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[See table of contents](#)

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Kaisu Koski, *Injection Simulator* (2015)

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HOW FEAR IS DISSEMINATED—MEMORIES AND RECORDS: THE VACCINE ARCHIVE

VICKI SUNG-YEON KWON

Memories and Records: The Vaccine Archive explores both individual and collective memories of vaccination across geographic borders. This paper outlines the development of The Vaccine Archive and analyzes the visual culture of vaccines manifested in the archive collections. In examining the vaccine archives, the author argues that the visual culture of vaccination reinforces stereotypes and fear associated with vaccines, forming and disseminating the collective memory of vaccines.

Memories and Records: The Vaccine Archive explore les souvenirs individuels et collectifs de la vaccination à travers les frontières géographiques. Cet article décrit le développement de The Vaccine Archive et analyse la culture visuelle des vaccins se manifestant dans les collections d'archives. En examinant les archives des vaccins, l'auteur fait valoir que la culture visuelle de la vaccination renforce les stéréotypes et la peur associés aux vaccins, formant et diffusant la mémoire collective des vaccins.

PROJECT DEVELOPMENT

The Vaccine Archive started with two questions: How is vaccination remembered and represented in the era of mass migration and transnational activities, when a nation is no longer an effective unit for controlling and preventing pandemic diseases? And how is fear associated with vaccines created and disseminated across borders? These inquiries, in turn, stemmed from my musings on the

topic of achieving “herd immunity.” The term “herd immunity” refers to a situation in which “the risk of infection among susceptible individuals in a population is reduced by the presence and proximity of immune individuals” (Fine et al. 911). This means that if enough members of the community are vaccinated, the disease won’t spread to the community even if a few members of the community remain unvaccinated. During the first <Immune Nations> workshop, in Ottawa in 2015, a senior vaccine scholar on the project, Johan Holst, suggested that achieving herd immunity is a primary goal for vaccine scientists. Dr. Holst emphasized how infectious diseases can rapidly spread among vulnerable groups, even when only a few members of these groups remain unvaccinated. Measles has an especially high threshold for herd immunity, requiring almost 95% of the community to be vaccinated (Funk), which means that fewer unvaccinated people can be protected, and fewer can opt out. For that reason, the recent increase in parents opting out from having their children vaccinated against measles is alarming, as their decision can cause harm to the community (Hoffman et al.).¹

While listening to the conversation, I imagined a community with new members who may have a different immunization status than the rest of the community. Communities are not fixed and closed entities; people move in and out. As new members join a community, the status of the herd protection of that community may change. As the workshop continued, I found myself scribbling an illustration of pandemic viruses and medical documents tagging along with travellers. My scribble depicts a scene in which viruses, documents, memories, emotions, and culture—all these visible and invisible substances—travel together with human bodies crossing borders of communities, nations, and wider regions.

Pandemic disease travelling along with a traveller was already a reality for me. During my trip to South Korea in spring 2015, the outbreak of the Middle East respiratory syndrome coronavirus (MERS-CoV) sparked widespread panic in South Korea and fear in the broader East Asian region. The outbreak started with a Korean man who had returned from the Middle East with a latent infection of the disease. The disease immediately spread to medical staff and patients in the inten-

sive care unit of the medical centre where he was eventually treated. Soon it spread throughout the nation, as those who had visited patients at that hospital travelled to other regions by public transportation. The MERS-CoV outbreak in South Korea killed 36 people out of the 186 people with confirmed cases and resulted in more than 3,000 individuals being quarantined (Lee et al.). This foreign disease drove the nation into a state of anxiety, especially as the virus had no effective vaccine. Public fear developed as the government reacted inadequately to the disease and did not release information in a timely manner (Kim).

The MERS-CoV outbreak in South Korea soon threatened the broader communities in East Asia and Southeast Asia. A South Korean who travelled to Huizhou, China, via Hong Kong was diagnosed positive for MERS-CoV, sparking anti-South Korea sentiment in both mainland China and Hong Kong.² Similar cases soon occurred in the Philippines.³ The MERS-CoV outbreak in South Korea demonstrated yet again that domestic control of a pandemic disease could easily be undermined due to travel within and across its borders. As I visited Taiwan after Korea during this outbreak, I was shunned by friends who were afraid of me transmitting the disease to them. I was left afraid to cross borders, as long as there is no vaccine.

