

Chapter 7: Provincializing the WHO

Christoph Gradmann, Olivia Fiorilli, Jean-Paul Gaudillière, Caroline Meier zu Biesen, Lucile Ruault, Simeng Wang

How did the WHO, arguably the center of international health in the period after World War II, come to be a backwater of global health? Historians, who have written about the WHO, agree that it enjoyed a more hegemonic position in international health until the 1980s (Birn 2009, Packard 2016, Cueto, Brown et al. 2019). During this decade of political and economic turmoil, the WHO entered a serious crisis. Most visibly it was a financial crisis, triggered by the United States' decision to suspend budgetary contributions. Underneath, however, it was the crisis of an institution that struggled to define its role in the rapidly changing landscape of the 1990s after getting used to dealing with state actors during the Cold War and giving a decisive voice to the self-identified Third World (Chorev 2012, Cueto, Brown et al. 2019). During that decade, its position was financially, politically, and morally challenged by the rise of new actors like the World Bank and a plethora of new global health NGOs deeply involved in the transition toward economic triage and a neoliberal model of international governance. The weakening of the WHO was also a result of it being a political body in a sea of institutions organized as corporations or foundations.¹

How can we write this history and understand its significance for global health? A consideration of available sources is helpful. History, while concerned with what has happened, is written from what has remained. This may seem a trivial piece of insight when we look at histories that can be assembled from numerous and well-furnished archives, but it is a critical consideration when documentation is scarce and uneven. In medical history, to give an example, the accounts of doctors tend to dominate what is written because their lives and work are usually documented in more depth than those of patients (Condrau 2007). In the

historiography of international and global health, we see an uneven availability of archival sources, which can help us to understand why institutions like the Rockefeller Foundation or the World Health Organization receive more attention than they might merit in the larger picture (Löwy 2001, Birn 2006, Cueto 2007).

Thinking about the popularity of the WHO in the historiography of health globalization and global health and the air of nostalgia for the WHO's past grandeur, it seems reasonable to assume that such discourse originates in two places: first, from political critique of global health as a neoliberal enterprise; and second, due to a convenience of documentation through the existence of a rich and accessible WHO archive. Indeed, many other players in global health lack one, or the other, or both: Postcolonial states and their institutions often have poorly maintained archives and efforts of local scholars to amend this receive little recognition (Feierman 2019). The NGOs that dominate in global health might have archives, but lack a culture of political accountability and access, which a political organization such as the WHO is required to have. Of course, every group communicates with the public in some way, but there is a difference in the strategies of accountability. Private corporations and foundations are accountable to their owners or members, but do not necessarily answer to the political sphere (Mahajan 2018, Reubi 2018). They may grant access to archival materials or deny it, and they may even, as it has happened to one of the authors of this chapter, flatly (and falsely) deny they ever had an archive in the first place. For the WHO as a political body, on the other hand, much of its still-existing prestige rests on public appearance, which takes the form of publication series, international commissions, a parliament-like assembly, and, finally, an accessible archive. Thus, it is no contradiction that recent histories of global health emphasize the declining and limited influence that WHO possesses, while at the same time continuing to give it relatively more attention than other big players.

Interestingly, the WHO complex in Geneva, which houses its archive, can be seen as an architectonic exemplification of the organization's obsolescence. The stylish, late-1960s buildings embody the glory days of the organization, and it is equally evident that the complex has not seen much renovation since.² Those who visit the archives it houses, and who care to look at the period from 1960 to 2000, get an almost visceral experience of the bleeding of resources that shook the institution in the late 1980s. For instance, in the field of TB control, files that begin in a comprehensive and well-maintained way, become shorter, more fragmented. In some cases, they seem to physically disintegrate, missing copies of outgoing mail for instance. The dynamics of the WHO after World War II have been described as the successful building of a bureaucratic apparatus (Birn 2009). Judging from the state of its archive, this apparatus was beginning to fail in the 1980s. While this conclusion is fairly unanimous in histories of the WHO, we need to think more closely about what it means for global health.

In order to explore the crisis of one of the organizations identified with an international order, which saw the end of European colonial empires and the rise of the Third World, we draw inspiration from postcolonial thought, particularly Dipesh Chakrabarty's critique of European historical thought, put forward in his *Provincializing Europe*. (Chakrabarty 2008) Throughout the 1990s, the WHO had to say goodbye to the aspirations to hegemony it may have held in its heyday, and instead had to learn to adapt to an environment of powerful new players, economization of health and emerging narratives that evolve around Indian and Chinese histories, which do not point to Europe as the origin of modernity. Just as European grand narratives become fodder for subaltern critique, we argue the WHO has become "at once both indispensable and inadequate," (Chakrabarty 2008, 16) inadequate since it embodies a narrative of Western progress that remains a reference although quite out of date; indispensable since its present forms of action carry decisive continuities concerning

the political dimensions of international and global health beyond its proclaimed economization. Understanding the demotion of the WHO, as well as its peculiarity and retained influence, helps us to understand why historians of the WHO, when writing about its fate after the “Health for All” days, tend to employ a nostalgic tone, which obstructs the view of some fundamental changes that have occurred beyond the perpetuation of the North-South divide. Following the inspiration drawn from Chakrabarty, this chapter shows how the marginalization of the WHO happened and how other networks created their own forms of knowledge.

Our journey from within the archives of the WHO and other institutions will take place in five steps, drafting a complex picture, that stretches over several decades. First, we will show how pressure worked and look at developments around the global control of tuberculosis (TB) in the 1980s and 1990s. In this case the World Bank engaged massively in support of creating the DOTS strategy to control TB. The strategy was invented against the WHO’s own policy of control for that condition and met stiff resistance from Geneva originally. Next we will look at a rather different image of collaboration, reconsidering what is a key element in the current historiography, namely that the WHO was pressured into a form of alignment with neoliberalism by new actors in the emerging global health field, with an exploration of the ways in which the WHO already collaborated with the World Bank at the peak of the primary health care and ‘Health for All by the Year 2000’ strategy in the 1980s. The third scene shows a promising agenda to diversify programs beyond infectious diseases. It delineates how WHO experts gave visibility to the paradigm of community genetics in the 1980s and 1990s, which they dropped when global health and genomics came to the fore during the next decade. The fourth moment reveals similar ambivalence, as it illustrates the continuity of the WHO’s normative role but limited practical consequences in the context of trade and drugs circulation of Ayurvedic pharmaceuticals crossing the Indian

Ocean. Finally, we look at China's health interventions in Africa, showing how a country whose experience was pivotal in the WHO-UNICEF discussions about primary health care has become the dominant player in South-South development aid, no longer paying much attention to the WHO.

