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A Pox on Your Narrative: Writing Disease Control into Cold War History*

When Dr. Viktor M. Zhdanov, Deputy Minister of Health of the Soviet Union, arrived in Minneapolis, Minnesota, in May 1958 to attend the annual meeting of the World Health Assembly (WHA), the governing body of the World Health Organization (WHO), the visit was not routine.[1] Reflecting Soviet premier Nikita Khrushchev's new policy of "peaceful coexistence" with the West, it marked the first time that a Soviet delegation had been sent to that forum since the establishment of the WHO ten years earlier.[2] And Zhdanov made his mark, calling on the organization to launch a global campaign to eradicate smallpox, one of humankind's oldest and deadliest diseases. Mindful of the meeting's venue, he began his call with a quote from a letter that U.S. president Thomas Jefferson had written to Edward Jenner, discoverer of the smallpox vaccine, more than a century and a half earlier. The discovery, Jefferson had written the English physician in 1806, would ensure that "future nations will know by history only that the loathsome small-pox has existed."[3]

The Sage of Monticello, it turned out, was perceptive but premature. Though the practice of vaccination spread widely in the decades following Jenner's 1796 discovery, smallpox was not eradicated in the West until the mid-twentieth

*I thank David Armitage, Matthew Connelly, Niall Ferguson, Julia Irwin, John R. McNeill, and the anonymous reviewers for their useful comments on this manuscript as it developed.

1. The assembly typically met at the organization's headquarters in Geneva's Palais des Nations. It gathered in Minneapolis to mark the WHO's tenth anniversary at the invitation of Minnesota Senator Hubert Humphrey, a long-time internationalist who had wanted to showcase U.S. support for the organization.

2. The USSR and other Soviet Bloc countries withdrew from the WHO in 1948, protesting that it did not channel sufficient resources to Eastern Europe. The WHO, however, argued that its constitution contained no provision for withdrawal and continued to count these countries as members. Javed Siddiqi, *World Health and World Politics: The World Health Organization and the UN System* (London, 1995), 104–09.

3. Thomas Jefferson to Edward Jenner, May 14, 1806, The Thomas Jefferson Papers, Series 1, General Correspondence, Library of Congress, Washington, DC. In the WHA minutes the same quote, presumably having been translated from English to Russian and back into English, appears in rather less elegant phrasing: "in the future the peoples of the world will learn about this disgusting smallpox disease only from ancient traditions." See "Eradication of Smallpox: Report Submitted by the Government of the Union of Soviet Socialist Republics," in *Official Records of the World Health Organization*, No. 87 (1958): 508 (hereafter *ORWHO*). Also see F. Fenner, D. A. Henderson, I. Arita, Z. Ježek, and I. D. Ladnyi, *Smallpox and Its Eradication* (Geneva, 1988), 366–68 (hereafter *SAIE*).

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century and, at the time of Zhdanov's call, was still widely prevalent across much of the global south. In 1959, the year following Zhdanov's visit to Minneapolis, the WHO officially established a Smallpox Eradication Program (SEP). At the time, however, the organization was focused on a high-profile, U.S.-backed campaign for the worldwide eradication of malaria, and for a number of years the smallpox program languished with little funding and few staff. By the mid-1960s, however, the malaria campaign was conspicuously failing to make progress toward global eradication.[4] With the escalating war in Vietnam battering the U.S. image in the developing world, the administration of President Lyndon Johnson, seeking ways to display its commitment to international cooperation and third world development, decided to throw its support behind global smallpox eradication. Echoing John F. Kennedy's man-on-the-moon pledge in 1962, Johnson announced in May 1965 that the United States was committed to wiping out smallpox within a decade.[5]

In 1967, when the WHO finally began an "intensified"—that is to say, actually funded and staffed—global smallpox eradication campaign, smallpox still killed an estimated two million people worldwide annually.[6] The SEP unfolded over the subsequent decade, operating more or less simultaneously in dozens of countries on three continents, in an arch stretching across the global south from Brazil through sub-Saharan Africa and the Indian subcontinent to the Indonesian archipelago. The program had its technical, scientific, and organizational aspects, but it also required the navigation of fraught political and cultural encounters on numerous levels. It involved political jockeying in the international forums in Geneva, diplomatic efforts to sign "country agreements" with numerous participating governments, and the negotiation of vaccination campaigns on the ground with a host of local actors, from Hausa emirs in northern Nigeria to Hindu villagers in rural Uttar Pradesh. With the United States providing much of the funding and the Soviet Union most of the vaccine, the global eradication of smallpox was achieved in 1977 and officially certified by the WHO in 1980. It marked the first successful eradication of a major human infectious disease and has served as a precedent for all subsequent disease eradication programs, including HIV/AIDS, tuberculosis, and polio.[7]

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4. Malcolm Gladwell offered a heroic account of the rise and fall of the malaria campaign in "The Mosquito Killer," *The New Yorker*, July 2, 2001, 42–51. A more critical perspective is Randall M. Packard, "'No Other Logical Choice': Global Malaria Eradication and the Politics of International Health," *Parassitologia* 40 (June 1998): 217–230. See also Randall M. Packard, "Malaria Dreams: Postwar Visions of Health and Development in the Third World," *Medical Anthropology* 17 (1997): 279–96.

5. White House press release, May 18, 1965, White House Central Files, Ex HE/MC, box 6, Lyndon Baines Johnson Library, Austin, Texas (hereafter LBJL).

6. This is approximately equivalent to the estimated number of annual global deaths attributed to HIV/AIDS in 2008 and roughly twice the number attributed to malaria. See data at www.globalhealthfacts.org.

7. *The Global Eradication of Smallpox: Final Report of the Global Commission for the Certification of Smallpox*, Geneva, December 1979 (Geneva, 1980).

Considering that in the course of the twentieth century alone smallpox caused an estimated 300 million deaths—more than twice the total death toll from all the century's wars combined—the eradication of smallpox was arguably among the most significant events of the postwar period.[8] And given the involvement of both superpowers in the program and its profound impact on the global south, the eradication of smallpox can be considered among the most significant "Third World interventions" of the Cold War era. It was, to be sure, an intervention of a very different kind from those that Odd Arne Westad has recently explored.[9] It was not primarily a military, political, or economic intervention, though it touched on all of those fields of endeavor. In the decade of its operation on the ground in numerous sites across the globe, the program negotiated through some of the most violent postcolonial conflicts of the era, including the Nigerian civil war of 1967–70, the Indo-Pakistan war over the secession and independence of Bangladesh in 1971, and the conflicts in the Horn of Africa in the mid-1970s. Amid Cold War conflict, however, the SEP continued to rely on collaboration between the two superpowers. The campaign, in fact, presents a striking example of a Cold War paradox, as growing superpower interest in the third world, interest that was born of Cold War competition, helped produced what was arguably the single most successful instance of superpower collaboration in Cold War history.

But the history of the SEP is more than just a story of interstate relations, and writing it into Cold War history requires us to adopt a broader conception of international society, one that combines attention to state actors with recognition of the role played by international organizations, nongovernmental organizations (NGOs), multinational corporations, and transnational "epistemic communities" that produce, circulate, and deploy expert knowledge.[10] Such integration would build on important recent work exploring the significance of international organizations and nonstate actors in defining the global history of development. Following on the seminal work of Akira Iriye, Amy L. S. Staples has encouraged us to think about the rise and impact of international civil servants in the international history of the last century, and Matthew Connelly

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8. The 300 million figure is cited, *inter alia*, in Michael B. A. Oldstone, *Viruses, Plagues, & History* (New York, 1998), 27; others have cited estimates as high as 500 million. Since the great majority of smallpox deaths, even in the twentieth century, occurred in regions and periods for which there are few reliable data, it is not easy to gauge the accuracy of these estimates. But given that the influenza pandemic of 1918–19 killed at least 21 million people worldwide in less than a year—Alfred Crosby called this figure "probably a gross underestimation"—300 million smallpox deaths over the course of nearly eight decades does not seem implausible. See Alfred Crosby, *America's Forgotten Pandemic: The Influenza of 1918*, 2nd ed. (New York, 2003), 207. For war's death toll in the twentieth century see Niall Ferguson, *The War of the World: Twentieth-Century Conflict and the Descent of the West* (New York, 2006).

