantiation’. Donation of medical technologies and training are exchanged for energy contracts and permission to operate in an emerging market.

Focusing on the materiality of technology and infrastructure gifts brings us to the orphan. The orphan is a gift that turns toxic. Its toxicity is health-threatening if there is no infrastructure to secure it. Thus, the story of the orphan source of radiation is a reminder of a possible future. No person or thing wants to be caught outside of relations. In her analysis of gift giving by political elites, Hughes (2006) shows a mirror paradox to that of Laidlaw’s. Elites giving gifts to villages, or villagers, entangles the spiritual power of the meritorious benefactor, the *saborachon*, who gives without interest, with the menace of the big brother or strongman, the *bong thom*, who gives demanding something in return. In politics, reciprocity is a vote for the Cambodian People’s Party on election day. The threat for nonallegiance is that you will find yourself outside of the *kehsae*, the social networks that protect you.

My focus on Russian Hospital and its technologies illuminates layers, and sometimes-toxic sediments, of friendship, partnership, and corporate social responsibility in global health.¹⁶ Friends give new buildings and machines. But are friends responsible for their care, repair, and decay? Obligations are unclear in a world where friends no longer exist, yet the hospitals they build, and machines they give, remain. The elaborate partnerships required to identify and secure the orphan source show how gifts of medical technology and infrastructure exist beyond their immediate utility to humans. What technology of partnership will the medical physicist of 2050 unearth, and what form of relations will come to care for, repair, and secure it?

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¹⁶ I do not address inter-Asian partnerships because they have not been significant at Russian Hospital, but it is important to note that Japan has played a role in health-related development in Cambodia, and, as Chhem mentions in his essay in this issue, China and ASEAN increasingly do, too.

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References

- Crane, Johanna. 2010. 'Unequal "Partners": AIDS, Academia, and the Rise of Global Health'. *Behemoth: A Journal on Civilisation* 3: 78–97.
<https://doi.org/10.6094/behemoth.2010.3.3.685>.
- Cross, Jamie. 2014. 'The Coming of the Corporate Gift'. *Theory, Culture & Society* 31 (2/3): 121–45. <https://doi.org/10.1177/0263276413499191>.
- Deatsch-Kratochvil, Amanda N., Thomas Neil Pascual, Adam Kesner, Eduardo Rosenblatt, and Rethy Chhem. 2013. 'The International Atomic Energy Agency's Activities in Radiation Medicine and Cancer: Promoting Global Health through Diplomacy'. *Canadian Association of Radiologists Journal* 64: 2–5.
<https://doi.org/10.1016/j.carj.2011.12.001>.
- Eav, Sokha, Simon Schraub, Patrick Dufour, Daniel Taisant, Chheang Ra, and P. Bunda. 2012. 'Oncology in Cambodia'. *Oncology* 82: 269–274.
<https://doi.org/10.1159/000336791>.
- Engerman, David C. 2011. 'The Second World's Third World'. *Kritika: Explorations in Russian and Eurasian History* 12 (1): 183–211.
- Engineering World Health. 2012. 'BMET Training Program – Cambodia'.
<http://www.ewh.org/programs/bmet-training-program/bmet-ca>, accessed 7 April 2014.
- Franke, Richard W., and Barbara H. Chasin. 2005. 'Kerala: Radical Reform as Development'. In *The Anthropology of Development and Globalization: From Classical Political Economy to Contemporary Neoliberalism*, edited by Marc Edelman and Angelique Haugerud, 368–72. Malden, MA: Blackwell.
- Geissler, Paul Wenzel, Guillaume Lachenal, John Manton, and Noémi Tousignant, eds. 2016. *Traces of the Future: An Archaeology of Medical Science in Africa*. Chicago: University of Chicago Press.