In doing so, the chapter will argue for three historiographical considerations: First, the WHO's former glory was bound to a world of North-South dependencies typical of international health in the era of the Cold War. Second, South-South cooperation and exchange, in contrast, structure the current processes of health globalization, if not the entire global health field. And third, the WHO's remaining power is in large part an echo of what that organization's historical roots in interwar international health entailed, namely soft power that rests on documentation, epidemiological data, and its function as a platform for normative activities – mastering politics and diplomacy rather than practice.

Tuberculosis, the Making of DOTS and the Decline of Primary Health Care

International tuberculosis control strategies provide an instructive example of the WHO's influence in the days of international health, and also help us understand the forces that grew to challenge its influence in the transition to global health. The WHO's involvement with tuberculosis started right from its foundation after World War II. Indeed, the late 1940s were a unique historical period that placed tuberculosis at the center of international health. Over the course of the first half of the 20th century, tuberculosis had already been much reduced in industrialized countries. It is likely that improved living conditions and preventive medicines were the cause of its reduced prevalence (Mercer 2014, 118-130). During this period, vaccines, antibiotics, and chemotherapies became widely available. The BCG vaccination for TB, though developed in the interwar years, now came

into widespread use, while antibiotics and other pharmaceutical treatments for TB were introduced at the end of the war (Brimnes 2008, Greenwood 2008, 141-207). Low-income countries were the main field of application for vaccines and modern therapies after WWII, and with it tuberculosis control changed character. What had in the interwar period essentially been framed as a social disease—where no progress could be expected without looking at housing or food—became a malady that could be controlled independently of such conditions by using technologies, such as BCG or chemotherapies (Amrith 2004). The WHO did not initially predominate in developing or implementing such control strategies, but as the influence of researchers associated with (former) colonial powers such as the British Medical Research Council (MRC) declined over the years, its influence grew.³

By the 1970s, the WHO was working with local authorities to create TB control plans for newly independent countries, seeking to improve upon the weaknesses of the control trials run by the MRC in the previous decades. Such trials had produced a host of treatment regimens—mostly designed to either cut costs, improve outcomes, shorten treatment, or, most notably, facilitate outpatient treatment.⁴ These strategies, however, had by and large, remained confined to clinical trials, and had not translated into comprehensive national control programs. As an MRC bureaucrat commented in 1962, advanced trials were in danger of becoming a surrogate for comprehensive control: “We must not delude ourselves into thinking that the trials by themselves will solve the numerous problems of tuberculosis in East Africa. The trials are essentially confined to treating advanced cases [...].”⁵ It was against this backdrop that the WHO promoted integrating TB control into primary health services and prioritizing prevention over treatment. For countries struggling with a lack of effective treatment infrastructure, these policies were enticing. Moreover, the efficacy of the BCG vaccine was favorably evaluated in those days, and thus it made sense to imagine a control strategy that rested on vaccination, and to assume that clinical cases of TB were a

residual problem that would decline in numbers as more and more people were vaccinated (McMillen 2015, Brimnes 2016).

It is no coincidence that this reminds of primary health care policies promoted in the 1970s by the WHO (Cueto 2004). In fact, these WHO policies was inspired by TB control programs in low income countries, most notably India (Brimnes 2016). Halfdan Mahler, before becoming Director General of the WHO in 1973, had been the WHO official responsible during the creation of the Indian National Tuberculosis Program. Although it was not absolutely certain that a combination of affordable technology, prevention, and treatment by primary care providers would be successful in all cases, tuberculosis control programs had become part of primary healthcare policy and the available data did not contradict the notion that this worked. In East Africa, for instance, there seemed to be slow but steady decline in rates of TB (Kent 1976, Second East African/British Medical Research Council Kenya Tuberculosis Survey 1978, Swai, Edwards et al. 1989).

Those who wished to challenge such approaches could do so in two different ways, and both were practiced in the 1970s. First, they could challenge BCG vaccine efficacy. Second, they could argue that more specialized, technological approaches in treatment were superior to the simple treatment delivered through the general health service. In the case of BCG, consensus slowly turned against it after long term trials in 1979 showed that it offered much less protection than previously claimed (McMillen 2015, 117-119). As concerned specialized versus simple treatment, the International Union Against TB and Lung Disease (IUATLD) started trials in three East African countries in the late 1970s to show that using more expensive, so-called short-course treatments, which had previously been developed by the MRC, delivered substantially better treatment outcomes than simple regimens.

The IUATLD became involved with several national control programs through its Mutual Assistance Program. This program had begun by providing assistance to smaller

projects, but from the late 1970s on, it aimed at building national control programs (Rouillon 1991). The WHO refused to participate in the IUATLD project, which, funded by the Swiss and Dutch governments, started in Tanzania in 1977. Interestingly, the project began by testing the efficacy of the WHO recommended simple treatment regimens, while creating thinly disguised, vertical, specialized TB services, which also produced a wealth of data. Evidence was quickly gathered that indicated a low efficacy for WHO-compliant regimens reliant on cheap drugs, outpatient self-monitoring, and a long course of treatment (12 to 18 months). In a second step from 1982, the IUATLD went on to test rather advanced MRC short-course regimens and combined this more expensive treatment with a period of initial hospitalization lasting two months. Treatment now took only eight months. Quite accurately, this was seen as an all-out violation of PHC principles, and open conflict between the IUATLD and the WHO erupted. In an April 1983 letter to Annick Rouillon, the IUATLD's executive director, Halfdan Mahler portrayed the Tanzanian trials as an attack on WHO policy:

We know, however, that when healthcare delivery is excellent the actual treatment regimen is of little importance. National tuberculosis programs have not failed because of faulty technology, but because of a lack of productive interaction between the health system and the people [...] The question is not whether primary healthcare can improve the delivery of tuberculosis programs, but how the tuberculosis program should contribute to primary healthcare.⁶

