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The Never-Ending Poxes of Syphilis, AIDS, and Measles

▼ **SPOTLIGHT ARTICLE** in *How Epidemics End*, ed. by Erica Charters

▼ **ABSTRACT** In this article, I address some infectious diseases that never really "ended," even though their morbidity, their social impact, and their public visibility have faded away: AIDS, syphilis, and measles. I will use data from different projects I have conducted on each of those epidemics: HIV/AIDS at the doctoral training level in the 1990s, with a geographical focus on Brazil and the United States; syphilis in the context of a 2010 project on the social history of health in Lisbon in the late 19th and early 20th centuries; and measles as part of my current project on labor migration in the 19th century, with a focus on epidemic outbreaks in migrant ships from Madeira to Hawaii.

▼ **KEYWORDS** Epidemics and Endemics, Skin Expressiveness, Victim-Blaming, Sanitary Surveillance, Lock Hospitals, Vaccines

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Do Epidemics End?

The history of human health shows that outbursts of disease eventually come to an end. Yet the *why,* the *how,* and even the *when* of that ending are not always clear or undisputed. We tend to know more about the circumstances of a plague's beginning than about the causes of its waning. That contrast emerges both in historical accounts and in literary depictions of epidemics, with notable examples including Daniel Defoe's *Journal of the Plague Year,*set in London in 1665; Albert Camus's *La Peste,*set in 1940s French colonial Algeria; Kevin Chong's *The Plague,* replicating Camus's storyline in contemporary Vancouver; and José Saramago's *Blindness,* set in a fictional

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place and time.[1] Their plots generally begin with a primal sign or chain of events leading to a dramatic period in which a transmissible disease causes random devastation, death, havoc, losses, quarantines, curfews, political choices, stress, despair, fear, violence, and extreme collective suffering; and then one day there are fewer occurrences, and then fewer, until, like the raindrops at the end of a storm, they become unnoticed, irrelevant, and are gone for good. In fiction as in real life, in the history of epidemics as in poetry, the end does not come with a bang, but with a whimper.[2] Lives once suspended resume the normalcy of their pre-epidemic days; curfews, quarantines, states of exception, sanitary barriers, barrack wards, and hospitals are all dismantled and gone. Remembrance of the turmoil goes underground, ending that epic cycle in amnesia.[3]

But why, how, and when does the end arrive? As Charters and Heitman note, some established accounts of notorious epidemics associate their ending with a straightforward change in one factor, such as the variation in the dominant rodent species in the case of the plague, or the replacement of a pump handle in the case of cholera, or the use of an adequate vaccine through a well-implemented program in the case of smallpox.[4] However, the authors further note, underneath those simplified accounts there is complexity, fuzziness, and multifactorial processes that are subject to shifting interpretations and require further analysis.

Epidemics may also not really end, but become endemic among a population, a regular in their biological landscape that no longer appears in dramatic waves but keeps reappearing here and there in isolated clusters. The complete erasure of a disease from the face of the earth is a rare event. So far, among ubiquitous human diseases, smallpox alone has been successfully eradicated, and only after a massive, coordinated global program of vaccination that bridged political rivalries and reached the most remote places on earth in the 1970s.[5] Kuru, which affected a more restricted number of people in New Guinea, was also extinguished due to a number of combined efforts on the fronts of medical and anthropological research, interventions, and a change in habits.[6] Polio, again highly ubiquitous, is near eradication as we write in 2021. Measles, which for decades was absent from the immediate horizon of public health, makes occasional reappearances often linked to non-compliance with existing, reliable vaccination—in other words, through the cracks of a false sense of an ending. As for malaria, tuberculosis, HIV/AIDS, and a number of other infectious diseases, the goal of eradication still seems far away.