9. Odd Arne Westad, *The Global Cold War: Third World Interventions and the Making of Our Times* (Cambridge, 2005).

10. On epistemic communities in international affairs, see Peter M. Haas, "Introduction: Epistemic Communities and International Policy Coordination," *International Organization* 46, no. 1 (Winter 1992): 1–35, as well as the other essays in that special issue.

has called on us to "see beyond the state" in our quest to understand movements that exceeded and even ignored national boundaries in the ways they conceived their purposes and operated on the ground.[11] At the same time, historians of medicine, too, have begun to think about the history of postwar international health campaigns in the broader context of international politics, and much could be gained from closer connections between international historians interested in development and historians of medicine interested in international affairs.[12]

There is much to be said for recent efforts to open fresh avenues of investigation into postwar international history by removing the "Cold War lens."[13] The Cold War, however, remains a central aspect of postwar history, and while it may well be possible to write the history of the SEP without much reference to the Cold War, we have more to gain from an integrative approach. The purpose of this article is to highlight the ways in which the history of the SEP intersects with Cold War history and to show how writing smallpox eradication into Cold War history would serve to enrich that literature. In particular, an examination of the SEP can help illuminate three important themes in the historiography. The first is U.S.-Soviet relations, particularly with regard to the Third World. This ground has, of course, been plowed over many times and from numerous directions but largely with a focus on superpower conflict. The SEP, which depended on the coupling of U.S. funds and expertise with the Soviet capacity for vaccine production, allows us to interrogate the puzzle of superpower *collaboration*, a subject in which there is much yet to be unearthed. Secondly, this study can contribute to our understating of the role of international organizations and networks, a topic that has long been of interest to scholars in the fields of international relations, international law, and sociology, but which historians have only

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11. Akira Iriye, *Global Community: The Role of International Organizations in the Making of the Contemporary World* (Berkeley, CA, 2002); Amy L. S. Staples, *The Birth of Development: How the World Bank, Food And Agriculture Organization, And World Health Organization Have Changed the World 1945–1965* (Kent, Ohio, 2006); Matthew Connelly, "Seeing beyond the State: Population Control and the Question of Sovereignty," *Past & Present* 193 (2006): 197–233; Matthew Connelly, *Fatal Misconception: The Struggle to Control World Population* (Cambridge, MA, 2008). The phrase "seeing beyond the state" echoes James C. Scott, *Seeing Like a State: How Certain Schemes to Improve the Human Condition Have Failed* (New Haven, CT, 1998).

12. See, e.g., John Farley, *To Cast Out Disease: A History of the International Health Division of the Rockefeller Foundation, 1913–1951* (New York, 2004); Anne-Emanuelle Birn, *Marriage of Convenience: Rockefeller International Health and Revolutionary Mexico* (Rochester, NY, 2006); Marcos Cueto, *Cold War, Deadly Fevers: Malaria Eradication in Mexico, 1955–1975* (Baltimore, 2007); Randall Packard, *The Making of a Tropical Disease: A Short History of Malaria* (Baltimore, 2008); Alison Bashford, "Global Biopolitics and the History of World Health," *History of the Human Sciences* 19, no. 1 (2006): 67–88.

13. Matthew Connelly, "Taking Off the Cold War Lens: Visions of North-South Conflict during the Algerian War for Independence," *American Historical Review* 105 (2000): 739–69.

recently begun to explore in depth.[14] Finally, the story of the SEP can help shed new light on the history of Cold War development, a lively and burgeoning field of scholarship.[15] Writing smallpox eradication into Cold War history requires not so much a new lens as a broader field of vision, one that allows us to frame the SEP not simply as a public health program, but as a complex project embedded in wider political, ideological, and cultural contexts that defined postwar international relations.

Smallpox was an acute infectious disease caused by the *variola* virus, which typically entered the body through the respiratory tract. The initial symptoms included fever, aches, and general malaise, followed within a few days by the appearance of the characteristic rash that evolved into the pus-filled pustules that covered the body, concentrated especially on the face and extremities. The progression of the rash, from macules to papules to vesicles to pustules to scabs, took about two weeks. If the patient survived, the scabs fell off and left behind the telltale scars that Queen Elizabeth I tried to hide with heavy makeup and Joseph Stalin had airbrushed out of his official photographs.[16] In the course of millennia, smallpox struck kings and commoners alike, probably killing more people than any other single pathogen. On occasion, it also determined the course of history. It was a major factor in the decimation of the pre-Columbian populations of the American continent and, one historian has recently argued, had an important role in shaping the course of the American revolutionary war.[17] The disease manifested a number of variations, some relatively mild and others almost invariably fatal, but its most common form killed about a third of its victims within about two weeks. Survivors acquired lifelong immunity, but the replenishment of the susceptible population through new births allowed the disease to remain endemic in many regions of the world over the course of many centuries.[18]

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14. In international relations, see, e.g., Andrew Hurrell, *On Global Order: Power, Values, and the Constitution of International Society* (Oxford, 2007); in international law, see Anne-Marie Slaughter, *A New World Order* (Princeton, NJ, 2004); in sociology, see John Boli et al., "World Society and the Nation-State," *American Journal of Sociology* 103, no. 1 (1998): 144–81; John Boli and George M. Thomas, eds., *Constructing World Culture: International Nongovernmental Organizations since 1875* (Stanford, CA, 1999). On the recent historical literature, see Jeremi Suri, "Non-Governmental Organizations and Non-State Actors," in *Palgrave Advances in International History*, ed. Patrick Finney (London, 2005), 223–46.

15. For a useful but in this rapidly growing field already somewhat dated survey of the topic, see Nick Cullather, "Development? It's History," *Diplomatic History* 24 (2000): 641–53.

16. On Elizabeth I, see Donald R. Hopkins, *The Greatest Killer: Smallpox in History*, 2nd ed. with a new introduction (Chicago, 2002); on Stalin's experience with smallpox, see Raymond Birt, "Personality and Foreign Policy: The Case of Stalin," *Political Psychology* 14, no. 4 (December 1993): 616.

17. Alfred W. Crosby, *The Columbian Exchange: Biological and Cultural Consequences of 1492* (Westport, CT, 1972), esp. 42–62; Elizabeth A. Fenn, *Pox Americana: The Great Smallpox Epidemic of 1775–82* (New York, 2001). On the impact of disease on history, see also William McNeill, *Plagues and Peoples* (New York, 1976).

18. Cyril William Dixon, *Smallpox* (London, 1962), chap. 10.

Techniques for inducing immunity to smallpox date to ancient times, but all such techniques required infecting healthy individuals with the variola virus and therefore carried significant risk of contracting a full-blown case of the disease. What Jenner discovered in 1796 was that inoculating humans with pustular material taken from cows infected with the cowpox virus—a similar but distinct pathogen—induced immunity to smallpox without the danger of contracting the disease.[19] In the ensuing decades, the practice of vaccination spread in Europe and the Americas and also followed imperial rule into Asia and Africa.[20] But resistance to vaccination, both among medical professionals and broader populations, was often significant, and, at the turn of the twentieth century, smallpox was still endemic across much of the world. The city of Boston, for example, saw a major outbreak in 1901; twenty-five years later, when the reported annual number of smallpox deaths in Europe except Russia was 700, a League of Nations health official called this number "unusually low" and wondered whether there was significant underreporting.[21] It was not until the mid-twentieth century that the spread of vaccination had largely eradicated the disease in Europe and North America. Even then, however, it remained endemic in many parts of the global south, primarily in South Asia, sub-Saharan Africa, Indonesia, and Brazil.[22]

In his 1958 report to the WHA calling for a global smallpox eradication program, Zhdanov had highlighted the success of eradication within the USSR. The practice of vaccination in imperial Russia had been sporadic, and one of the first acts of the revolutionary regime in the field of public health was the decree, issued by Lenin himself in 1919, mandating the compulsory vaccination of the entire population against smallpox.[23] Energetic enforcement of this edict under Lenin and Stalin allowed the USSR to eradicate endemic smallpox by 1936, and the Soviet leadership celebrated this achievement, along with other successes in disease control, as a mark of pride and legitimacy for the regime.[24] Moreover, disease control was a field in which the Soviet Union was often willing to engage international institutions that it otherwise kept at arm's length. The League of Nations played an important role in the suppression of the great postwar typhus epidemic that raged in the USSR despite ongoing tensions and suspicions

19. Ibid., chap. 12. The term "vaccine," derived from the Latin *vacca*, or cow, was coined in the nineteenth century to honor Jenner's discovery.

20. On the spread of vaccination in Europe, see Peter Baldwin, *Contagion and the State in Europe, 1830–1930* (Cambridge, 1999), chap. 4.

21. Unsigned memorandum dated December 9, 1927, box R940, folder 39435, League of Nations Archive, Geneva, Switzerland.

22. *SAIE*, chap. 8; *Second Report on the World Health Situation*, 1957–1960 (Geneva, 1963), 16.

23. A. T. Kravchenko, "Lenin's Decree Concerning the Control of Natural Smallpox," *Voprosy virusologii* 15, no. 1 (1970): 3–6; A. T. Kravchenko, "The History of Smallpox Eradication in the USSR," *Zhurnal mikrobiologii, epidemiologii, i immunobiologii* 47, no. 2 (February 1970): 3–8. I thank Marina Ivanova for her assistance with this material.