In fact, the WHO was so incensed that it attempted to stop the whole endeavor by going after its financiers and reminding them that they were funding a violation of WHO policy (Gradmann 2019). However, the trials that the WHO would have loved to nip in the

bud succeeded—the National Tuberculosis and Leprosy Control Program was completed in 1987—and were embraced by the WHO’s critics. These programs provided a comprehensive antithesis to PHC: a specialized, technology-driven, vertical-control program that was both effective and efficient. When the World Bank assigned a post-doctoral researcher in the late 1980s as consultant to identify cost effective, specialized treatment programs for major health challenges, the IUATLD trials came to be seen as the blueprint of such a program. Producing a rich harvest of epidemiological data (the responsible consultant being an epidemiologist), the trials provided a basis for the World Bank’s preferred mode of analysis, employing health systems research tools. These were added to the classical public health science that IUATLD’s program had employed and they appear in joint publications in the early 1990s (Murray, Styblo et al. 1990, Murray, Dejonghe et al. 1991). The IUATLD had considered cost an immediate practical concern and calculated a cost-of-treatment-per-patient basis, aiming to deliver an effective service at a reasonable price; for the World Bank, cost became a matter of economic analysis of entire societies and of projection into the future.

Treatment was now seen as an investment, which would produce a downward trend of tuberculosis infection in the years to come. With fewer patients to treat, or “deaths averted” as they were called in the analysis, the costs of the condition’s control were projected to decline. Without yet using the Disability-Adjusted Life Years (DALY) metric, which was to be introduced shortly after in the 1993 World Development Report, the World Bank began to describe the Tanzanian TB control program as cost-efficient rather than low-cost, because it was an investment that promised returns, i.e. fewer cases to treat in the future. When the trials were applauded in the World Development Report and the responsible consultant — Christopher Murray, today’s director of the Institute for Health Metrics and Evaluation (IHME)—experienced a meteoric rise in global health epidemiology, the WHO had to concede. Thus, about 1990, primary health care policies were abandoned by the WHO due to

changes in the very field that had been one of its inspirations, tuberculosis control (Ogden, Walt et al. 2003). Instead, a set of principles derived from the IUATLD trials became the standard with which a national TB control program had to comply if it wanted to access donor money. The control strategy, which came to be called DOTS, was implemented beginning in 1994. Slightly earlier, the WHO, having given up on its own control strategy, now had to be content with the role of door opener for the World Bank in China, where the East African trials were tested on a large scale in 1991 (Dirlikov 2015).⁷ What was initially called DOTS changed form over the years, taking into account, for instance, the importance of HIV complications or drug resistance. It has also changed names and is currently called StopTB. Arguably, the role of the WHO in DOTS' creation and management illustrates that it is an organization which garners quite a bit of publicity, but whose policies have become memories or are of a more normative character, such as connecting drug access, policies and treatment standards in the field of drug resistant tuberculosis through its "Green Light Committee."

The WHO and the World Bank: Revisiting the "Take-over"

On February 24–25, 1975, Dr. Lambo, then Deputy Director General of the WHO, and several heads of WHO departments hosted a delegation of the International Bank for Reconstruction and Development (IBRD) in Geneva for a consultation. The meeting explored issues as diverse as environmental health, rural development, health care delivery systems and work force, and health sector reviewing. On the World Bank side, the archival documents associated with the preparation for this meeting include a sheet with a series of general questions. Question 4 is, "Should the Bank enter any cooperative arrangements with WHO at this time? What about a broad memorandum of understanding?" An unspecified reader,

presumably Dr. Hoffman, the Bank's Director of International Relations, responded in hand writing to these questions, "no" and "yes respectively."⁸

The internal memo written by Dr. Shirley Boskey from the Bank's Population, Health and Nutrition (PHN) Division upon her return from Geneva helps us make sense of these responses. She suggests that WHO officials were disappointed when the World Bank made clear that it did "not [want] to become a health organization" and that it was cautious about financing "health sector projects," which in Bank parlance meant "conventional health services delivery and services." She adds in her memo, "When we had the opportunity (unfortunately after we had left Geneva) to read a WHO/UNICEF study on health needs handed to us while we were there, we came to see the reason for the WHO reaction."⁹ In other words, WHO officials had misunderstood caution in respect to health services as an absence of interest in health. Dr. Boskey then insists that "the trend of our rural development projects is entirely in line with the trend in WHO." In other words,

Unless the health sector and those responsible for it are consulted—which is usually not the case—it is not possible to realize the full developmental potential of activities in other sectors, such as nutrition, family planning and education of women. Thus through association with the Bank, WHO would hope to achieve greater leverage and scope for its own immediate concerns in the health sector.¹⁰

She notes that at the end of the meeting, WHO officials described two initiatives the organization had taken to develop primary health care: first, to define the tasks and necessary training of village health workers; and, second, to initiate health programming in a dozen nation-states. Ultimately, she concludes, "The Bank attaches great importance to the fact that

it is possible to expand coverage within existing means or at least to provide minimum inputs acceptable to the governments under present constraints.”¹¹

The idea of the WHO and the World Bank coming together under the common umbrella of the primary health care strategy is surprising. Such development is at odds with the tensions between the two organizations, which historians usually associate with the World Bank’s role in the emergence of global health, and its insistence on redefining the PHC strategy along more “selective” lines (see *Triage Beyond the Clinic*). However, the 1975 visit, and the various memoranda of understanding it initiated, actually point to a period of intense collaboration between the World Bank and the WHO that preceded the former institution’s official endorsement of health investments as a priority for development—its so-called “health turn.” The collaboration between the two organizations in the 1980s neither implied total alignment nor an absence of tensions. If PHC was a strategy of mutual interest, it was approached and understood along different lines and led to different hierarchies of initiatives and programs. Convergence, mismatches, and open tensions thus plagued a decade critical for the strategy’s implementation, economization and “verticalization.”