Achieving complete control of any pandemic disease is impossible, whether the disease has an effective vaccine or not. Catastrophic consequences could result from people neglecting to report symptoms to the authorities or being unaware of their medical condition. Pandemic disease control requires not only appropriate handling by national and transnational organizations, but also individual awareness of one's own health condition and of its potential influence on the broader community. The porous nature of border control and the improbability of pandemic disease control might be one of many reasons that the immunization and vaccination agitate people and cause fear.

The current COVID-19 outbreak demonstrates how an epidemic of a local disease may be quickly turned into a pandemic by travellers, and cause fear and antagonism (Belluz). Originating in Wuhan, China in December 2019, the novel coronavirus has now spread to other nations in Asia (Japan, South Korea, Singapore, etc.), the Middle East

(Iran, Iraq, Israel, Afghanistan, Kuwait, and Bahrain), North America (Canada and the United States), and Europe (Germany, Italy, Spain, etc.) as of February 24, 2020 (“Coronavirus Disease 2019”). Fear spreads in advance of the virus, igniting racism against Chinese people within Asia, and against Asians in general in other regions (Kasulis; Iqbal; Chen et al.). The media creates an air of anxiety by constantly showing medical staff wearing pressurized protective suits designed for Biosafety Level 4 (deadly viruses) (Huh). Medical staff in space suits and Asians wearing face masks have created the visual culture of COVID-19. Such images are repeatedly broadcast in news politicizing government reaction to not banning Chinese people’s entering one’s nation, especially South Korea, where I currently reside.

Thinking about diseases travelling along with people and fear spreading faster than the disease, I started to think about immunization records and memorabilia as historical artifacts that convey the individual and collective memories of vaccination. According to Maurice Halbwachs, collective memory is always socially framed (see also Misztal). He argues that individual memory relies on social memory, as memory is shaped in relation to the social environment surrounding the individual (Halbwachs). How are memories related to vaccines framed? Examining the visual culture of vaccination through vaccine archives could enable us to consider how the collective memory of vaccines is constructed and disseminated. These visible and tangible objects construct the concept of vaccination for individuals, as people experience vaccination not only through having vaccines administered, but also through looking at images or touching objects related to vaccines. This procedure is more a direct, corporeal experience than an indirect, educational experience. Also, despite the importance of these artifacts as historical and medical records, people seldom keep their immunization records secure. These documents are often misplaced for years somewhere inside a drawer or lost during migration, especially among displaced populations. As these records are easily lost and/or forgotten, estimating children’s vaccination relies heavily on parents’ fragmented memories (Miles et al.; Binyaruka and Borghi). *The Vaccine Archive* attempts to collect these fragmented memories of vaccination, remembered and consumed ubiquitously or

distinctively in communities throughout the globe, as a way to invoke our “vaccine imaginary” in the context of increasingly fraught global conditions.

ANALYSIS OF *THE VACCINE ARCHIVE*

The *Vaccine Archive* consists of three parts: vaccine artifacts, participant interviews, and a viewer survey. I collected mass-produced visual images that are widely circulated across borders, including postage stamps, postcards, press images, and images inserted into immunization cards or booklets. Most of them were produced to promote immunization and are created and disseminated by national health care organizations and multilateral organizations, such as the World Health Organization. These images are circulated as everyday objects. As visual data, they render visible the otherwise invisible social discourse surrounding vaccination. They reveal vaccination’s entanglements with race, gender, international political dynamics, geopolitically specific information, and environmental issues. What follows is an analysis of some of the problems of the visual culture of vaccines that are revealed in these collected artifacts.

Propagandistic Use of Life-Saving Vaccines

The life-saving function of vaccines seems to be an efficient tool for use in political propaganda. For that reason, some resources that we⁴ collected are from World War II, such as the press photo of a Chinese communist soldier being held captive in the Allied troops’ camp, making a suspicious and fearful face after being vaccinated. Some of the collected images perpetuate stereotyping in the discourse of vaccination—namely, the idea of privileged people in the West doing good work to help impoverished people either in the same nation or in poor nations elsewhere.



Figure 1: Anonymous photographer, *Untitled*, 1969, photographic print. Photo credit: United Press International Photo.