24. V. M. Zhdanov, *The Control of Infectious Disease in the USSR* (Moscow, 1959).

between Moscow and league members, and though the Soviet Union did not join the league until 1934, cooperation on public health issues continued throughout the 1920s.[25] By the 1930s, an ethos that viewed the realm of disease control as one in which international cooperation could proceed even as conflict raged in other arenas was already well established.[26] In the words of one contemporary practitioner and historian, "international cooperation in the prevention of epidemics placidly continues, however hostile or competitive other relationships may become."[27]

Zhdanov's 1958 proposal, then, reflected a substantial history even as it came after a decade of Soviet rejection of the WHO. Zhdanov called for pursuing global eradication with the methods that had been used in the Soviet Union. He proposed a five-year plan of compulsory vaccination of the entire population of endemic countries, though it allowed for accommodations in cases where compulsory vaccination was not feasible.[28] The justification he offered for pursuing global eradication was a practical one, recognizing the world's growing interconnectedness and the global circulation of pathogens. The Soviet Union, though it had eradicated endemic smallpox, still counted hundreds of cases annually due to importations across its long borders with endemic countries such as Iran and Afghanistan. And with the growth of air travel, even those countries of the global north that did not border endemic regions had to maintain costly vaccination programs to protect their populations against importations. A coordinated global campaign, Zhdanov reasoned, would cost much less than the indefinite continuation of such national vaccination programs. If the WHO took this on, he predicted that the disease could be "practically eradicated" as a public health problem within five years and completely defeated within a decade.[29] To show their commitment to the campaign,

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25. See Martin David Dubin, "The League of Nations Health Organisation," esp. 67–69 and Marta Aleksandra Balinska, "Assistance and Not Mere Relief: The Epidemic Commissions of the League of Nations, 1920–1923," esp. 93–99, both in Paul Weindling, ed., *International Health Organisations and Movements, 1918–1939* (Cambridge, 1995).

26. On the internationalization of public health in the interwar years, see Sunil S. Amrith, *Decolonizing International Health: India and Southeast Asia, 1930–65* (New York, 2006), chap. 1.

27. Hans Zinsser, *Rats, Lice and History* (Boston, 1935), 293. Zinsser's book has continued to be widely read in the decades since its publication and international public health practitioners often cite it as an important inspiration. For more on this ethos, see James Watt, "International Cooperation for Health—A Modern Imperative," in Records Group (RG) 90, box 42, folder "International Cooperation Year" (U.S. National Archives, Washington, DC (hereafter USNA).

28. In such cases Zhdanov suggested employing the so-called Leicester system, which originated in nineteenth century Britain and eschewed compulsion to rely instead on surveillance, identification, and isolation of suspected cases. The system had been devised in response to strong public resistance to compulsory vaccination. See Stuart M. F. Fraser, "Leicester and Smallpox: The Leicester Method," *Medical History* 24 (1980): 315–32; Baldwin, *Contagion and the State*, 321–23. As it turned out, surveillance and targeted vaccination proved much more important to the success of the SEP than universal compulsory vaccination.

29. "Eradication of Smallpox," 508–12. Also *SAIE*, 366–71.

the Soviets promised an annual donation of twenty-five million doses of the heat-stable freeze-dried vaccine, the type that would be crucial in regions where the climate was hot and reliable refrigeration scarce.[30]

The practical logic seemed unimpeachable, but the political context of the Soviet proposal complicated the U.S. response. Since 1955, the WHO had been committed to a global Malaria Eradication Program (MEP), which was heavily funded by the United States and closely identified with it.[31] It had no role for the Russians, who therefore viewed it suspiciously—and with a substantial measure of justification—as a bid to increase U.S. influence in the third world.[32] The smallpox proposal, then, was a Soviet move to seize the initiative in the international health field. Unsurprisingly, the United States, the WHO's largest donor, did not show much enthusiasm for the idea, and the WHA merely resolved to ask the WHO director general (DG) to prepare a report estimating what such a campaign would require, technically and financially.[33]

The following year, the Soviet delegation continued to press for the program. The Soviet Union, Zhdanov announced, was annually producing 100 million doses of heat-resistant vaccine and could produce three times as much if necessary. He noted the Soviet donation of vaccine to Pakistan during the 1958 epidemic there and again promised that the USSR would support the global campaign with similarly generous donations. Upping the ante, he declared that with the requisite effort smallpox could be history within two to three years. A discussion ensued, and several other delegates spoke in support of the initiative. But the United States delegation again remained conspicuously silent. The WHA in a 1959 resolution on this issue emphasized "the urgency of achieving world-wide eradication" of smallpox, urged all endemic countries to launch eradication programs forthwith, and asked the DG to provide assistance and collect data.[34] It did not, however, allocate any special funds for those purposes. As far as Washington was concerned, if the Soviets wanted to display their

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30. Resolution EB22.R12, "Gifts of Smallpox Vaccine," Executive Board, 22nd Session, Minneapolis, Minnesota, June 16–17, 1958, *ORWHO* 88:7.

31. On the logic that led the WHO to launch the MEP, see Jose Alvarez Amézquita and Guillermo E. Samamé, "The Philosophy Doctrine of the Concept of Eradication," 8–9, pamphlet of text presented at the Fred L. Soper Conference, Mexico City, Mexico, October 1962 RG 90, box 22, folder "Association—APHA—Committee on Disease Eradication," USNA. On the political background, see Packard, "No Other Logical Choice"; Randall M. Packard, "Visions of Postwar Health and Development and their Impact on Public Health Interventions in the Developing World," in *International Development and the Social Sciences*, ed. Frederick Cooper and Randall M. Packard (Berkeley, CA, 1997), 93–118; Socrates Litsios, "Malaria Control, the Cold War, and the Postwar Reorganization of International Assistance," *Medical Anthropology* 17, no. 3 (1997): 255–78.

32. Siddiqi, *World Health and World Politics*, 142–43.

33. "Smallpox Eradication: Report by the Director-General," *ORWHO* 95 (12th WHA, 1959): 572–88.

34. *ORWHO* 95: 324–332, and WHA Resolution 12.54, "Smallpox Eradication," *ORWHO* 95: 47, 450–451. The U.S. delegation that year was headed by the Surgeon General and included Congressmen John E. Fogarty (D-RI) and Melvin Laird (R-WI).

enthusiasm for international cooperation in the health field, they could join the United States in supporting the malaria program.[35]

Smallpox eradication was now officially a WHO priority. But without U.S. support, the program existed over the next several years largely on paper, with few funds and only a handful of staff. Its annual budgets ranged from $100,000 to $200,000, and it employed one medical officer who managed the program in Geneva and four field staff to cover all endemic regions, or much of the global south.[36] Each year at the WHA the Soviet delegation expressed its frustration with the slow pace of progress, pointedly contrasting the WHO's lackadaisical attitude to the SEP to its massive investment in the malaria eradication program, which was consuming a substantial proportion of the organization's budget.[37] Within several years, however, the U.S. government would reverse its position and decide to throw its support behind the SEP. Examining the process that led to that decision shows how the shifting opinion within the community of international health experts intersected with broader changes in the international environment to effect this shift.

Malaria eradication campaigns had loomed large in international health in the 1950s, but by the early 1960s it was increasingly clear that the MEP was approaching its limits, and that those limits lay well short of worldwide eradication.[38] The microscopic *Plasmodium* parasite that causes malaria requires an insect vector, the *Anopheles* mosquito, to move from one person to another, and the goal of the MEP was to interrupt transmission by reducing mosquito populations through the use of synthetic residual insecticides, chief among them the ruthlessly efficient dichlorodiphenyltrichloroethane, or DDT. The massive worldwide use of DDT spraying for malaria control since World War II, however, had caused the proliferation of resistant mosquito populations, and, the more DDT was used, the more prevalent resistance became. In addition, DDT had also come under attack for its baleful environmental effects as the massive decimation of insect populations reverberated up the food chain and disrupted ecosystems.[39] Variola, on the other hand, had no animal vector. It moved directly from one individual to another through close contact, and so its

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35. "Briefing Paper—United States-Soviet Relations in Health," September 24, 1959, authored by the Interdepartmental Committee on International Health Policy in preparation for Khrushchev's U.S. visit in September 1959. RG 59, Office of International Economic and Social Affairs, Subject Files 1945–1962, box 5, folder "International Health Program, Inter-Agency Working Group on Int'l Health Matters," USNA. The paper suggested pointing to the MEP as an important way in which the United States was "expressing its strong support for the World Health Organization" and to "welcome further Soviet support for these multilateral activities."