COVID-19, or SARS-CoV-2, is the current pandemic challenge. In spite of predictions of future epidemics, warnings, projections, and what we should have learned from the past, the new plague still took most people by surprise. National governments, local authorities, groups, and individuals diverged in their perceptions

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1 Camus (1947); Chong (2018); Defoe (1722); Saramago (1995).
2 Elliot (1925/1927); Rosenberg (1989, p. 8).
3 Crosby (2003); Rosenberg (1989).
4 Charters & Heitman (2021).
5 Bhattacharya (2006); Garrett (1994).
6 Lindenbaum (2015).

of the new epidemic. Rumors and denialism appeared, as on other occasions, but now spread widely and wildly via social media and with the support of denialist governments and religious leaders. The World Health Organization's leadership was criticized as being slow to act. Still, in spite of some flaws, there was tremendous activity in biomedical research and public health promotion that resulted in the fast development of efficient vaccines and their manufacture and use in massive campaigns. There were also issues of vaccine nationalism and discussions on patents, stocks, profits, provisions, and costs. Unsurprisingly, there was a stream of new variants of the virus, challenging the confidence about reaching an end in a short time.

The complex interplay of all these factors has enhanced uncertainties about the future. Will the new disease be extinguished by vaccination, like smallpox? Or by a change in habits, like kuru? Will we reach an "asymptotic" near-end, as happened with leprosy? Will COVID become part of the human health landscape, coming back every now and then, like cholera, Ebola, dengue, rabies, and others? Or will it stay nearby, like influenza, tuberculosis, or malaria? Or is it one among a series of coming plagues, its impact larger than Zika, Chikungunya, SARS, and other recent ones, but not the last in that series?[7]

The moment is right to discuss, debate, and revisit some of the epidemics of the past as a way of engaging with the present and the future. With the collective anxiety generated by COVID and the related explosion of public interest in anything about epidemics, from film and novels to expert debates on epidemic history, public health, zoonoses, ecosystems, and so forth, what was once a semi-obscure field of scholarship has become highly in demand inside and out of academia.

My contribution to the debate on "how epidemics end" consists in revisiting some epidemics that were once devastating and feared, and that did not really "end," but partially faded away from public perception: AIDS, syphilis, and measles. I will address AIDS in New York City and Rio de Janeiro in the 1980s–1990s; syphilis in the late 1800s and early 1900s in the city of Lisbon, in network with medical partners in France and Germany; and measles on board migrant ships traveling from Madeira to Hawaii in the 1880s.This sequence partly elicits my own trajectory in addressing epidemics, whether present or past, with an ethnographic–anthropological perspective that emphasizes not only social context but also social structures of inequality, multiple agencies, subjective experiences, and contradictory meanings involved.

Although not all those ailments are known as "poxes" (as in smallpox and partly in syphilis), they all have a strong component of skin expressiveness: Kaposi sarcoma for AIDS, pockmarks and skin blotches for syphilis, and reddish rash for measles. Skin expressiveness produces visual signs that serve as indexes of illness. Once those symptoms disappear, the public perception of the disease's prevalence may contribute to shaping a perception that the "plague" has ended before it really has.

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7 Garrett (1994); Kelly, Keck, & Lynteris (2020); Lindenbaum (2015); Watts (1997).

AIDS

I came into academic adulthood during the peak of AIDS in one of its epicenters, New York City, in the late 1980s and early 1990s.[8] The face of AIDS was no longer the rare emaciated young gay man with the lesions associated with Kaposi sarcoma, the one pathology that, together with pneumonia by *pneumocystis carinii*, led some doctors to identify the new syndrome in the early 1980s. AIDS in the city was everywhere and had many faces; it was like a vortex devouring young lives, communities, and energies—but it was also a dynamo for innovative responses involving care, prevention, demands for action, and more research. The intensity of the new epidemic and its impact on the life of the city hooked in most of us who had plans for research in the social and biomedical disciplines. It became the subject of my doctoral dissertation and the basis for further work.[9]

AIDS was exceptional, unexpected, and novel on several fronts: for its peculiar epidemiological distribution, which started by disproportionally affecting young and otherwise healthy gay men, plus users of injecting drugs and blood recipients; for its unusual clinical pattern, which saw uncommon diseases come together in fatal synergies, from Kaposi sarcoma to pneumonia, herpes, cryptosporidium, CMV, EBV, and so forth; and for the perplexity it caused about why people were dying of "mere" infections in that time and place. Emphasis should be given to "time" and "place"—the place being an affluent cosmopolis, and the time being the aftermath of the supposedly definitive victory over infectious diseases achieved in the previous decade. As opposed to chronic and degenerative diseases, which prevailed in developed and richer countries, infectious diseases had become perceived as a matter of underdevelopment, symbolically distant, both in space and time, from New York—a city oblivious to its epidemic past of cholera, typhoid, influenza, polio, tuberculosis, and others.[10]