For example, the photograph *Untitled* (Figure 1) is a press image for an unknown US newspaper in 1969. In it, an African American girl with braided hair is grimacing either in fear of a needle before vaccination or in pain after the event of vaccination. Slightly above her is Tricia Nixon, the elder daughter of the 37th president of the United States, Richard Nixon. Nixon is bending her upper body forward and gazing at the girl, as if comforting the child while overseeing the immunization scene. The photo is accompanied by the following text: “A sympathetic Tricia Nixon watches a young Negro girl take an immunization shot against German measles 11/3 at the Turner Elementary School. The President’s 23-year-old daughter is taking part in the mass immunization program to focus national attention on the campaign to eradicate German measles.” The accompanying text clarifies the bifurcation between “a young Negro girl” and Nixon, as a member of the white elite and a political figure. The message of the photograph

shows a benevolent, white social elite helping save a black child's life, with the not-so-distant context of the Second World War and the defeat of the Germans hovering in the semiotic background.

This stereotype manifests itself in the different skin colour of the human figures depicted, producing a code of a white-looking person providing medical aid to a non-white person. The physical positions of Nixon and the child in the picture may symbolically indicate their political positions. Positioned higher than the child, Nixon is looking down on the girl like a caregiver. This composition reinforces a familiar story of vaccination based on racial stereotyping: a compassionate member of the white elite helping a black child by offering medical aid, which is the product of scientific advances and civilization.

The decision to include the daughter of the president of the United States and a black child in the frame was, quite likely, political, intended to overcome not only epidemic disease but also racial conflict. The wife and family of political leaders are often pressed into service to promote public causes, and this image is typical of that pattern. As it was produced in 1969, this propagandistic representation may relate to the civil rights movement (1954-1968), a time of considerable racial conflict in the United States. By giving Nixon the role of the health care provider and the black child the role of the health care receiver, this image, however, consolidates the social class system based on ethnic division in the United States.

The ethnic division in this picture is constructed by the deliberate exclusion of a third person, for the sake of highlighting the stark bifurcation of the white president's daughter and the black child. Upon closer inspection, we see a man's arm stretching over from the bottom right corner. His left hand, which is holding the child's arm, suggests that his skin colour is closer to the black child's than to Nixon's. The male figure's role in this scene is ambiguous. He may be a health care provider, but, as he is not dressed in a white gown, he may be a teacher or staff at the school. What needles me in this photograph is this male figure, cropped out except for his left arm and part of his face, shown in the top right corner. His nose and chin appear in an even higher position than Nixon's face. This may be another reason why this (per-

haps) black male figure is excluded in this scene, as positioning him higher than Nixon could diminish her position in contrast to the black child. This male figure could have been completely cropped out had it not been for the fact that cropping his hand would have also erased the child's arm and Nixon.

For me, this male figure functions as a "*punctum*," Roland Barthes's term for a startling, small detail in photography that "pricks" the viewer, like a needle that leaves a tiny hole. In contrast to *punctum*, Barthes suggests that "*studium*"—which he defines as "application to a thing, taste for someone, a kind of general enthusiastic commitment, of course, but without special acuity" (26)—is the culturally acquired skill or taste to understand a photograph without special acuity. *Punctum* breaks *studium* like a needle, twisting our cultural understanding of the stereotype in the image. In this photograph, the male presence is a key (*punctum*) to catch the photographer's manipulation of the scene to present the story in a familiar cultural code (*studium*) to create successful propaganda: benevolent white elites provide vulnerable, suffering people of African descent in the United States with medical care. This vaccine promotional image is carefully constructed to serve as political propaganda, although the general public might not take the time to analyze this manipulation, viewing the image while flipping through a newspaper.



Figure 2: Anonymous photographer, South Korean Soldiers of Blue Dragon Units in Vietnam Administering Vaccine on a Montana Woman, 1967, the National Archive of the Republic of Korea, Photography Office of the Public Relations Department, the Bureau of Public Information.