36. Donald Henderson, "Smallpox Eradication—A Cold War Victory," *World Health Forum* 19 (1998): 114.

37. See, e.g., *ORWHO* 103 (13th WHA, 1960): 241–45; *ORWHO* 119 (15th WHA, 1962): 102–05.

38. Staples, *Birth of Development*, 161–71.

39. This was the focus of Rachel Carson's *Silent Spring* (1962), a seminal text of the environmental movement.

eradication would not require a wider ecological intervention. Smallpox had other epidemiological advantages, too. There was a vaccine with a long history of effective use with few side effects, and variola could not hide in animals, as the yellow fever virus can, or in asymptomatic individuals, as can happen with polio or tuberculosis. Virtually all nonimmune individuals who contracted the virus showed symptoms, and only they could transmit the virus to others.

As the MEP's prospects waned, epidemiologists in the United States and elsewhere began to see smallpox as a more promising target for global eradication. And given the close connections of government officials in the health field with the professional communities and networks outside government—connections that relied on shared background, educational experiences, and membership in professional associations—it did not take long for the view to circulate. When James Watt, the director of the Office of International Health at the U.S. Public Health Service, wrote to fellow members of the American Public Health Association to solicit suggestions for eradication programs that the U.S. health establishment should undertake, several proposed smallpox as the leading candidate for global eradication. First, wrote one, the global eradication of smallpox was "almost certainly" possible while with malaria it was only "perhaps" so.[40] Moreover, noted another, a successful campaign to eradicate smallpox globally would have significance for the global community much broader than itself: "We must face the cold sober fact that no communicable disease has ever been eradicated throughout the world to date through man's conscious efforts. It would certainly be a salutary thing to prove just once that one communicable disease can be eradicated through man's conscious efforts. Smallpox is my nominee for such a global program."[41]

For the professional consensus to surface on the level of international politics, however, it required an opportunity that would make it apposite for political leaders to bless the consensus with their support. The opening came in the early spring of 1965, with the approach of World Health Day, marked each year on April 7, the anniversary of the founding of the WHO. With the MEP falling short of its goal of global eradication and the escalating war in Vietnam damaging the U.S. reputation in the Third World, the Johnson administration was searching for new ways to display its commitment to international cooperation in public health. As it happened, the WHO had chosen for that year the theme of "Smallpox—Constant Alert," advertised as a reminder for member governments to remain vigilant against the threat of the importation of the disease from the world's endemic areas to regions where the disease had already been eradicated. Why not have the president, proposed an official from the

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40. James E. Perkins, managing director of the National Tuberculosis Association, to Ernest S. Tierkel, September 26, 1962. A memorandum by T. Aidan Cockburn, September 12, 1962, also ranked smallpox as the top candidate for global eradication. RG 90, box 22, folder "Association—APHA—Committee on Disease Eradication," USNA.

41. Perkins, to Watt, August 28,1962, Underlined in original, RG 90, box 22, folder "Association—APHA—Committee on Disease Eradication," USNA.

Department of Health, Education, and Welfare, issue a statement for the occasion highlighting the success of smallpox control in much of the world—namely the global north—and expressing U.S. support for the WHO's campaign to eradicate it globally? The White House agreed, and the statement proposed by HEW was released with only minor revisions.[42]

The April statement was the first tangible indication of U.S. support for the proposal that Zhdanov had made seven years earlier and, though still vague in its terms, it laid the ground for a more specific commitment the following month. In 1965, the United Nations celebrated its twentieth anniversary and had decided to declare it International Cooperation Year (ICY) to mark the occasion. To plan U.S. policy toward the ICY, Johnson appointed Harlan Cleveland, Assistant Secretary of State for International Organization Affairs and a longtime internationalist, to head a special cabinet-level committee, the National Council on International Cooperation, which comprised both government officials and representatives of private organizations.[43] The council spent much of the year coordinating preparations across cabinet departments for a high-profile White House Conference on International Cooperation, which took place in late fall that year. The purpose of the conference, Johnson had said in a major address the previous summer, was to help in "finding new techniques for making man's knowledge serve man's welfare," in particular in the struggles against poverty, disease, and resource scarcity. Mankind could no longer afford to mine the fault lines between East and West, North and South. Its problems were global, and so the solutions would have to be as well. And the United States would lead the way.[44]

For Johnson and his advisers smallpox eradication was exactly what the doctor ordered, a relatively inexpensive, uncontroversial way to show U.S. commitment to international cooperation. As the World Health Assembly gathered for its annual meeting in Geneva in May, the White House worked with Cleveland and the U.S. delegation to the WHA to draw up a suitable presidential statement.[45] The statement was released on May 18, timed to coincide with the WHA session. It noted that though smallpox had been eradicated from the United States and other "advanced countries" it remained prevalent in much of the world, and that "as long as smallpox exists anywhere in the world, no country is safe from it." Summarizing the recently established expert consensus, Johnson asserted that the "technical problems" of global eradication were "minimal,"

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42. Levy to Holborn, n.d., and Holborn to Horowitz, March 12, 1965, White House Central Files, Ex HE/MC, box 6, LBJL.

43. White House Press Release, November 24, 1964, RG 90 (Records of the Public Health Service), box 42, folder "International Copperation Year (Committee)," USNA.

44. "President Johnson on International Cooperation Year," Department of State, *Foreign Affairs Outline, 1965: International Cooperation Year*, RG 90, box 42, folder "International Cooperation Year," USNA.

45. Cleveland to Cater, May 14 and 15, 1965, and Cater to Johnson, May 17, 1965, White House Central Files, Ex HE/MC, box 6, LBJL.

while the "administrative problems," including assuring vaccine supplies, personnel, and coordination, could be solved through international cooperation. The president had dedicated ICY to "finding new techniques to serve man's welfare," and now the "search for new ways for improving the world's health has brought to light another opportunity through international cooperation to keep people from dying." The United States, the statement concluded, was therefore "ready to work with other interested countries to see that smallpox is a thing of the past by 1975."[46]

Though Johnson's announcement gave few details as to what the United States would do and did not guarantee any resources, the dramatic, public commitment from the president himself nevertheless echoed widely and gave succor to supporters of the global eradication program. In Geneva, the U.S. delegation announced the commitment to the WHA with some fanfare and reported with evident satisfaction that the assembly "displayed keen interest in announcement:" The "presiding officer expressed deep appreciation for president's statement" and the WHO deputy DG later congratulated the U.S. delegates on the announcement's "ideal timing and content."[47] Within a few days, U.S. representatives in endemic countries, prodded by American epidemiologists on the ground, began to propose ways of putting the commitment into effect. Integrating smallpox vaccination into ongoing U.S.-supported health programs, wrote one, presented a "tremendous opportunity for dramatizing" the president's pledge to support smallpox eradication worldwide.[48]

Newly independent countries also moved to seize the moment. Officials such as Paul Lambin, Minister of Health of Upper Volta, who heard of the U.S. commitment at the WHA and then took it up with United States Agency for International Development (USAID) officials on his subsequent visit to Washington, helped create within the U.S. aid bureaucracy a sense that there was demand for smallpox eradication among developing nations.[49] The May 18 announcement allowed smallpox eradication to break out of the circle of expert discourse and penetrate, however briefly, the realm of international political discussion and high-level diplomatic exchange. So later that year, as Johnson's staff compiled a slew of new international health programs for the president to approve, smallpox eradication made the grade.[50] The U.S.

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46. White House press release, May 18, 1965, White House Central Files, Ex HE/MC, box 6, LBJL.

47. US Mission, Geneva, telegram to SecState, May 19, 1965, RG 59, box 3159, folder "HLTH 3, Organizations and Conferences, WHO, 6/1/65," USNA.

48. US Embassy, Lomé to DOS, May 22, 1965, RG 59, box 3172, folder "HLTH—Health and Medical Care—T," USNA.

49. MemCon of meeting between Lambin and Walter Sherwin, July 22, 1965, RG 286, box 27, folder "HLS, Health," USNA. Upper Volta gained its independence from France in 1960 and was renamed Burkina Faso in 1984.

50. Joseph A. Califano, *The Triumph & Tragedy of Lyndon Johnson: The White House Years* (New York, 1991), 114.

commitment to the global eradication of smallpox had now taken concrete shape.

As a political tool, however, the rhetoric of international cooperation had its limits in the U.S. domestic arena. While Johnson described the U.S. decision to support the SEP and other international health initiatives as a move toward transcending Cold War conflicts, U.S. officials justifying such programs domestically often reverted to the traditional rhetoric of Cold War rivalry, presenting them as an antidote against the spread of communism among the world's poor and downtrodden. In an address explaining America's "worldwide offensive against disease," one administration official noted that "two-thirds of the human race lives on less than $100 per year, with a life span on less than 35 years, and besieged by infectious disease," and asked, "What does this mean for the United States? I leave aside all soft-spoken questions of humanity and brotherhood. I speak only of hard-headed self-interest. The best breeding place for Communism is disease and poverty. If we are going to lead the free world in its fight against the bondage of Communism, we have to do something about the health of these poor people." Such assistance was "a tool" that could "penetrate any Iron or Bamboo curtain to reach the minds and the hearts of man." It would promote world peace, showcase the United States as "the fountainhead of medicine," and help U.S. allies combat the temptations of communism. "What good is any man as an ally if, doubled up by disease, he is unable to rise to his full height and be counted in the militant fight against encroaching Communism?"[51] U.S. support for the SEP, then, could have conflicting justifications for different audiences. For the international community and domestic internationalists, it was about transcending the Cold War. To hard-line anti-Communists, it could be about winning it. In this view, in working with the USSR on smallpox eradication the United States would enlist the Soviets to assist in their own demise.