Adding complexity to the situation and fueling anger among the afflicted was the delayed governmental response to AIDS, which was partly related to a prevalent homophobia that disqualified the epidemic as a public health issue and framed it through the archaic lenses of collective punishment for sinful existences or miasmatic contagion in marginal ghettoes—adding the insult of blaming the victims to the ongoing collective injury. Activists and communities took it into their own hands to create social responses in the areas of care and prevention and lobbying for clinical responses. The powerful slogan "*What do we want? The cure for AIDS!*" was chanted at demonstrations and public events, as if calling for an end to a collective affliction that seemed to have no end in sight.[11]

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8 As a doctoral student of anthropology at the City University of New York Graduate Center. I am particularly indebted to the inspiring and lively courses of medical anthropologists Shirley Lindenbaum, Leith Mullings, and Ida Susser, and medical historian David Rosner.

9 Bastos (1999).

10 Among others, Aimone (2010); Rosenberg (1987).

11 GMHC (2020); Hubbard & Schulman (2012); Schulman (2021).

To add further complexity to the analysis, it should be noted that while for some New Yorkers AIDS was a complete exception in their life expectations, for many other New Yorkers AIDS was one more among the multiple dangers to which they were permanently exposed. The city known for its cosmopolitan glamour and gay freedom was also a universe of augmented vulnerabilities due to social inequalities, substance addiction, exclusion from safety nets, and lives lived on the streets and in precarious shelters. The neoliberal push of the 1980s had defunded and sometimes dismantled the social programs that mitigated the health vulnerabilities of those in more disenfranchised situations. Homelessness in New York had expanded dramatically.[12]

Research on the social dimensions of AIDS gave more visibility to the tremendous health inequalities and vulnerabilities throughout the city. For a few years, the AIDS epidemic unified the urban social extremes—in New York, in other cities, and in the wider world. AIDS was soon to be declared a pandemic, that is, a global epidemic. AIDS was globally shared yet experienced in contrasting ways depending on place, gender, class, and other social variables.[13]

With an interest in the contrasting experiences of a shared pandemic, I focused on situations in which infectious disease was not perceived as an unexpected outburst from the past, or from nowhere, but as something that had been there all along for the population, the health services, and researchers in biomedicine, epidemiology and society. That interest led me to Brazil, a country in which tropical medicine was inscribed in the narrative of nation-building, as opposed to being associated with former colonial powers, as in many African and Asian countries. In Brazil, tropical medicine remained an important sector of research and public health, accounting for epidemic and endemic infections; it gave birth to the medical specialty *Doenças Infecciosas e Parasitárias* (Infectious and Parasitic Diseases), or DIP. DIP physicians were trained to identify the pathogens and treat the obscure endemic diseases that sometimes appeared in epidemic outbursts like leishmania, leptospirosis, trypanosomiasis, Chagas, typhus, yellow fever, dengue, cholera, and so forth. Their clinical interventions used to be of the all-or-nothing kind: the patients—most often from disenfranchised backgrounds and rural areas—would either die without much interaction with the doctors, or fully recover and walk out for good. When AIDS in Brazil was relocated from the care of dermatology (which includes sexually transmitted diseases) to that of DIP, the local infectious disease physicians faced a new challenge, different from their routines with severely ill patients whose subjectivities were temporarily drowned in their feverish, quasi-lethal conditions, most often caused by the obscure bugs of underdevelopment and poverty. AIDS was the opposite: highly visible in the media, marked by a morbid glamour for its association with "first world" urban centers and celebrities, attracting special resources, so far incurable, and prone to the expression of patients' subjectivities in both clinical and political settings.[14]