A similar message is produced by Figure 2. This photographic print shows the South Korean soldiers of the Blue Dragon Units administering a vaccine to a Vietnamese woman of the Montana ethnic minority during the Vietnam War. Figure 2 is one of eight photos capturing the Blue Dragon Units' vaccination activity among the Montana people. An ally of the United States, South Korea dispatched 35,000 soldiers to Vietnam as combat troops for monetary benefit. Park Chung-hee's military regime promoted Korean soldiers in Vietnam as heroes who sacrificed themselves for the sake of national prosperity and in-

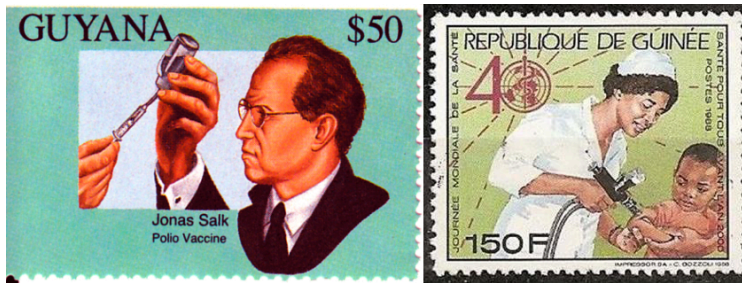
ternational democracy, against the spread of communism, as well as protectors of the Vietnamese people from communist attack. This image seems to be part of the campaign. The photograph portrays Korean soldiers as peacekeepers by presenting them providing medical care to an ethnic minority woman of Vietnam and a soldier (it is unclear whether he is Korean or South Vietnamese) holding a baby in his arms.

The image, however, shows uncomfortable aspects of wartime military propaganda images related to vaccination. The image captures the Vietnamese ethnic minority woman, stripped of her top and thus exposing her underwear, while being surrounded by two Korean male soldiers administering vaccines to both of her arms. The fear, shame, and suspicion are present in her facial expression, contrasting with that of the soldier to the far right, who is beaming at the event. This contrast suggests that the photo might have been taken in a light-hearted environment for the male soldiers, while nonetheless remaining awkward for the civilian woman.

Considering Korean soldiers' atrocities in Vietnam, including civilian massacres and sexual violence, the political undertones of this image are disturbing.⁵ The Blue Dragon Unit was notorious for being aggressive. One of its disclosed atrocities is the Bình Hòa Massacre, in which its soldiers killed 79 civilians over three days in Bình Hòa, a village in Quảng Ngãi Province, in 1965 (Kwon). Most of the victims were infants, women, and village elders. The pacifier image of the Korean soldiers in this series of the photographs, as providing medical aid to the ethnic minority people of Vietnam, may have been staged to emphasize the peacekeeping image of the troops, yet what it signals most strongly is sexual-based violence through the gender and power dichotomy of the image. The woman's complicated facial expression in Figure 2 can be read as the fear of being vaccinated through needle injection by foreign soldiers, intermingled with the fear of the potential threat posed by the soldiers, which was perhaps as alien to her as the vaccination experience.

Needle Fear

Most of the images that we collected for *The Vaccine Archive* depict a scene of vaccination involving a needle. Three postage stamps simply illustrate a needle itself, without any figure, as a sign of vaccination. One postage stamp from Guyana illustrates a syringe and a portrait of Dr. Jonas Salk, who invented the polio vaccine (Figure 3).



Figures 3 and 4: Postage stamp with the text "Jonas Salk Polio Vaccine," Guyana, date of issue unknown (left); postage stamp with the text "Journée Mondiale de la Santé" (World Health Day), "Santé pour Tous Avant l'an 2000" (health for all by the year 2000), Guinea, date of issue unknown, presumed to be 1986 (right).

Using a needle as a sign of vaccination may conjure up traumatic memories related to needles from childhood vaccination. The pain and anxiety associated with needle injection has been documented as a significant barrier to vaccination for both adults and children. Studies show that up to 25% of adults report a fear of needles, most of which developed in childhood, and that 10% of the population avoids needles and needle-related procedures as a result (Hoffman et al. 4). Yet the majority of postage stamps, one postcard, and four newspaper press images in the collected archive depict the moment during which a health care provider is pushing a needle into the arm of a child crying or grimacing in fear or pain.⁶



Figure 5: Photo by an anonymous photographer accompanying text by Dale Swanson of *The Oregonian*, February 6, 1987.

Take Figure 5, a press image photograph released in 1987 that shows a child crying during an event of injection. An adult woman holds the child tight, while the child bends her body away from the vaccine administrator, as if she is trying to escape the needle injection.⁷ This image conveys the fear and pain associated with needles, which distress

not only the administered children but also their parents and even the injection administrators. This negative emotion associated with needles seems to have been passed down to the use of jet injectors, which use air under high pressure instead of a syringe with a needle to deliver the vaccine. These injectors resemble a gun in appearance. A relatively recent postage stamp from the Republic of Guinea (Figure 4), presumed to be produced in 1986, illustrates a nurse holding a jet injector. Still, the child is bending away from the injector while looking down at his arm with a stern facial expression. Although designed to promote vaccination, these images highlight the pain and fear associated with vaccination.