On the ground, however, more practical imperatives took precedence. For one, the SEP required vast quantities of vaccine—more than two billion doses all together, it turned out—and only the USSR had the necessary infrastructure in place to produce that many doses.[52] So when Donald A. Henderson, chief of the Epidemic Surveillance Section of the U.S. Public Health Service's Communicable Disease Center (CDC), moved to Geneva to head the program, his first priority was to ensure that Soviet vaccine donations to the program would continue.[53] His position was none too comfortable. The Soviets had initially been unhappy with his appointment, protesting that the SEP had been a Soviet

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51. Undated document, Office Files of Joseph A. Califano, box 29 (1737), folder "Health," underlined in the original, LBJL.

52. *SAIE*, 469, 564.

53. Confidential memorandum from Chief SE to Director CD, October 28, 1968, Smallpox Eradication Program papers, box 303, folder 30, WHO Archive, Geneva, Switzerland (hereafter WHOA-SEP). The CDC was later renamed the Centers for Disease Control and Prevention, though the acronym CDC was kept.

initiative, and so a Russian should have been appointed to lead it. So the following May, when Henderson approached the head of the Soviet delegation, Dmitry Venediktov, during the WHA meeting, to request that the vaccine donations continue, he recalls being somewhat apprehensive. As he tells it, he was rather startled by the response. "I want you to know," the Russian told him, "that we have checked you out and are now confident that you are honest and a good scientist, that your only objective is to eradicate smallpox. You will have our full support." Venediktov explained that he could not officially guarantee vaccine donations more than one year at a time but added that the nature of the Soviet planned economy was such that once a certain annual production quota was in place, it was likely to be reliably met each year.[54]

Henderson may well have been slightly discomfited about being "checked out" by the Soviet apparatus, but he continued to place great importance on preserving good relations with the Soviets and worked assiduously to nurture the collaboration. Throughout his time as program head, he was careful to give the Soviet Union credit for initiating the program. He also worked closely with Russian officials to resolve problems, for example with the quality of Russian vaccine, in a way that avoided any public embarrassment for the Russians. Relations with the Soviets, he instructed his WHO colleagues, were "most satisfactory." Any issues would be "resolved quietly and effectively" with "time and persistence" and should "not be openly discussed" so as to avoid straining the relationship.[55] Before each year's WHA, Henderson met with both the U.S. and the Soviet delegation to report on the program's progress and relied on them to keep the issue on the agenda so that he could raise any problems and shame the representatives of endemic countries that did not report sufficient progress. Henderson also relied on the help of American and Soviet diplomats posted in endemic countries to exert pressure on health officials, whether at WHO regional offices or in national health bureaucracies, who were deemed insufficiently cooperative with the program. Henderson worked with Venediktov and other Soviet counterparts to establish and maintain quality controls for Soviet vaccine production and to vet Russian candidates for program positions. Finally, the Moscow Research Institute for Viral Preparations shared responsibility with the CDC lab in Atlanta for advanced analysis of specimens taken in the field.[56]

In his retrospective account, Henderson recalled only one instance where Cold War tensions intruded into the SEP's cooperative idyll. In the final years of the campaign, as complete eradication appeared close but elusive, a Swedish physician and program consultant sought to motivate the staff toward

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54. Henderson, "Cold War Victory," 115–16.

55. Confidential memorandum from Chief, Smallpox Eradication to Director, Communicable Diseases, October 28, 1968, WHOA-SEP, box 303, folder 3.

56. Henderson to Assistant DG Payne, "Summary Report—Visit to Moscow to Discuss Matters Pertinent to the SE Program," July 27, 1967, WHOA-SEP, box 303, folder 30; Henderson, "Cold War Victory," 116–17.

the goal of "smallpox zero" by circulating a quotation from Aleksandr Solzhenitsyn's 1968 novel, *The First Circle*, which highlighted the importance in any scientific endeavor of traversing the "final inch" to completion. The quote circulated widely among program staff, and the phrase "final inch" became a common refrain during the drive to uncover the last cases in the Horn of Africa. When "smallpox zero" arrived and it came time to write the final report on the program, however, the Soviet coauthor, Ivan Ladnyi, insisted that no reference to the famous dissident or his quote be made.[57] This, Henderson wrote, was "the only real failure in a highly satisfactory collaboration between the superpowers" in the course of the global Smallpox Eradication Program.[58]

In his keenness to present the SEP as a model "Cold War victory," Henderson may well have overstated the smoothness of U.S.-Soviet cooperation, and the documentary record reflects a relationship that was more fraught and fragile than his account suggests. Still, on this the record seems clear: without the combination of U.S. funding and Soviet vaccine, and without the institutional momentum and political support that the two superpowers provided for the program, the SEP could hardly have gotten off the ground, let alone found success. Of the program's total $98 million price tag, about a third came from the budget of the WHO and other international organizations, to which the United States was the leading donor; Washington also contributed an additional $25 million in direct payments to the program account.[59] This was, to be sure, small change in comparison to U.S. military spending during the same period. It was even much less than had been spent on the malaria eradication program. But it was nevertheless crucial for the SEP's success. Meanwhile, the Soviet Union contributed the lion's share of the vaccine, nearly 1.7 billion doses altogether out of the roughly two billion used in the course of the global eradication efforts.[60]

How do we explain such an instance of collaboration between the Cold War antagonists? Surely, it owed something to the fact that the SEP operated largely under the radar of the top political leadership on both sides. Once the political

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57. *The First Circle* dealt with the compromised moral condition of imprisoned Soviet scientists who had served Stalin's regime in exchange for improved living conditions, no doubt an uncomfortable subject for Soviet epidemiologists. The title alluded to Dante's famous description of the condition of the ancient Greek philosophers, living in relative peace within a walled green garden located in the heart of hell.

58. Henderson, "Cold War Victory," 119.

59. *SAIE*, 464. Other donors who contributed more than U.S.$1 million were Sweden, the Netherlands, Canada, Denmark, and the Japan Shipbuilding Industry Foundation.

60. In the period from 1958 to 1979, the USSR donated a total of 1.4 billion doses bilaterally to endemic countries, while the United States contributed 190 million doses bilaterally, largely to countries in west and central Africa. In addition, the USSR accounted for more than 298 million out of a total of 465 million vaccine doses donated to the WHO Voluntary Fund for Health Promotion, Special Account for Smallpox Eradication, from 1967 to 1984; the U.S. donated only 2.4 million of that total. *SAIE*, 469, 564.

authorities gave their initial approval for the program—the Kremlin in the context of the post-Stalin push for "peaceful coexistence" and the White House as part of the mid-1960s emphasis on international cooperation—they showed little sustained interest in it. The SEP, after all, could not easily be manipulated to exert pressure on third world governments in the way that Johnson, for example, had tried to use food aid in India.[61] After the initial political commitment was in place, the program's progress depended on relationships between mid-level technocrats such as Venediktov and Henderson, privileging shared notions of scientific knowledge, technical competence, and organizational wherewithal over ideological fissures or geopolitical tensions. The lack of sustained political oversight also afforded health officials a wider berth than would have otherwise been possible. Thus, when the CDC's longtime director, David Sencer, concluded that his mandate to protect the health of Americans allowed, indeed required, him to divert staff and budgets into smallpox eradication in Bangladesh, he could do so with few questions asked.[62] All this suggests that to understand the global eradication of smallpox, we need to see not so much beyond the state but *into* it, disaggregating the sovereign monolith in order to see how decisions of international significance were made outside those organs of government—the White House, Congress, the Department of State—that diplomatic historians typically associate with the management of international affairs.

The collaboration on the SEP also sheds light on how the two superpowers, despite their political and ideological clashes, shared what Odd Arne Westad, following social theorist David Harvey, has called a "high modernist" outlook on the nature and determinants of progress, particularly as they applied to the third world.[63] In this context, Russians and Americans could agree on what a "developed" society looked like in terms of its medical and scientific practices if not in its social arrangements, and they could collaborate in the application of their shared "modern" knowledge and technical expertise in the pursuit of such development in the global south. This was the common sensibility that Johnson appealed to when, in announcing his support of ICY, he called for a "year of science" that would serve as a "turning point in the struggle—not of man against man, but of man against nature," allowing the Cold War adversaries, "in the midst of tension," to "begin to chart a course toward the possibilities of conquest which bypass the politics of the cold war." Such a call for the conquest of nature through the power of modern science resonated deeply

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61. Kristin L. Ahlberg, "'Machiavelli with a Heart': The Johnson Administration's Food for Peace Program in India, 1965–1966," *Diplomatic History* 31, no.4 (2007): 665–701.