12 Susser & Gonzalez (1992).
13 Bastos (1999); Susser (2009).
14 Bastos (1999).

Health care professionals treating AIDS, people with AIDS, their families and communities all had to learn with one another how to navigate the unmapped territories of the new epidemic, not knowing whether there would be an end to it, what the next day would bring, if any efficient treatment would come, and, if so, if it would be affordable for everyone in need. This mode of working together, identified by its participants as an "AIDS culture," left a mark in Brazilian health care and public awareness. That mark would translate into innovative policies that eventually had an impact way beyond Brazil. Brazilian researchers may not have achieved a cure for AIDS or a global change in the perception of infectious disease based on their real-life experience, but they brought together, in ways that had global impact, the centrality of infectious diseases (in research and health care) and the importance of collaborative work by all parties involved, from HIV-positive people and AIDS advocates to health care professionals, scientists, and policy-makers.[15]

When an efficient combination of anti-retroviral treatments (henceforth ARTs) was announced at the International Conference on AIDS held in Vancouver in 1996, those who could afford to pay for treatment celebrated enthusiastically. What had been a killer infectious disease could now be turned into a chronic condition. Those who could not afford to pay for the predictably expensive ARTs and had been living with the diseases of underdevelopment all along expressed some caution: would ARTs simply reinforce the worldwide sanitary divide that set the chronic ailments pattern of the richer against the infectious landscape of the poorer?

At this juncture, what had evolved in Brazil as an "AIDS culture"—in which health care workers, people with AIDS, activists, and decision-makers converged to fight the epidemic—made a difference at a local and global level, affecting many lives, even if only for a period. AIDS advocates in São Paulo and Rio successfully argued (and won in a string of court cases, first for the traditional AZT, then for the new protease inhibitors) that under the constitutional principles of granting the right to life to its citizens, the Brazilian government should pay for ARTs for people with AIDS.[16] This action opened a new path that in the end led to the lowering of the cost of ARTs, and their subsequent wider availability, by bringing down the costs associated with patents and royalties through their manufacture as generics. The dynamics expanded throughout the world, along with new forms of using AIDS assistance funds from developed countries to pay for ARTs in poorer countries. For example, dedicated programs for health promotion were funded by large charities, and a United Nations interagency structure, UNAIDS, was created to address AIDS.[17]

The development of efficient ARTs in the second half of the 1990s and the treatment's worldwide diffusion in the early 2000s turned what had been a lethal pathology into a treatable condition. But did that bring the epidemic to an end, or simply change its global distribution and, as a consequence, its global visibility?

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15 Bastos (1999; 2008); Biehl (2004); Parker (2011); Terto & Garcia (2008).

16 Scheffer, Salazar, & Grue (2005).

17 Bastos (2008); Berkman, Garcia, Muñoz-Laboy, Paiva, & Parker (2005); Follér (2010); Galvão (2005); Galvão, Bastos, & Nunn (2012); Nunn, Fonseca, & Gruskin (2009); Schechter & Charles (2008).

The unifying pandemic that existed in the 1990s, mobilizing North and South in the pursuit of a cure for all, ceased to exist under that format; and while the effects of the global effort against AIDS helped in eroding the traditional gap in access to health care, the divide remained. HIV continued spreading throughout the world; AIDS babies grew into adults who would not know life without the virus; and, predictably, structural asymmetries conditioned access to treatment, including in Brazil, where in the meantime the politics of distribution also changed. The end of AIDS remains elusive and a work in progress conditioned by political decisions and multiple other factors.[18]

Syphilis

In the 2000s my research interests shifted to historical epidemics and other matters. I eventually studied syphilis in the early 20th century—an infection so embedded in societies around the world that it better fits the category of endemic. I conducted ethnographic-inspired research on the records of a syphilis clinic in an annex of the skin and venereal diseases hospital of Desterro in Lisbon. My research was complemented with the study of the personal diaries of the clinic's chief physician from 1897 to 1933, Thomaz de Mello Breyner, and with the use of a variety of other sources, including a collection of wax moulages representing syphilis symptoms.[19]