In the early 1980s, the list of projected Bank loans that fell under the category of “health” expanded radically. Kandiah Kanagaratnam, the senior adviser in PHN, bluntly explained the motivation for this change to Petros Barvezian, the head of WHO Family Health, in January 1981, in a letter pleading for greater collaboration: “As you know we consider Maternal and Child Health [MCH] as a significant vehicle for both PHC and for Family Planning delivery; the attention given to MCH will be significant for both our population as well as our health efforts. In addition health education provides one useful communication strategy in demand creation [sic] in family planning.”¹² That the World Bank would seek a more active engagement by the WHO in the domain of “population control” is

not surprising given the latter's cautious moves in a field whose Malthusian logic and suspicion of health as an aggravating factor was notorious (Connelly 2008).

This perspective was to turn family planning into an ingredient of primary health care, and the Bank would invest in health infrastructures when they included such a component, rather than stressing the indirect health impact of family planning projects. This transition had deep roots in the contestation of population programs, which became more and more politically controversial as illustrated by the situation in India during Indira Gandhi's 1975 state of emergency (Rao 2004, Connelly 2008). Even pursuing population control programs in a less coercive way—within the framework of rural and community health—required some caution. The WHO's regional and national bureaus were always adamant that they be involved in the implementation of such programs. In April 1978, apprised of a forthcoming World Bank mission to prepare a second population initiative for the Philippines with a strong focus on PHC, the West Pacific Regional Office asked Geneva headquarters to request a postponement to let the WHO conduct its own assessment of the situation. WHO regional offices worried that the Bank initiative might undermine the local acceptance and development of health services because of the perception that priorities were being imposed on local communities without their input. The request states,

This suggestion is based on the concern that future Bank assistance in the area of rural health should be in line with the PHC policy. As you are aware, the promotion and implementation of the first population program, dealing with the construction of rural health units and training of midwives was designed according to predetermined facilities and manpower rather than through consultation with the community, which is one of the essential elements of PHC.¹³

The World Bank refused to delay the mission, citing time constraints in completing the loan, but agreed to conduct it in closer consultation with the West Pacific Regional Office.

There is little doubt that this convergence contributed to the late 1980s realignment of primary health care policies along more selective, maternal and child health oriented, lines. The same pattern significantly altered Bank policies, legitimizing projects aiming at strengthening PHC facilities. Assessing the 1986-89 loans, the PHN division thus singled out 34 loans with “maternal health care” emphasis—half of them located in Africa—whose core objectives were pre- and postnatal care, drug supply, improved referral system, health education and, unsurprisingly, integrated family planning. The Bank thus spent three to four hundred million dollars on a combination of facility building, personnel training, transportation, and therapeutic kits.

While self-reliance was central to the primary health care approach, the WHO recognized that external aid was an inevitable ingredient for the development of a country level PHC system, at least in the implementation phase.¹⁴ For this reason, it had been calling for new mechanisms to attract bilateral and multilateral aid since 1978. Between November 1978 and December 1979, the WHO held two informal consultations with multilateral and bilateral donors, as well as selected recipient countries, to determine how the organization could secure increased extra-budgetary support for the implementation of “Health for All by the Year 2000.”¹⁵ The meetings endorsed the creation of a consultative group representing “developing countries and donors,” including the World Bank. The avowed aim of the newly established Health Resources Group (HRG) was to promote the mobilization and “rationalization of health resources” toward PHC activities “in accordance with priorities recognized by WHO member states.”¹⁶

The motivations of the WHO, and its director, in the creation of the Health Resources Group were three. First, the WHO was conscious of the growing role of extra-budgetary funding in its activities¹⁷ and wanted to make sure that “all funds channeled through it are devoted to activities that conform to its policies.”¹⁸ Second, the WHO wanted to make sure that countries were engaged on a policy making level with PHC strategy. Creating a mechanism to link an increase in external funding to PHC implementation could be read as a way to secure countries’ “compliance” with the strategy. Third, the WHO wanted not only to increase donor funding for health, but also to make sure that resources were actually directed toward PHC.

Though some WHO and World Bank interests converged, the encounter between the two organizations in the Health Resources Group proved complicated. Tensions coalesced around two issues: the governance of the new body and the nature of its functions. These tensions were grounded in donors’ concerns that the new body might interfere with their freedom to make funding decisions based on their own priorities. Indeed, since the inception of the meetings, donors had made it very clear that they did not want the HRG—or the WHO—to exercise any form of control over resources.¹⁹

The equivocation on the part of donors—primarily the World Bank—resulted in repeated attempts to undermine the WHO’s control over the HRG. The strongest challenge to the WHO’s leadership came during the early phase of negotiations. Even before the creation of the body, some donor countries had proposed that the group should be located outside the WHO (World Health Organization 1980, 153). In response, the Director General stressed that “no group concerned with the international transfer of resources could exist in [the WHO] without the presence of recipient countries.”²⁰ Indeed, the WHO repeatedly insisted that the HRG was not meant to be a “donor club.”²¹ Nevertheless, in September 1980, an interim planning group was created to prepare the second HRG meeting in December 1980, Its

membership included the World Bank, SIDA and UNDP among other donors.²² The group proposed to change the HRG's governance in a way that actually undermined WHO authority. Although a simple change, the proposed governance reform wrested control away from the WHO, by submitting the HRG (re-named the Health Resources Consortium) to the control of an independent secretariat and steering committee elected by HRG members. In addition, membership in the refashioned Health Resources Consortium had to be voluntary rather than populated by the WHO. The new architecture proposed by the interim planning group was approved in the second meeting in December 1980, but it did not take long for the WHO to react to what they viewed as a coup. In January 1981, its executive board, sitting in its 67th session, reaffirmed that the HRG should be an advisory group to the Director General and that the "WHO must participate in a coordinative role; that the secretariat cannot be freely standing."²³ Even though the planning group, which had now become the proposed steering committee, had to accept the executive board's decisions in order to avoid a crisis with the WHO, some of its members continued to voice their discontent. Unsurprisingly, the World Bank was particularly vocal in opposing WHO control of the HRG.