TRANSCRIBED INTERVIEWS OF INDIVIDUAL MEMORIES

To produce *The Vaccine Archive*, I reached out to immigrants and international students in Canada, as well as those who had travelled to Canada from various locations. These participants represent various ethnic groups, sexual orientations, and age cohorts. Each participant offered their memories related to vaccination, together with their emotional reaction and their social condition.

Perhaps unsurprisingly, the experience of needles, and anxiety related to this, was dominant in the response of participants. One participant who emigrated from Argentina to Canada recalled her trauma around needles as follows:

"It was shortly after we arrived in Toronto from Argentina in 1951. It is my first rather clear memory. It was very traumatic. For about fifty years, I fainted whenever I was given a needle (vaccination or blood test), unless I lay down on a bed. I fainted quite a bit in school, often landing between the desks. Sometimes it was necessary for me to apologize to doctors about my resistance to having vaccinations and blood tests and my resulting poor behaviour."⁸

This participant shuddered as she recalled the memory of the needle. Some participants responded that they do not have any significant memory about vaccinations *other* than the needle. Needle fear appears

in the interviews of participants from Canada, Guyana, South Korea, Taiwan, and the United Kingdom, as if it is the *sine qua non* of vaccination.

In contrast, however, a participant from a country of extreme poverty—a North Korean defector now residing in Canada—did not describe any fear of needles; rather, she described fear of death due to a lack of supplies of needles and vaccines. She told me the most vivid and shocking memory of a cholera outbreak in Hamheung that brought her and her sister close to death. Below is an excerpt from her interview:

“The stench from corpses piled up in the morgue, which was right next to her [the interviewee’s sister’s] room in the hospital. [...] My mother purchased antibiotics and syringes from a market and brought them to the hospital. She paid a doctor a bribe to get us the shots. Relief materials from the UN were given to government officials, then to the army, and then the leftovers were released on the open market.”⁹

She explained how North Koreans purchased glass or plastic syringes from the market and how the people in the village re-used the same needle, having sterilized it by applying heat.

It should be noted that this was during the North Korean famine, known as the Arduous March, from 1994 to 1998, and that the situation described by the interviewee is not an everyday scene in North Korea. Still, her story exemplifies people situated at the disjuncture of the global system of epidemic disease prevention. Transnational organizations have limited access to the vulnerable populations affected by epidemic diseases in such exceptional political situations. Her story highlights the urgent need to develop a better policy and system to distribute relief supplies in zones of extreme poverty, as well as the need to provide alternative methods, such as vaccine patches, instead of syringes, to prevent re-use of needles. Needle-free immunization is desirable in Global South nations, as the needles are often the sources of transmission and dissemination of blood-borne pathogens, such as hepatitis B and C, and HIV (Levine). Still, needles are reused multiple

times to save on costs in the Global South (Levine), exemplified in the North Korean defector's interview.

Additional concerns are the accessibility of vaccination and the preservation of the records of vaccination for displaced populations after their settlement. The participant from North Korea said that she did not receive any further vaccinations after her arrival in Toronto, except for hepatitis B during the immigration health check-up. All she experienced in terms of medical check-ups was to fill out a questionnaire listing the diseases and vaccination she had had. She had never seen any type of record of her vaccination in North Korea or in Canada. Her case makes us question the reliability of the agencies that are responsible for tracking and documenting the immunization history of members of vulnerable populations.

CONCLUSION

Starting from a quest to learn about the probability of herd immunity, *The Vaccine Archive* developed into research on the visual culture of vaccination that constructs the collective memory of vaccines. The archives thus assembled exemplify how images created and disseminated to promote vaccination often reproduce stereotypical or negative associations of vaccines instead. Vaccines' life-saving aspect is utilized in political propaganda to promote the idea of privileged people of better-off nations providing medical care to impoverished populations. Needle fear is amplified by being repeatedly disseminated as a sign of vaccination, provoking negative memories associated with the needle. And accessibility to vaccines and medical aid supplies, including syringes, by vulnerable communities hardly exists at the disjuncture of global pandemic disease control systems.