By the early 20th century, syphilis was a highly prevalent infection around the world, having reportedly been brought—at least the sexually transmitted, lethal, and disfiguring variant that started devastating Europe in the 16th century—from the Americas to Europe by early trans-Atlantic travelers. In what has been referred as the "Columbian Exchange," syphilis was the counterpart of smallpox, measles, influenza, and other lethal infections taken from Europe to the Americas.[20] Syphilis—or lues, or Gallic illness, or the "pox"—found a steady home in Europe and spread across the world through maritime and land travel, trade, conquest, war, colonial settlement, and so forth.[21] It affected men and women, rich and poor, dark and light, old and young, and even newborns, whose congenital syphilis (transmitted during pregnancy or birth) was for a long time perceived as an hereditarian fate and a sign of the degeneration of some groups.[22]

For centuries, there were no efficient treatments for syphilis; palliatives included mercury, guaiacum, water therapies, and a number of local remedies that varied from place to place. The use of make-up to disguise syphilitic facial marks and wigs to cover alopecia became fashionable and were often used by men and women of the upper strata, regardless of whether they were sick or not.

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18 Agostini, Rocha, Melo, & Maksud (2019); Cueto & Lopes (2021); Kenworthy, Thomann, & Parker (2018).
19 Bastos (2011; 2017).
20 Crosby (1972).
21 Among others, Brown (2006); Levine (2003); Watts (1997).
22 Brown (2006); Kertzer (2008).

Prostitution and prostitutes were most often blamed for the transmission of syphilis, along with a wide range of venereal diseases that fell in the same category. Some governments banned prostitution altogether. Others chose to regulate the sexual trade, keeping it as a legal activity whose practitioners could be monitored and regularly checked by the sanitary police. In the places that adopted such regimes, the impact of surveillance varied according to class and location; while high-class brothel workers could afford in-house inspections and treatment, the more vulnerable and lower fringes were monitored at the police headquarters and, if caught with symptoms, locked in prison hospitals. In late-19th-century Lisbon, that meant Desterro's lock infirmaries of St. Mary Magdalene and St. Aegyptiaca. In the words of one of its doctors, Desterro was more prison than hospital, a stigmatized human dumpster for people with skin-expressive, repulsive ailments and for prostitutes caught with venereal symptoms by the sanitary police.[23]

The appointment of unconventional physician Dr Breyner to Desterro in 1897 brought a few improvements. Donations from Dr Breyner's well-to-do connections (including the ruling monarch) helped mitigate the general shortage of means in the dreadful infirmaries and obtain some basic equipment. The outpatient clinic was also poorly equipped and there are many notes from Breyner complaining of the shortage of medicines. Still, he managed to provide the standard treatments used in better-endowed places: mercury-based injections, pills, tonics, oils, and ointments.[24]

Even though Dr Breyner had trouble making an academic career at home in Lisbon—according to himself, due to his royalist sympathies in a medical milieu that was mostly pro-republic—he was fully inserted into a vast international network. He had done postgraduate work in Paris and returned there every now and then, participated in international meetings, and was keenly aware of new therapeutic developments. It is thus no surprise that he was an early enthusiast for what appeared to be a promising cure for syphilis—Salvarsan—and began using it in 1910.

Salvarsan, or 606, had been developed in Germany by German Nobel Laureate Paul Ehrlich and Japanese microbiologist Saachiro Hata.[25] Previous work on anti-trypanosomiasis (sleeping sickness) treatments, relevant to tropical–colonial medicine, had led to the development of the successful arsenical compound Atoxyl in Germany. Salvarsan was also an arsenical, and—unlike Atoxyl, which was used mostly in colonial Africa—was immediately in demand in Europe, being first used on patients in 1909.[26] In 1910, it was already in Lisbon, via Tropical Medicine head Ayres Kopke, who sent it to Desterro, where an assistant physician administered it to

23 Bastos (2011; 2017).

24 Moléstias Sifilíticas e Venéreas, Registos de Consulta (1897–1909), Colecção de Dermatologia do Hospital do Desterro, Centro Hospitalar de Lisboa Central, Hospital dos Capuchos, Lisboa, Portugal; see also Thomaz de Mello Breyner, *Diários* (1894–1933), private collection deposited at the Arquivo Nacional da Torre do Tombo, Lisbon, Portugal, consulted with the kind consent of his descendants.