If the WHO was successful in imposing its formal authority on the HRG, ensuring that it functioned the way the organization had envisaged proved more complicated. Indeed, a second tension between the WHO and donors emerged around the nature of HRG activities and functions. As we saw, the WHO intended the HRG as a mechanism for raising resources for PHC, based on the needs expressed by Southern countries with the support of the WHO. The Country Resource Utilization review (CRU) was soon identified as the most suitable mechanism toward this end. A CRU was a country study of the resources available, and of those needed, for implementation of the PHC action plans elaborated by the country itself. Developed on the basis of HRG guidelines, the CRU provided information on the plan and on its cost implications. It also detailed what proportion of this cost could be covered by country

resources, and what amount of foreign aid was required.²⁴ Once elaborated by the government, with or without the aid of the WHO, the CRU had to be presented at the HRG. In Mahler's vision, the CRUs were meant to present donors with “the specific needs [...] of countries having well-defined strategies for health for all based on primary health care and to present the material in the form of 'fundable packages'.”²⁵ Ideally, presenting a CRU to the HRG would lead to the “formation of 'consortia' of interested parties, who could then arrange their own meetings in the country concerned at the invitation of the government.”²⁶ Ultimately, this process proved difficult to implement. Multilateral agencies and other donors had no intention of being pushed to fund projects developed by individual countries with WHO help. The UNDP and the World Bank were particularly vocal in protecting their autonomy as funders. They insisted that the CRU information was too imprecise to provide a reliable basis for investment, and that donor agencies needed to perform their own reviews.²⁷ They also stressed the lack of managerial ability on the part of the countries presenting the CRUs, and suggested that this represented a major problem.²⁸ Finally, they insisted that the HRG was not meant to review and approve the CRUs, but simply discuss them. Obviously, this skepticism meant that the CRU did not serve as an effective fundraising mechanism. In October 1983, the WHO progress report on the activities of the HRG lamented the fact that some donors “still prefer to commit resources to discrete projects in line with their own priorities,”²⁹ and did not respond to national governments’ invitations for consortia meetings.

Nevertheless, multilateral agencies did not reject CRUs altogether: rather, they worked to turn them into something different from what the WHO had envisioned. Instead of providing a blueprint to which funders were supposed to stick, CRUs would better serve as “quality control exercises” that would assess if countries “possessed sufficient institutional strength and commitment to receive grant, loan or investment money”.³⁰ A CRU could also

be conceived as a tool for categorizing and leveraging internal resources for health for all. “[A] CRU might more usefully determine what the health authorities could do if there were no external resources,”³¹ explained one representative of the World Bank during a December 1983 meeting. CRUs would thus come to be exercises in rationalization—fundamental in times of growing budget restriction and scarcity—, and a precondition for donor investment, given that the Bank was “unlikely to finance PHC in any country which had not recognized the need for proper management or for mobilization of internal resources.”³² These words are revealing if we consider that in the very same period, the World Bank was implementing structural adjustment programs in a number of countries, including some of those, which had undergone or were undergoing CRU reviews.

Donors' ideas about how the HRG should function eventually overcame those expressed by the WHO. Indeed, as shown by the June 1984 progress report of the HRG, in the great majority of cases, CRUs did not give rise to the creation of donor consortia, but were rather employed by governments in bilateral negotiation with donors.³³ Most often, they were used as background documentation on the health sector in UNDP Round Table discussions and World Bank Consultative Groups. In 1985, Mahler announced that meetings of the HRG were suspended indefinitely, as were those of the HRG Committee, a more select group that since 1983 had *de facto* taken the HRG's place. None of these bodies, he argues, had been effective in matching needs and resources, as this could only be done through direct negotiations with the countries concerned. “Under these circumstances,” writes Mahler, “I would not wish to continue raising false hopes about the potential capacity of a HRG or similar instrument at either the global or regional level for mobilizing additional resources for individual countries.”³⁴

In the end, the Health Resources Group did not provide the funding mechanism for PHC that the WHO had hoped. Nevertheless, the experience produced important effects both

on the WHO and the Bank. Indeed, on the WHO's side, this experience paved the way to a different approach to funding PHC. After 1985, the WHO began to contend that provision of health for all could not be done through external aid and that more economically realistic plans had to be developed to deal with the fact of limited resources in general, and the rise of fiscal austerity more specifically.³⁵ As for the Bank, collaboration with the WHO in the HRG contributed to pushing the agency into the international conversation about basic health needs and paved the way for its more direct engagement in “investing in health.”

Another important collaborative project originating at the WHO in the 1970s was the tropical diseases research (TDR) program, which officially started in 1978 and lasted until the late 1990s (Weisz 2019). Another brainchild of Mahler, the TDR was thought to be a means of bringing the traditional targets of vertical initiatives—i.e. vector-borne epidemic diseases like malaria—in line with PHC’s broader understanding of health and social medicine. At the first meeting with potential donors, on October 1975 in Geneva, TDR was described as resting on three assumptions: 1) purely technological responses focusing on the eradication of vectors had failed; 2) no new means of intervention had emerged for decades, especially in the drug sector, since most pharmaceutical firms had deserted research in tropical medicine; and 3) previous R&D initiatives had not helped countries in the Third World to build their own research capabilities, and, worse, the technological gap had actually widened as a consequence of brain drain. Tropical diseases research should therefore be an initiative that took advantage of new innovations in fields such as molecular and cellular biology to rethink the development of therapeutic treatments and vaccines, rather than focusing on vector-oriented control. As Mahler and Lambo explained in their introduction to the 1975 meeting, TDR was “to take over the role of the industry” by investing in chemotherapeutic and preventive research targeting six major diseases: malaria, trypanosomiasis, filariasis, leprosy, leishmaniasis and onchocerciasis. What differentiated this program from previous initiatives,

in their minds, was not only the globalized nature of the intervention, but also the priority given to “capability” building. TDR was meant to support interdisciplinary research centers located in developing countries, and governed through “equal partnership” between the WHO and national governments. Such collaboration was not only deemed important to ensure the “social relevance” of the program but also—echoing the premise of Lambo’s own research on psychiatric disorders in Africa—to adapt biomedicine to local needs, open new forms of knowledge beyond the classical screening of drugs, and give TDR a more holistic meaning.