Examining *The Vaccine Archive* suggests that institutions that design and circulate mass-produced promotional goods about vaccination should produce them with racial, ethnic, gender, and cultural sensitivity, and use a more careful visual strategy in order to avoid reinforcing stereotypes and amplifying needle fear. The stereotypical depictions

of health care receivers in the visual representation of vaccination are spread to global audiences via the mass circulation of these images, creating negative emotions surrounding vaccination. The analysis of the memories and records of *The Vaccine Archive* also suggests that there are blind spots in the current systems of epidemic disease control on the transnational stage.

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IMAGE NOTES

Figure 1: Anonymous photographer, *Untitled*, 1969, photographic print. Photo credit: United Press International Photo.

Figure 2: Anonymous photographer, *South Korean Soldiers of Blue Dragon Units in Vietnam Administering Vaccine on a Montana Woman*, 1967, the National Archive of the Republic of Korea. Photography Office of the Public Relations Department, the Bureau of Public Information.

Figure 3: Postage stamp with the text "Jonas Salk Polio Vaccine," Guyana, date of issue unknown.

Figure 4: Postage stamp with the text "Journée Mondiale de la Santé" (World Health Day), "Santé pour Tous Avant l'an 2000" (health for all by the year 2000), Guinea, date of issue unknown, presumed to be 1986.

Figure 5: Photo by an anonymous photographer accompanying text by Dale Swanson of *The Oregonian*, February 6, 1987.

NOTES

1. Editor's note: For more on herd immunity, see Sahar et al., "Overview of Key Legal, Political, and Social Challenges Facing Global Vaccination Efforts," in this volume.↵
2. China's strong antagonism was partially due to the trauma from the SARS outbreak in 2002-2003, which began in Guangdong Province, China, in November 2002, and resulted in more than 8,000 cases in 28 countries and led to more than 770 deaths by May 2003 ("Severe Acute Respiratory Syndrome"; "Update 62").↵
3. The disease and subsequent fear influenced the domestic economy and international relations of South Korea, causing a shortfall in consumer spending and devastating its tourism sector (Shi and Li).↵
4. This project was conceived by me and developed in collaboration with Lathika Sriharan; see our dialogue in the Reports and Dialogues section of this volume.↵
5. In Vietnam during the war, Korean soldiers internalized the racist attitudes and imperialistic aspirations of US soldiers towards the Vietnamese people and thus committed civilian massacres and sexual violence (Nguyen 188).↵
6. There are some exceptions: postage stamps from Zambia (1985), India (1998), Kenya (1988), and Yemen (2005) illustrate oral administration of the polio vaccine.↵
7. The text accompanying the photograph indicates that a two-year-old child is being given an immunization for measles, mumps, and rubella (also known as German measles) by a community health nurse while her mother lends support, at Northeast Health Center. Dale Swanson, Title Unknown, *The Oregonian*, February 6, 1987.↵
8. An interview with a participant born in Argentina, residing in Edmonton, Canada, January 26, 2017. Due to research ethics involving medical documents, all participants and I agreed that I would withhold their names.↵
9. An interview with a participant born in Hamheung, North Korea, residing in Toronto, Canada, December 16, 2016. The interview was conducted in the Korean language and translated into English by the author.↵



Vicki S. Kwon, with Lathika Sritharan and Morgan Wedderspoon, *Memories and Records: The Vaccine Archive*, UNAIDS, Geneva, 2017. Archive collection and prints on Photo Tex. Photo by Annik Wetter.



Vicki S. Kwon, with Lathika Sritharan and Morgan Wedderspoon, Installation detail of the archive dedicated to mothers' collection of vaccine records, *Memories and Records: The Vaccine Archive*, UNAIDS, Geneva, 2017. Photo by Vicki S. Kwon.



Vicki S. Kwon, with Lathika Sritharan and Morgan Wedderspoon, *Memories and Records: The Vaccine Archive*, UNAIDS, Geneva, 2017. Archive collection and prints on Photo Tex. Video Still from Julien Duret.



Vicki S. Kwon in front of *Memories and Records: The Vaccine Archive*, UNAIDS, Geneva, 2017. Archive collection and prints on Photo Tex. Photo by Roman Levchenko.