25 Ehrlich received a Nobel Prize in 1908 for his work on dyes and microscopic visualization. Hata was nominated three times for a Nobel Prize, but never awarded one. Although famous in Japan, Hata's role in German biomedicine is often overlooked: Vernon (2019).

26 Williams (2009).

a female inpatient. It was the month of August and Breyner was on summer retreat, but on his return he immediately praised the treatment and adopted it both in the hospital and in his private practice. His notes show a sincere enthusiasm for the new possibilities of Salvarsan.[27]

Throughout Europe, Salvarsan was applauded and adopted. It was seen as a "magic bullet," a possible redemption from syphilis, and the tool that would end a centuries-old scourge. However, it was soon discovered that Salvarsan had harmful side effects. Enthusiasm about it cooled. Within a few years, Ehrlich had developed a more perfect compound, Neo Salvarsan (914). Still, it was not the final word on syphilis efficient treatments. Bismuth was also adopted as a therapy, but with limited results. It was only when penicillin became widely available that the end to syphilis came into sight.[28]

Adopted with caution—since Salvarsan had proven to be occasionally lethal—penicillin slowly entered the treatment repertory and really did prove to be a magic bullet. The drug created a symbolic end for syphilis, its symptoms moving out of public sight. With the arrival of an efficient therapy, there was a change in the tense balance between those who wanted to outlaw prostitution and those who supported its legal status as a means of controlling the spread of syphilis. The argument lost strength with penicillin in the picture, and prostitution was finally outlawed in Portugal in 1963.[29]

Did syphilis end, at least in this place? Not entirely. We can think of it as having an asymptotic quasi-end—a fading away from public concern, a dismantling of the syphilis apparatus and related public policies. While the pathogen remains out there, in endemic forms or epidemic re-emergences, the complex of syphilis as it existed, at least in Lisbon, involving dread, disguise, and surveillance through the combination of sanitary police, legal prostitution, and lock hospitals, had an end, albeit one with no clear date to report, slowly and sometime past the mid-20th century—precisely 1963 for Portugal. The infection, however, remains in the background, erupting every now and then, in this place and others.

Measles

In the context of my current research on plantation labor and racializations, I came across a series of three devastating epidemics of measles on board the steamers *Hankow*, *City of Paris,* and *Bordeaux* transporting Portuguese Atlantic islanders to the sugar-cane plantations in Hawaii in the 1880s. The Hawaii Board of Immigration and the Planters Association had begun a policy of diversifying their workforce, which at the time consisted mostly of Chinese, Hawaiian, and later Japanese laborers. Madeiran and Azorean families were contracted to work on the sugar fields of Hawaii

27 Bastos (2011).
28 Brandt (1985); Williams (2009).
29 Saraiva (2014).

for periods of 3–5 years, after which time they could move onto other activities or stay in the plantations. The families embarked on a journey from which most would not return. One way or another, they would shape their lives after the plantation by staying in Hawaii, self-identifying as one of the ethnic groups of the archipelago, cultivating their heritage, foods, and culture—and proudly reminding anyone less alert that the iconic ukulele of Hawaii is an adaptation of Madeira's *braguinha*, brought to the islands by Portuguese migrants.[30]

The trip from the Azores and Madeira to Hawaii was itself a major ordeal for those families. To cross the Atlantic north to south, round Cape Horn, and traverse the Pacific south to north took about 6 months by sail and nearly 2 months by steamer. The ordeal included the challenges of living in steerage, enduring rough seas and changing weather conditions, eating unlikeable food, and dealing with abusive crews who spoke different languages. For the unfortunates who embarked in the years 1883–1884, it also meant living through a deadly epidemic of measles that took the lives of dozens of children. In the *Hankow*, which left from Funchal (Madeira) to Honolulu in 1883, 54 children died on board. In the following year, on a trip bringing Azorean and Madeiran families to Hawaii aboard the *City of Paris*, 53 children and 2 adults died in an epidemic that affected about 400 people. The death toll was even worse on the following trip, which departed from Madeira: 69 children and 3 adults died of measles on board the *Bordeaux*.