World Bank officials had been invited to participate in the first meeting, but they arrived in Geneva after the event. What they then learned from WHO officials and other attending experts (UNDP and USAID representatives) confirmed their suspicions; the gathering had involved serious criticism of the proposal and little money had been pledged. Minutes of the meeting reveal a slightly less bleak assessment, with significant support coming from Northern European countries, but it is true that delegates from Canada, Australia, and the United States openly criticized the six diseases approach, the lack of interest in environmental control, the emphasis placed on Africa and, even more decisively, the dominant role that the WHO hoped to play in program governance. Following the advice of the most supportive donors, the WHO decided that giving the World Bank a key position in TDR would ease the negotiations. Mahler thus asked the Bank’s president McNamara about the possibility of the Bank co-sponsoring TDR in parallel with the WHO and the UNDP. Following further discussions between James Lee, the Bank’s environment and health advisor and the Geneva staff, the Population, Health and Nutrition Division of the Bank endorsed the main aims of TDR, even if it took the whole of 1977 to reach an agreement on the organizational and management structure. As McNamara recounts in his memo of October 1977, which urged the Bank’s Board of Directors to sanction participation in TDR, the fact that the TDR fund was to be administered by the Bank, as well as the

establishment of a Joint Coordinating Board composed of sponsors, donors, and recipient countries, was enough to ensure autonomy from the WHO bureaucracy.

During its first years of existence, TDR became the pet program of the PHN division. In 1979, its officials successfully argued that the Bank should finance 10 % of TDR's yearly budget, at the time 25 million, thus fulfilling WHO hopes for a financial "safety net" that would favorably impress Northern state donors. Moreover, in 1983, as new financial concerns surfaced due to the leveling off of donations, PHN leadership insisted that TDR was not only well managed—as an external audit conducted in 1980 certified—, but was fulfilling its mission, having identified innovative paths toward malaria vaccines and started the development of two new malaria drugs: mefloquine and qinghaosu.

The latter is the Chinese name for artemisinin, a plant-based preparation against malaria, that became the most celebrated symbol of TDR success. Qinghaosu originates in the Chinese and WHO drive to integrate traditional medicine into biomedical systems as a way to mobilize new, cheaper, and "more socially acceptable" technologies in developing countries. The 1978 WHO report on the topic provides a list of national initiatives thought to have potential, from the inclusion of traditional birth attendants in African health care systems to the standardization of Ayurvedic doctor training in India. These are combined with vague general statements regarding what "integration into primary health care" could look like. One way was to view traditional medical practices as a source of new treatments, and more specifically, new drugs. This move may be understood as reducing traditional medicine to its biological compounds, or "herbalization," as it: 1) equated traditional remedies with medicinal plants; 2) defined problems in terms of access to safe and effective products; and 3) argued for national regulation, i.e., adopting the norms of evaluation and marketing authorization used for chemical drugs.

China played a critical role in the implementation of this integration strategy. In 1995, it was the only country in the world with seven research centers benefiting from WHO support as “collaborative centers” in traditional medicine; among these, two were involved in the professionalization of acupuncture and three in the development of artemisinin.

Qinghaosu development had been under way in China since the 1970s; so what did the internationalization of artemisinin research under the TDR umbrella change? In 1981, the WHO set up a Steering Committee on the Chemotherapy of Malaria (CHEMAL) to evaluate research proposals. The projects CHEMAL supported during the next decade reveal two logics, pursued in China as well as in Europe and in the United States. The first logic was that of complete molecularization and total chemical synthesis. Pharmaceutical giant, Roche, defended this perspective and benefited from extensive CHEMAL funding. The second logic was to improve cultivation and extraction in order to avoid complete synthesis. Research in that direction included the selection of more productive varieties, the use of growth factors, and clinical tests of various herbal *Artemisia* extracts conducted in the Beijing and Shanghai institutes for Chinese medicine. By the early 1990s, the Roche pathway for complete synthesis was a research success, but the process was so complicated that its industrial application looked uncertain. In spite of this set back, at CHEMAL all ambiguities regarding the “holistic” road had evaporated. The only thing that mattered was the production of purified artemisinin; if that was more easily achieved through extraction or syntheses was secondary.

As successful a framework for the development of antimalarials, TDR revealed a strong bias in favor of pharmaceuticalization. This was, however, less a consequence of the tensions between the WHO and the World Bank—which focused on financial and managerial issues, and did not threaten the Bank’s continuous funding of the program until 1998—than

an effect of the precarious existence of the traditional medicine integration strategy within the WHO itself. In other words, it was a consequence of the WHO's own contradictions.

The WHO and the Missed Opportunity for a Global Agenda on Human Genetics, 1980s–2000s

An early articulation of the role of human genetics in international health manifested itself at the WHO as early as the mid-1950s, when concern over the effects of nuclear radiation on future generations led to a consideration of genetics broadly defined (Lindee 2014). During the following decade, in addition to the comparative study of birth in various countries through the collection of epidemiological data and the work on “vanishing” groups of “unusual” genetic interest, the WHO also supported collaborative research on the frequency of diseases with a genetic component. This research-oriented approach “relied on the initiative of single individuals or small interdisciplinary teams of scientists” located in industrialized countries (Chadarevian 2015). With regard to this, a significant shift occurred in the late 1970s.

Partially motivated by criticism of its emphasis on blood clotting disorders, a “substantial reorientation”³⁶ of the Human Medical Genetics Unit at the WHO started with the hiring of Anver Kuliev, a young Soviet geneticist. Soon he was appointed as the head of the WHO Human Genetics Program (HGP). His goal was to establish a reformed hereditary diseases program. In June 1981, a “historical conference”³⁷ on a blood disorder, thalassemia, was organized in Sardinia by pediatrician Antonio Cao. This conference prefigured the composition and targets of the WHO working group on genetics in that key experts, such as the British biologist Robert Williamson, “[discussed] the desirability of a WHO program for the control of hemoglobinopathies.”³⁸ The members of the working group started

collaborating as soon as November 1981, after Kuliev managed to convince the six international experts reviewing the whole field of medical genetics³⁹ that “hemoglobin disorders were a priority.” In fact, “he found it very difficult” to do so, recalls Bernadette Modell, a British clinical geneticist.⁴⁰ Ultimately, he relied on the argument that “in many developing countries [...] hereditary anemias [were] the commonest form of genetic disease”⁴¹.