62. Sencer was CDC head from 1966 to 1977. On his and the CDC's role in the SEP, see Elizabeth W. Etheridge, *Sentinel for Health: A History of the Centers for Disease Control* (Berkeley, CA, 1992), chap. 14; also Lawrence Brilliant to Califano, February 26, 1977, copy in possession of author.

63. Westad, *Global Cold War*, 397.

with a central ethos of the Soviet state and was thoroughly familiar to Soviet leaders and technocrats.[64]

U.S.-Soviet ideological overlap on the question of third world development hardly guaranteed cooperation, of course, and numerous scholars have shown how it often underlay Cold War "competitive coexistence" in the global south.[65] Nor did it mean that the knowledge regime that underlay the SEP or other programs remained uncontested. Scholars of development regimes have long noted the central role that representations of scientific knowledge have played in their claims to power. Much of the literature on the history of international development has focused on unpacking "development" and "modernization" as discourses of knowledge and instruments of power, often concluding that the history of development exposes the neocolonial nature of the relations of the West, or the global north, with the third world.[66] And those studies that have focused on the role of development programs in U.S. foreign relations have also tended to see a similar pattern, often drawing a straight line from U.S. efforts to "improve" its colonial possessions in the early twentieth century to postwar development aid.[67] Projects advertised as altruistic in fact reflected U.S. self-interest; good intentions, even when they existed, were ethically compromised, practically misguided, or both; universalist theories dear to Cold War intellectuals proved ill suited to local conditions; and, finally, the outcomes of development projects were at best mixed and often disastrous.[68] In some ways, the story of smallpox eradication fits these narratives. In others, it diverges significantly from them.

One of the SEP's defining characteristics was the application of homogenizing, modern scientific knowledge on a diverse array of local practices in the global south, where many communities already had long-standing practices

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64. "President Johnson on International Cooperation Year," RG 90, box 42, folder "International Cooperation Year," USNA, On the character and implications of the "high modernist" convergence during these decades, see Scott, *Seeing Like a State*. On U.S.-Soviets agreements and disagreements in the field of economics, see David C. Engerman, "The Romance of Economic Development and New Histories of the Cold War," *Diplomatic History* 28, no. 1 (2004): 23–54.

65. Nick Cullather, "Damming Afghanistan: Modernization in a Buffer State," *Journal of American History* 89, no. 2 (September 2002): 512–37; David Ekbladh, " 'Mr. TVA': Grass-Roots Development, David Lilienthal, and the Rise and Fall of the Tennessee Valley Authority as a Symbol for U.S. Overseas Development, 1933–1973," *Diplomatic History* 26, no. 3 (2002): 335–74.

66. The literature on development as a knowledge/power regime is voluminous. See, e.g., Cooper and Packard., *International Development and the Social Sciences*, esp. the introduction and chaps. 2 and 3; and Frédérique Apffel Marglin and Stephen A. Marglin, eds., *Dominating Knowledge: Development, Culture, and Resistance* (Oxford, 1990), esp. chaps. 4 and 5.

67. See, e.g., Michael E. Latham, *Modernization as Ideology: American Social Science and "Nation Building" in the Kennedy Era* (Chapel Hill, NC, 2000), esp. chap. 2.

68. E.g., Latham, *Modernization as Ideology*; Nils Gilman, *Mandarins of the Future: Modernization Theory in Cold War America* (Baltimore, 2003); Cullather, "Damming Afghanistan"; David C. Engerman et al., eds., *Staging Growth: Modernization, Development, and the Global Cold War* (Amherst, MA, 2003).

intended to ameliorate and explicate the encounter with smallpox. Indeed, the standardization of such things as vaccine production and quality, vaccination techniques, and methods of epidemic surveillance and control stood at the center of the program's *raison d'être* and constituted for its leaders a *sine qua non* of global eradication. Thus, in various regions, SEP personnel, in conjunction with national and local health officials, had to contend with long-standing modes of dealing with smallpox that integrated the illness into elaborate indigenous belief systems and medical practices. In parts of West Africa, for example, this meant negotiating the cooperation or acquiescence of priests of the smallpox "fetish" *Sopona*, while in India the program had to contend with the worship of the smallpox deity *Sītalā mata* and the practices associated with it.[69] Meanwhile, in rural Afghanistan SEP vaccinators had to find ways to work around purdah practices that rendered access to women and children difficult.[70] They also had to get practitioners of the long-established method of variolation to cease their practice or else trade their powdered-scab material for SEP-supplied vaccine, efforts that included legislation and enforcement, community outreach, and even the circulation of appropriate morality tales such as one entitled "A Variolator Gives Up His Profession and Encourages His Son to Become a Vaccinator."[71]

The absolute nature of the program's goal—smallpox was to be not simply controlled but entirely eradicated worldwide—meant that any resistance to its homogenizing requirements had to be overcome, either negotiated away or, if necessary, broken. Pressure on individuals who resisted vaccination took various forms: insistent verbal persuasion; the application of social and legal pressure; offers of payment; and, at the extreme, forcible vaccination conducted through military-style raids.[72] And while vaccination using physical force was atypical, various degrees of resistance shadowed the program in many regions. Early assumptions that resistance was the result of "traditional" beliefs opposed to modern science proved shaky as studies found that such beliefs did not correlate

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69. *SAIE*, 716, 887–88. For a critical approach to the interaction of vaccination and variolation in India, see Frédérique Apffel Marglin, "Smallpox in Two Systems of Knowledge," in Apffel Marglin and Marglin, eds., *Dominating Knowledge*, 102–44.

70. Henderson to Millar, May 29, 1967, WHOA-SEP, box 159, folder 378.

71. An undated narrative by A. G. Rangaraj, SEP chief in Afghanistan. On the program's battle against variolation, see also Chief SE/HQ to Regional Director, South East Asia Regional Office (SEARO), October 30, 1967, where Henderson complains that the Afghan government had not yet outlawed the practice; Henderson to Khwaja-Waisuddin, January 17, 1969; Henderson to Rangaraj, November 17, 1969; and an undated report on "Variolation in Afghanistan" by Vladimir Sery, Svend Brøgger, Amin Fakir, and Aminullah Saboor. All in WHOA-SEP, box 159, folder 378.

72. Paul Greenough, "Intimidation, Coercion and Resistance in the Final Stages of the South Asian Smallpox Campaign, 1973–1975," *Social Science & Medicine* 41 (1995): 633–45. Lawrence Brilliant with Girija Brilliant, "Death for a Killer Disease," *Quest* (May/June 1978): 3–10. Brilliant recalls how he led a team of vaccinators that broke in the dead of night into the home of a tribal leader in what was then southern Bihar. The man believed it was his religious duty to resist vaccination, and was subdued and vaccinated only after a violent struggle.

well with resistance to vaccination. Rather, it was often the association of vaccination campaigns with the exercise of power by the government or outsiders that explained suspicion of the program, especially in relatively isolated areas where residents associated government officials on the scene with taxation, conscription, or other predations, and were generally suspicious of the intentions and motives of outsiders.[73] Henderson himself professed to dismiss the problem of resistance, opining to an Indian colleague that "most of the stories of resistance" were born "in the minds (or perhaps the backsides) of indolent Health Officers . . . who would rather sit than walk and need a convenient excuse to explain why people aren't vaccinated."[74] But reports from the field were not quite so sanguine. One SEP training manual in India explained that resistance was "usually relative rather than absolute and therefore, an attitude of persistence must be developed by the containment team," and added rather ominously that persons refusing vaccination should be reported to higher authorities.[75]

On the whole, however, resistance to the SEP took the form of individual acts of defiance and was neither well organized nor particularly widespread. Nowhere across the vast and varied terrain of the program did it encounter a broad anti-vaccination movement, though such movements had been common in North America and Europe in earlier decades and also occurred in India itself, against tuberculosis immunization, in the 1950s.[76] The story of the SEP, therefore, is not simply one of local resistance to external authority, whether national or international. It is also one of accommodation, acquiescence, and collaboration, North-South as well as East-West. After all, the international officials and experts who ran the program could not have carried it out absent the cooperation of innumerable individuals in endemic countries on all levels of society, and the vast majority of SEP field workers, more than 150,000 health personnel all together, were drawn from the local populations.[77]

In part due to such local integration, the program displayed unusual flexibility in adapting its methods to local conditions, whether political, administrative, epidemiological, or cultural. When, soon after it was launched, the

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73. This was the conclusion, for example, of a study conducted in Dahomey and Togo in the early stages of the SEP. G. E. Robbins, "The Role of Fetish Practices in Vaccination Campaigns," in *The SEP Report: Seminar on smallpox eradication and measles control in western and central Africa, Proceedings of a meeting held in Lagos, Nigeria, May 13–20, 1969, Part I*. Unpublished CDC report, WHOA-SEP, box 52, folder 208.