Measles was rampant, and care was scarce. The experience was dreadful. The steamers going to Hawaii may not compare to the typhus-ridden sailing chambers of death that had transported Irish men and women escaping the potato famine to North America in 1847, nor to the slavers and former slavers that transported South Asians across the oceans to the British sugar plantations. But for those who experienced measles on those ships, particularly those whose infants died, it was hell. In the microcosm of that vessel, the epidemic eventually ended, either by exhausting the available bodies or by cooling off in the quarantine station on arrival.[31]

The death toll was so high that the Portuguese consul in Honolulu demanded an inquiry into the course of the epidemic.[32] Unfortunately, rather than having a full description of the scanty conditions of steerage in which migrants went from a subtropical island in the north Atlantic to a subtropical island in the north Pacific, there was a report blaming it on Madeiran mothers who had not provided their children with appropriate clothing for the polar temperatures experienced around Cape Horn. According to the report,

> As to mortality among infants of whom there were 400 onboard, during the voyage of 68 days, measles had broken out, affecting nearly all the children. The mothers, owing to indifference or ignorance, often allowed their children to go

30 Tranquada & King (2012).

31 Barcia (2020); Bastos (2020); Brown (2013).

32 "Evidence taken June 17th and subsequently at the Enquiry into the Causes of the Great Mortality among Children during the Voyage of the SS City of Paris" (1884), FO & Ex 31, 1884, Immigraton jan-jun, Hawaii State Archives, Honolulu, HI; Negócios Externos (1885).

> about the decks scantily clad, therefore it could not be wondered at that diarrheas and lung troubles resulted from this exposure after measles. An adult ration was provided for each child over one year, and delicacies were served out to the sick—but neither delicacies nor medicines could avail children not taken proper care of by their mothers.[33]

Rather than tackling wider social and medical issues related to the outburst of measles and their deadly effect, this document shares the "blaming the victim" attitude that so often permeates the reporting of epidemics—an attitude that appeared frequently for syphilis and for AIDS. We can speculate that the reported outbursts of measles may have ended by exhausting the number of targets and, eventually, by changing the environmental and sanitary conditions of the population involved—arriving on land, and receiving proper care and better food in an appropriate environment.

Measles continued ravaging the world into the 20th century, often leading to severe side effects and death. Efficient vaccines were developed in the 1960s. Later, the measles vaccine was combined with those for mumps and rubella (MMR), creating a powerful tool for preventing those infectious diseases, so often lethal to infants.

Did measles end with vaccination? Unfortunately not. Already in the 21st century, a belief that there might be a link between MMR vaccines and autism widely augmented vaccine refusal. Such a hypothetical link had been suggested in an article later debunked and retracted by its own author. Yet the misinformation had spread in the meantime, encouraging vaccine resistance that, allied with a false sense of security created by a relative invisibility of measles, brought back the disease to unexpected sites. While in theory the end is in sight, in practice it remains elusive.

Concluding Note

AIDS, syphilis, and measles were in different moments experienced as lethal, devastating epidemics. Each of them is related to a specific infectious agent—HIV (Human Immunodeficiency Virus) for AIDS, *Treponema pallidum* for syphilis, and *Measles morbillivirus* for measles. The latter is highly contagious, occasionally causing the sort of collective ravage described for those Madeira–Hawaii trips. The two others are mainly transmitted via sexual intercourse, leading to historically documented devastations in different geographies and periods. As we write in 2021, all of those diseases have treatments and, for measles, there are efficient vaccines. Biomedical tools—rather than a hypothetical course of nature—diminished the lethality of each of them, reduced their impact, put them away from public view, and helped to outline the possibility of their end. And yet, the complexities of access to health care and the synergies between access, individual and group behavior, beliefs, and other human and social factors affecting health, push their actual end further away.

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33 Hawaii Bureau of Immigration Report 1884/86 (1886),p. 220, Hawaiian-Pacific Collection, Hamilton Library, University of Hawaii, Manoa, HI.

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