Given the ubiquity of hemoglobin disorders, the HGP advocated the WHO taking a leading role in the dissemination of genetic services and training in developing countries, as well as in the standardization of techniques for diagnosis and prevention of genetic disabilities. The various advisory groups and reports set up at the HGP took root in the general patterns that the WHO Working Group on the Community Control of Hereditary Anemia created. From 1981 to 1985, a dozen people who shared a “technical approach”⁴² and a penchant for clinical knowledge gathered annually in areas where these conditions were endemic, namely Sicily, Cyprus, Milan, Bangkok and Crete.

To influence the WHO agenda, these geneticists pushed for a definitive recognition of the relevance of genetics to public health and preventive medicine. The broad concept of “community genetics,” that emerged as such in 1990 (Modell and Kuliev 1998), marked the coming of age of their reoriented program, sanctioning orientations and methods they had been formulating for ten years. Key elements of their approach were technical improvements, empirical evidence, and prevailing WHO values and strategies.

The HGP members either encouraged or directly developed several technical evolutions: screening for a growing number of inherited conditions, new diagnostic techniques for the detection of gene carriers for fetal monitoring, and of course advances in the treatment of diseases. In particular, in the early 1980s, Modell contributed with the

improvement of chorionic villus sampling (CVS, that entails removing a sample of tissue from the placenta and testing it for different genetic abnormalities), so that it could become a first trimester fetal diagnostic, which allowed potential earlier therapeutic abortions of an affected fetus. By increasing the general acceptability of prevention, CVS was instrumental in legitimizing the work of the HGP.

Secondly, the inclusion of clinical genetics in public health relied on on-going national policies formulated in the Mediterranean area (pilot studies occurred in Cyprus, Greece, and Italy) where hereditary anemia were widespread. Building on scattered interventions that demonstrated the feasibility of beta-thalassemia (the most severe form) management at the country level, the HGP members sought to standardize existing methods and promote the value of hemoglobinopathies control programs as serious public health initiatives elsewhere, such as in South-East Asia. Large-scale, Cypriot screening of at-risk couples, with the option of therapeutic abortion, was a “strong argument for providing population-based services” (Modell and Kuliev 1998), and inspired the core principles of the HGP approach for community control of hereditary diseases: an “integrated strategy” combining prevention and care,⁴³ thus targeting both genetic disorders and genetic reproductive risks.

Once formulated, such an approach was deemed relevant to the management of other hemoglobinopathies (mostly sickle-cell disease), and more broadly of other genetic disorders, leading to the creation in 1982 of the WHO Advisory Group on Community Control of Hereditary Diseases. This network sought, in Anver Kuliev’s words, to “develop the principles of genetic counseling,”⁴⁴ while tackling G6PD deficiency, cystic fibrosis, Tay-Sachs disease, and PKU, as well as lactose intolerance, mutational diseases, and a genetic risk approach to common diseases. In doing so, WHO experts used target diseases as paradigms of a community-based approach to genetics, at the expense of common congenital, genetic,

but not inherited diseases like Down syndrome. Indeed, with some exceptions, this network gave little attention to chromosomal disorders in the course of formulating a global program.⁴⁵

A key principle of community genetics was the setting-up of “comprehensive” control programs. The application of genetic knowledge at the community level included encouraging the formation of patient and parents support groups, and collaborations between genetic services and lay associations that could promote a wider understanding of these issues and a shift in social attitudes. Lastly, training of general practitioners and other health workers in medical genetics would be a crucial component of health promotion.

The gradual unfolding of community genetics at the WHO showed a remarkable continuity, even under Victor Boulyjenkov, Kuliev’s successor; more or less the same network of international experts worked together for twenty years, until the early 2000s. Although the group diversified over time, recruiting geneticists from Latin America or Africa, the roots of community genetics were found in Northern expertise, and applied on a mass scale to countries then called “developing.” As Robert Williamson puts it, “thalassemia is a third-world country problem, with a first-world solution.”⁴⁶ The very idea of community genetics was therefore conceived by experts from Europe and North America who pioneered the mixing of strategies of medical genetics and “community medicine” (bearing the mark of British medicine).

Undertaking activities to centralize and spread information, these experts combined research and operational work. Indeed, as soon as 1981, the experts gathered in Cagliari wanted the WHO to provide “authoritative information” in order “to raise the level of awareness and willingness to act of the governments concerned.”⁴⁷ They regularly made recommendations on WHO priorities and where it “[could] play an important role in the

dissemination of genetic services”—through quality control, standardization of laboratory techniques and nomenclatures, training courses and conversations between scientists from “developing countries” and “developed ones.”⁴⁸ In addition, over this period, a growing number of HGP reports promoted practical advances by providing educational materials and management guidelines for specific conditions.⁴⁹ They hoped, indeed, to directly affect policymaking. According to Kuliev, their main preoccupation was “how to formulate genetic tools for public health people,” ideally in “a language that should be understood by the general physicians” and by “non-English speaking people”.

The group hoped to challenge the general perception of genetic disorders as secondary issues in developing countries by trying to tackle their epidemiology and calling for standardized data collection. Moreover, in the 1980s, HGP reports argued that medical genetics was worthy of investment, citing the relatively low cost of a hemoglobinopathy control program relative to the broad burden of these chronic diseases on health resources in the most affected countries⁵⁰.

However, despite HGP hopes for WHO support to control genetic diseases across the globe, community genetics faced a rough and unstable trajectory. Disappointed by the relative disinterest of the WHO in their general framework for preventing the commonest inherited diseases, some of the most active HGP expert working group members turned to other international health actors. The WHO Regional Office for Europe temporarily acted as an intermediary in the late 1980s–early 1990s, via Marsden Wagner, Regional Officer for Maternal and Child Health. They also continued to reflect on the organizational dimensions of community genetics services in a 1992 report (Modell, Kuliev et al. 1991).

Later, the WHO Eastern Mediterranean Regional Office (EMRO) warmly welcomed community genetics approaches to commonly encountered hereditary disorders in the region.