74. Henderson to De, July 7, 1972, WHOA-SEP, box 193, folder 436.

75. Smallpox Training Seminar, Bhopal, April 29–May 3, 1974. See also confidential report from Ian D. Carter to R. N. Mitra, Feb. 10, 1974. Both in WHOA-SEP, box 194, folder 388.

76. Michael R. Albert, Kristen G. Ostheimer, and Joel G. Breman, "The Last Smallpox Epidemic in Boston and the Vaccination Controversy, 1901–1903," *New England Journal of Medicine* 344, no. 5 (February 2001): 375–79; Niels Brimnes and Christian W. McMillen, "Medical Modernization and Medical Nationalism: Resistance to Mass Tuberculosis Vaccination in Post-colonial India, 1948–1955," *Comparative Studies in Society & History* 52, no. 1 (2010): 1–30. I thank the authors for providing an advance copy.

77. Jonathan Tucker, *Scourge: The Once and Future Threat of Smallpox* (New York, 2001), 3.

goal of 100 percent vaccination proved impractical, the program moved quickly to focus on "surveillance and containment," an eradication method that sought to identify outbreaks early and concentrate on vaccinating those living within a certain radius around them in order to prevent transmission beyond the outbreak area.[78] The SEP proved resilient enough to survive the bloody civil wars that erupted in some of its main regions of operation, including Nigeria, Bengal, and the Horn of Africa, often negotiating access to conflict zones with the various state and nonstate parties involved. Finally, unlike many of the projects that populate the historiography of international development in the Cold War era, the SEP succeeded in achieving its goal, reaching "smallpox zero" worldwide by the end of 1977, only two years beyond the timeframe that Johnson had set in 1965.

In one sense, in pursuing the eradication of smallpox, the international health establishment picked the lowest hanging fruit, taking the path of least resistance toward the assertion of its authority and indispensability in international society by attacking the disease most likely to be eradicated rather than the ones that presented the most pressing health problems. As John Kenneth Galbraith memorably put it, "Having vaccine, we identified smallpox."[79] But this is not the whole story of smallpox eradication. The vaccine, after all, had been available for a long time, and its existence in itself is an insufficient explanation for the undertaking, much less for the success, of global eradication. It also required the ability and inclination to conceive of health as a global problem and, furthermore, as a problem amenable to a global solution. It is here the WHO, as a premise and an institution, was crucial to the SEP. The very existence of the WHO both reflected and shaped the notion of disease as a global problem that called for a global solution through the exercise of "international authority," and it provided a frame for conceptualizing, debating, and acting on global health issues.[80] It also served as a neutral space for collaboration across the Cold War divides and, perhaps more importantly, as a neutral receptacle for the credit that neither one of the Cold War superpowers would have been willing to concede to the other.

The WHO's relationship with the SEP, however, was complicated, and the program, often presented in retrospect as the WHO's greatest achievement, faced opposition for many reasons and from many quarters within the organization throughout its life. Top WHO officials, including its longtime director general, the Brazilian epidemiologist Marcolino Candau, were notably unenthusiastic about the program early on. Candau, who was WHO DG from 1953

78. D. A. Henderson, "Surveillance—The Key to Smallpox Eradication," WHO document no. WHO/SE/68.2, WHO Library, Geneva, Switzerland.

79. John Kenneth Galbraith, *The Nature of Mass Poverty* (Cambridge, 1979), vi, cited in Cullather, "Development? It's History," 651.

80. On the construction of international authority in health, see Staples, *Birth of Development*, chap. 9.

to 1973, was a malariologist who had studied public health at Johns Hopkins University and cut his epidemiological teeth in the antimalaria campaigns in South America.[81] From his perspective, the failure of the MEP to achieve eradication was a serious blow to the WHO's credibility. A failed attempt to eradicate smallpox so soon after might deal the organization's reputation a further and perhaps fatal blow. After all, many at the time thought that eradication would require vaccinating nearly every individual on the face of the earth, an unlikely goal. Moreover, some leading figures in the scientific community held more broadly that programs aiming at the complete eradication of any infectious disease were impractical for a host of biological, political, economic, and social reasons. Such programs, one prominent expert argued in a widely read book at the time, reflected the hubris of modern man. They were little more than another type of social utopia and were destined for an end even more ignominious than the dustbin of history, namely as "a curiosity item on library shelves."[82]

So in May 1965, when the members of the WHA unanimously resolved that the global eradication of smallpox was a "major objective" of the organization, top WHO officials found themselves in something of a bind.[83] On the one hand, they could not disregard the assembly's instructions. On the other, they sought to keep the program at arm's length and make sure it did not embarrass the organization or derail its priorities. If the United States wanted to eradicate smallpox, as President Johnson had just declared, it had better be willing to lead and fund the effort itself. So that fall, high-ranking WHO officials began to insist that the U.S. government send Henderson, who had already worked in Geneva as part of an advisory committee on smallpox eradication, to head the program.[84] And the following spring, when Candau submitted his proposed budget for 1967, he requested a sum of $2.4 million for the smallpox eradication program. This amounted to a 16 percent increase in the organization's total budget over the previous year, far larger than usual. When the representatives of the rich nations complained that the increase was too steep, Candau, who no doubt anticipated the protests, gamely offered to cut the proposed SEP budget. The message was clear: the program was not an important priority for the organization. If the United States and others

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81. Ibid., 143–44.

82. René Dubos, *Man Adapting* (New Haven, CT, 1965), 379. See also *SAIE*, 388.

83. US Mission, Geneva, telegram to SecState, May 18, 1965, RG 59, box 3159, folder "HLTH 3, Organizations and Conferences, WHO, 6/1/65," USNA.

84. Henderson has claimed that he accepted the assignment only under duress, but other evidence suggests that he wanted the appointment and maneuvered adroitly for it. Compare Henderson's own account in "Cold War Victory," 114–15 to the account in the oral history interview with David J. Sencer, CDC director 1966–1977, conducted by Victoria Harden, July 7, 2006, 16 (copy in author's possession). See also US Mission, Geneva, to DOS, November 18, 1965, RG 59, box 3162, folder "HLTH 8–2, Prevention, Control, Eradication, 1/1/64," USNA; US Mission Geneva to SecState, December 4, 1965, RG 59, box 3159, folder "HLTH 3, WHO, 10/1/65," USNA.

insisted on it, they would have to pay.[85] But if the DG viewed his budget request as a negotiating tactic, representatives from the global south chose to take it at face value, and they liked what they saw. The discussion that followed at the WHA session was therefore contentious. French and U.S. proposals to cap the budget at a lower level were voted down, and the DG's proposal, including the full $2.4 million for the SEP, finally passed on the strength of support from developing nations, though it achieved the required two-thirds majority by only a handful of votes, the narrowest margin on a budget vote in WHO history.[86]

Candau may well have been surprised by his own success, and U.S. diplomats were clearly disconcerted at this display of third world self-assertion.[87] But the U.S. government was not of one mind: Henderson and his supporters, who had labored to achieve U.S. support for the SEP, were quite pleased. Henderson arrived in Geneva as program chief that fall and stayed there for eleven years, from the launch of the intensive program in 1966 to the achievement of eradication in 1977. Throughout this time, he remained on loan from the CDC, his salary paid by the U.S. government not by the WHO. On the ground, too, the large majority of the SEP's medical and operational officers and consultants—Russians, Swiss, Czechs, Egyptians, Indians, Pakistanis, and others—were likewise on loan from their respective governments or hired directly by the SEP operation rather than drawn from existing WHO staff.[88] Meanwhile, WHO officials, especially in the all-important regional offices where much of the practical work was done, often remained skeptical of the program.[89] Many wanted the organization to focus on basic health care and therefore viewed the narrow focus of the SEP with suspicion; they often saw it as a lower priority, even a distraction, from the central goal of developing the capacity to deliver basic health services. Only months after the WHA vote, as the intensified program began, two of Candau's top deputies authored a memo to the regions noting that "the establishment of permanent basic health services should be given the highest priority since it is a prerequisite for the success of the smallpox eradication programme in any area" and instructed WHO staff to "be prepared to consider providing from the smallpox eradication programme resources, such assistance as may be required for develop-

85. This is discussed in US Mission, Geneva, to DOS, March 30, 1966, and numerous other DOS dispatches in the spring of 1966, RG 59, box 3160, folder "HLTH 3, WHO, 1/1/66," USNA.