- Grant, Jenna. 2017a. “Cambodian Pathology”: Imagining Modern Biomedicine in the Cambodian-Soviet Medical Journal, *Revue médico-chirurgicale de l’Hôpital de l’Amitié Khméro-Soviétique* (1961–1971). In *Translating the Body: Medical Education in Southeast Asia*, edited by Hans Pols, C. Michele Thompson, and John Harley Warner, 194–229. Singapore: National University of Singapore Press.
- Grant, Jenna. 2017b. ‘How to Rename a Hospital: Biomedical Technologies and New Combinations of Business and Charity in Cambodian Public Health’. *Anthropological Quarterly* 90 (3): 605–36. <https://doi.org/10.1353/anq.2017.0038>.
- Grant Ross, Helen, and Darryl Collins. 2006. *Building Cambodia: ‘New Khmer Architecture’ 1953–1970*. Bangkok: The Key Publisher Co.
- Guillou, Anne. 2009. *Cambodge: soigner dans le fracas de l’histoire*. Paris: Indes savantes.
- Hughes, Caroline. 2006. ‘The Politics of Gifts: Tradition and Regimentation in Contemporary Cambodia’. *Journal of Southeast Asian Studies* 37 (3): 469–89. <http://www.jstor.org/stable/20071787>.
- Laidlaw, James. 2000. ‘A Free Gift Makes No Friends’. *Journal of the Royal Anthropological Institute* 6 (4): 617–34. <https://www.doi.org/10.1111/1467-9655.00036>
- Lock, Margaret, and Vinh-Kim Nguyen. 2010. *An Anthropology of Biomedicine*. Malden, MA: Wiley-Blackwell.
- Mika, Marissa. 2016. ‘Fifty Years of Creativity, Crisis, and Cancer in Uganda’. *Canadian Journal of African Studies / Revue canadienne des études africaines* 50 (3): 395–413. <https://doi.org/10.1080/00083968.2016.1272061>.
- Nelson, Roger. 2015. ‘Pathways in Performance (in and around Cambodia)?’ *Stedelijk Studies 3: The Place of Performance*. <http://www.stedelijkstudies.com/journal/pathways-in-performance/>.
- Net-film.ru. n.d. Synopsis of film, *Making a Gift to the People of Cambodia*. <https://www.net-film.eu/film-5280/>, accessed 15 June 2017.
- Norodom, Sihanouk. 1968. ‘Cher Sahachivin’. *Annales Médico-Chirurgicales de l’Hôpital de l’Amitié Khméro-Soviétique*.
- Nguyen, Vinh-Kim. 2005. ‘Antiretroviral Globalism, Biopolitics, and Therapeutic Citizenship’. In *Global Assemblages: Technology, Politics, and Ethics as Anthropological Problems*, edited by Aiwa Ong and Stephen J. Collier, 124–44. Malden, MA: Blackwell.
- Popp, Andrew, Cris Ardouin, Mark Alexander, Robert Blackley, and Allan Murray. 2012. ‘Improvement of a High Risk Category Source Buried in the Grounds of a Hospital in Cambodia’. Paper at the 13th International Congress of the International Radiation Protection Association, 13–18 May.

http://www.ansto.gov.au/_data/assets/pdf_file/0010/62866/IRPA2012_-_Cambodia_Buried_Source.pdf.

- Rajak, Dinah. 2011. 'Theatres of Virtue: Collaboration, Consensus, and the Social Life of Corporate Social Responsibility'. *Focaal: Journal of Global and Historical Anthropology* 60: 9–20. <https://www.doi.org/10.3167/fcl.2011.600102>.
- Redfield, Peter. 2012. 'Bioexpectations: Life Technologies as Humanitarian Goods'. *Public Culture* 24 (1): 157–84.
- Rompré, Christopher. 2017. *The Man Who Built Cambodia*. Color, 35 minutes. Phnom Penh: LittleBIGFilms.
- Rottenburg, Richard. 2009. 'Social and Public Experiments and New Figurations of Science and Politics in Postcolonial Africa'. *Postcolonial Studies* 12 (4): 423–40. <https://doi.org/10.1080/13688790903350666>.
- Samsky, Ari. 2012. 'Scientific Sovereignty: How International Drug Donation Programs Reshape Health, Disease, and the State'. *Cultural Anthropology* 27 (2): 310–32. <https://www.doi.org/10.1111/j.1548-1360.2012.01145.x>.
- Skachkov, S. 1960. 'USSR Economic Cooperation with Asian and African Countries'. *Current Digest of the Russian Press* 6 (12): 19–20. Originally published in *Pravda* 9 Feb 1960, 3–4.
- Ssorin-Chaikov, Nikolai. 2006. 'On Heterochrony: Birthday Gifts to Stalin, 1949'. *Journal of the Royal Anthropological Institute* 12 (2): 355–75. <http://www.doi.org/10.1111/j.1467-9655.2006.00295.x>.
- Street, Alice. 2014. *Biomedicine in an Unstable Place: Infrastructure and Personhood in a Papua New Guinean Hospital*. Durham, NC: Duke University Press.
- Stirrat, Roderick L., and Heiko Henkel. 1990. 'The Development Gift: The Problem of Reciprocity in the NGO World'. *The Annals of the American Academy of Political and Social Science* 554 (1): 66–80. <https://doi.org/10.1177/0002716297554001005>.
- Tsvetkova, Natalia. 2008. 'International Education during the Cold War: Soviet Social Transformation and American Social Reproduction'. *Comparative Education Review* 52 (2): 199–217. <https://doi.org/10.1086/528762>.
- Tsvetkova, Natalia. n.d. 'Penetrated Societies in the Cold War, 1950–1990: Soviet Mode of Influence through Education'. Unpublished manuscript.
- Widger, Tom. 2015. 'Philanthronationalism: Junctures at the Business-Charity Nexus in Post-war Sri Lanka'. *Development and Change* 47 (1): 29–50. <https://www.doi.org/10.1111/dech.12185>.