86. *ORWHO* 152 (19th WHA, 1966): 258–264, 288–296; US Mission, Geneva, to SecState, May 12, 1966, RG 59, box 3160, folder "HLTH 3, WHO, 5/1/66," USNA; *SAIE*, 414–16.

87. Sisco to Tubby, May 19, 1966, RG 59, box 3160, folder "HLTH 3, WHO, 5/1/66," USNA.

88. *SAIE*, 437–44.

89. Examples of such institutional resistance are found in "Strictly Confidential" memorandum from SEARO Regional Director to WHO HQ, May 1, 1967, WHOA-SEP, box 159, folder 378; SEARO Regional Director to DG, March 16, 1967, WHOA-SEP, box 193, folder 416. Also *SAIE*, 417–18; Henderson, "Cold War Victory," 114–15.

ing and strengthening basic health services in the area where the campaign is launched."[90]

From this perspective, the success of the SEP only compounded the problem. In the late 1970s, even as the WHO worked on certifying the achievement of "smallpox zero," the organization moved to emphasize the importance of "horizontal" health interventions over "vertical" programs such as the SEP. "Vertical" programs were ones that targeted one specific health problem for elimination, while "horizontal" interventions aimed for a broad transformation of health care services in developing countries, emphasizing preventive and primary health care services provided in a context sensitive to the underlying economic, social, and cultural factors at play.[91] For Henderson, who prided himself on his hard-headed pragmatism, such programs amounted to little more than wishful thinking. A vertical program, he said, was "a program that is organized, managed, and has quality control," while the phrase "horizontal program" brought to his mind little more than "the posture of those who are working" in it.[92] But others in the international health establishment criticized vertical programs for stressing quantifiable results in narrow health measures at the expense of promoting broader systemic change in developing societies.[93]

These tensions within the international health establishment came to a head in 1978, just as the SEP was coming to a successful close, when WHO members gathered in Alma-Ata, capital of the Kazakh Soviet Socialist Republic, to mark the organization's thirtieth anniversary. The conference culminated in a major declaration that set ambitious goals. It reaffirmed the broad definition of "health" in the WHO constitution as "a state of complete physical, mental and social wellbeing, and not merely the absence of disease or infirmity," and committed the organization to achieving "health for all by the year 2000."[94] The Alma-Ata Declaration, viewed as a landmark in the evolution of the organization's commitment to the horizontal approach, defined the goal as the provision of primary health care to all of the world's population. This would include "education concerning prevailing health problems and the methods of preventing and controlling them; promotion of food supply and proper nutrition; an adequate supply of safe water and basic sanitation; maternal and child health care, including family planning; immunization against the major infectious diseases; prevention and control of locally endemic diseases; appropriate

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90. *SAIE*, 417.

91. Sung Lee, "WHO and the Developing World: The Contest for Ideology," in *Western Medicine as Contested Knowledge*, ed. Andrew Cunningham and Bridie Andrews (Manchester, UK, 1997), 24–45. The "horizontal" vs. "vertical" debate is sometimes described as one between "holistic" and "reductionist" approaches.

92. Henderson interview with author, Baltimore, Maryland, July 18, 2007.

93. David A. Tejada de Rivero, "Alma-Ata Revisited," *Perspectives in Health: The Magazine of the Pan American Health Organization* 8, no. 2 (2003): 2–7.

94. Socrates Litsios, "The Long and Difficult Road to Alma-Ata: A Personal Reflection," *International Journal of Health Services* 32, no. 4 (2002), 709–32.

treatment of common diseases and injuries; and provision of essential drugs."[95] For supporters of these goals, the success of global smallpox eradication was liable to be a distraction, encouraging focus on narrowly technical interventions at the expense of the broader programs envisioned by the declaration.

Despite its ambivalence toward the SEP, however, the WHO was also essential to the program in all its stages, from conception to execution. The institutional framework of international governance and cooperation that the WHO provided gave health officials in the United States and elsewhere a space within which they could conceive and articulate smallpox eradication as a global problem that required a coordinated global solution and then to pursue it as such. Prior to the emergence of international institutions, after all, international health meant little more than treaties on quarantine regulations, which constructed disease control as a national problem requiring defensive measures that reinforced the inviolability of national boundaries rather than a worldwide problem necessitating coordinated action on a global scale.[96] It was the United Nations' declaration of 1965 as ICY that provided sympathetic U.S. officials with the opening that allowed them to take the idea of a global eradication program to the White House in the first place and gain its support. The collaborative superpower relationship that defined the program, moreover, would have been unlikely absent the neutral space provided by the WHO framework, one that allowed the bracketing of Cold War political and ideological rivalries and thus made room for acting on a shared discourse of high modernist progress. If the WHO as an organization was sometimes an obstacle that the SEP had to overcome, as a symbolic and collaborative space it was indispensable.

The story of the SEP fits uneasily into the standard narrative of Cold War history. Even as eradication was being ratified and announced to the world, superpower tensions were growing: détente collapsed, the Soviet Union invaded Afghanistan, and Ronald Reagan came to power on the back of tough anti-Soviet rhetoric. Perhaps most tellingly, the USSR secretly continued to develop smallpox as a biological weapon even as it collaborated with the United States and others on its global eradication.[97] Such incongruities, however, make it all the more important that we consider the SEP within the broader context of Cold War history. The global eradication of smallpox depended on complex interplay among governments, nonstate actors, and individuals across the East-West and North-South divides. Wrestling with the conceptual, analytical, and methodological challenges we face when we try to fit the history of the SEP and

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95. The full text of the Alma Ata Declaration is available at http://www.who.int/hpr/NPH/docs/declaration_almaata.pdf (accessed December 2009).

96. Neville M. Goodman, *International Health Organizations and Their Work* (London, 1952), 40–65.

97. On Soviet efforts to weaponize smallpox, see Ken Alibek, *Biohazard: The Chilling True Story of the Largest Covert Biological Weapons Program in the World, Told from the Inside by the Man Who Ran It* (New York, 1999); Tucker, *Scourge*, esp. chap. 8.

of global health more broadly into the interpretive frameworks of Cold War history compels us to interrogate some of the literature's fundamental categories and interpretive schemes and helps us to stretch the boundaries of current narratives. It requires us to contemplate issues such as the possibilities of superpower collaboration as well as conflict and to consider the complex interactions of resistance and cooperation in the context of North-South interactions that do not fit neatly in the frame of neocolonialism. It certainly requires us to look beyond the state as an agent and an arena of history and explore the roles of international organizations and nonstate actors in the global arena.[98] But it also suggests we need to disaggregate states as international actors, looking beyond the foreign policy apparatus as commonly conceived to examine the roles of agencies, such as the CDC, that rarely figure in current narratives of international history. We will thus trace more fully the networks of historical causation and significance that are neither produced primarily by foreign policy and diplomatic establishments nor lie within the boundaries of any one state.

Facing the challenges of writing global disease control into Cold War history will require us to expand the thematic and analytical scope of the history of international affairs beyond the already impressive gains of the last few decades. Issues related to war, security, and economics, on the one hand, and to cultural exchange, social movements, and the transnational flows of ideas and norms, on the other, are central to international history and will no doubt continue to grow as approaches in the field.[99] But we also need to tackle more deeply and consistently other themes of international scope that have remained largely outside the boundaries of recent methodological and thematic developments in the field: epidemic disease and public health, the dissemination of scientific and technical knowledge, and the environment in its global context, to give but a few examples.[100] These themes are already central in the contemporary discourse on international affairs and globalization. Global health issues such as malaria, tuberculosis, HIV/AIDS, or avian flu serve as celebrated causes for figures from Bill Gates to Angelina Jolie and attract the attention of policymakers and global elites. It would hardly come as a surprise, therefore, if the interests of a growing number of historians begin to shift in those directions. For international historians, these are interesting times.

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98. A direction promoted, among others, by Akira Iriye in "Internationalizing International History," in *Rethinking American History in a Global Age*, ed. Thomas Bender (Berkeley, CA, 2002), 47–62, and recently discussed prominently in such fora as "*AHR* Conversation: On Transnational History," *American Historical Review* 111, no. 5 (December 2006), 1441–64, with the participation of C. A. Bayly, Sven Beckert, Matthew Connelly, Isabel Hofmeyr, Wendy Kozol, and Patricia Seed.

99. These are well summarized in Brenda Gayle Plummer, "The Changing Face of Diplomatic History: A Literature Review," *The History Teacher* 38, no. 3 (May 2005): 385–400.

100. On global environmental history, see the works of John R. McNeill, and on the history of environmental diplomacy, Kurkpatrick Dorsey, *The Dawn of Conservation Diplomacy: US-Canadian Wildlife Protection Treaties in the Progressive Era* (Seattle, 1998). But much more remains to be done.