The EMRO began to work to fight these disorders in the early 1990s, in dialogue with Iran's and Saudi Arabia's governments to help establish WHO collaborating centers for prevention and control of thalassemia. It then distinguished itself in 1993 by creating a WHO task force in its Alexandria headquarters to review the epidemiological situation and formulate a plan for the control of hereditary disorders in the entire region.⁵¹ Ala Alwan, who joined the EMRO in 1992 as Regional Adviser for non-communicable diseases, was a strong advocate of regional action. In its bid to control these hereditary disorders, the EMRO organized meetings promoting community genetics from 1993 to 1996, focusing on tailoring community genetics to the countries in the region,⁵² identifying regional priorities (notably parental age distribution, consanguinity, and control of hemoglobin disorders), and putting forward policy recommendations for national programs.⁵³ Beyond these extensive efforts at the EMRO,⁵⁴ regional exchanges (especially those initiated by Greece and Cyprus regarding their successful programs) and national initiatives (like the Iranian program) were directly encouraged by some of the early HGP experts and developed over time. Even in the early 2000s, the development of the Omani prevention program for genetic blood disorders did not primarily rest on the regional or national WHO offices' influence *per se*. It was rather partly determined by the interpersonal relationship between the British geneticist B. Modell and Anna Rajab, pediatrician, geneticist and head of the Ministry of Health's central lab who pioneered community genetics in Oman (the former being a PhD examiner for the latter). This suggests a regionalization of the original HGP perspectives, in a way shifting the hub from Geneva to Alexandria. Furthermore, the scattered development of similar programs at a national level, especially as happened very early in Cuba, on the geneticist Luis Heredero's initiative in the 1980s, and later in Oman, proves that a process of globalization occurred along the way.

This outline of the trajectory of “community genetics” as an international issue shows the relative failure of the HGP to guide WHO activities and urge the organization to drive global policy in that field. The vast number of reports the HGP members published over the period (more than a hundred) were granted advisory status, and thus viewed as reflecting only the opinions of invited experts, rather than the organization as a whole.⁵⁵ The early HGP experts we interviewed reported that they did not have a strong voice within the WHO. All of them regretted the lack of enthusiasm the HGP’s work faced at the Geneva headquarters. Williamson’s written reply to a request from Boulyjenkov in 2005 well illustrates the experts’ frustrations after years of disappointed hopes: “I will try to help WHO in any way possible, and will write again [...]. The problem, as I look back over my 25 years association with WHO, is that in spite of your efforts, and those of many others including myself, the organization still gives genetics a very low priority.”⁵⁶

The development of medical genetics seems to have received shifting and uncertain attention from the WHO, the best evidence being that it is only in 2004 that the World Health Assembly passed a resolution on “Genomics and World Health” – and later on sickle cell anemia in 2006, birth defects in 2010. This surge of WHO interest in the 2000s was closely related to the sequencing of the human genome in the 1990s. HGP historical figures viewed the eruption of genomic technologies in the WHO program with skepticism, believing that this new technical focus, and its related business stakes, would undermine their clinical perspectives and conception of medical genetics as integral to primary health care worldwide. Indeed, a major paradox is that the Human Genetics Program ended up leaving its mark thanks to genomics instead of community genetics.

The WHO’s limited role in the globalization of community genetics can be explained in several ways. Oral as well as written sources consistently point to the WHO’s historical focus on infectious diseases. Although HGP reports highlighted the epidemiological

transition in the “developing world” and the growing challenge represented by genetic diseases, in the realm of international health, genetics still “looked unimportant compared to infectious diseases, high infant mortality and lack of proper sanitation” (Williamson 2001). This view of WHO priorities was prevalent outside the organization as well. Michael Katz, Senior Vice President for the March of Dimes’ research and global programs, states that WHO authorities “all came from a generation that thought infectious diseases were the most important”; thus, hereditary diseases “disturbed their pattern of thinking. It was like throwing some sand into a system.”⁵⁷

Another explanation is that the HGP work on community genetics coincided with a period of financial crisis at the WHO (Chorev 2012). This is reflected in documents from the late 1980s. Facing regular requests for financial support for different projects around the world, the head of the HGP usually refused “due to severe financial cutbacks.” Boulyjenkov insists, “we have never been in the WHO’s priorities. Therefore, we had a little amount of catalytic funds. [...] [T]hen each year this budget was reduced, reduced, reduced and reduced”⁵⁸.

Transregional Health Encounters: Indian Ayurveda, African markets, and the WHO’s Guiding Principles

If we want to look to a place where the WHO holds sway over Asian, herbal medicines and their pharmaceuticalization, we need to switch national partners to focus on the export of Ayurvedic medicines from India to Kenya. In contrast to Chinese practitioners and medicines, which have been in Africa for decades (Hsu 2002), Indian Ayurveda has only recently been introduced to and inscribed in East Africa’s medical, political, and economic fields (Meier zu Biesen 2017). Here, the WHO plays a dual, ambivalent role in the growing

market for complementary and alternative medicines (CAM), to which Ayurveda belongs. It is an actor that strongly influences the promotion of traditional medicine, and also a powerful, but “neutral,” global institution that epitomizes governance of non-biomedical therapies. Although the WHO sets limits on what counts as traditional medicine through a homogenized transnational category of traditional medicine (legitimized by law, policy, and scientific research within the biomedical paradigm), Indian pharmaceutical companies use this “symbolic categorical acknowledgement” from the WHO to boost support for drugs that are otherwise marginalized by the Kenyan state (McNamara 2020). At the same time, and outside of the WHO’s discourses, medical entrepreneurs transcend the biopolitical order established by WHO regulations, and create new networks that play an equally important role in carving out an “African Ayurveda market.”

In 1978, the WHO-UNICEF conference at Alma-Ata specifically mentioned the role of herbal medicine and traditional practitioners in primary health and recommended their incorporation into health care delivery systems (Akerele 1987). Thereafter, the WHO (in addition China, India, and members of the African Union) grappled with how to best exploit traditional therapies “in the service of development.” On some level, this was a practical move, but it also represented a symbolic departure from colonization and/or a return to indigenous values (World Health Organization 1978, Boyo, Cao et al. 1983, World Health Organization 2002, McMillen 2004). In particular, the WHO began to support the investigation of plant products. In general, traditional medicines barely figure into global health programs and the forms of knowledge the field values. The WHO is, in this respect, an exception since it persistently advocates for integration—albeit in the forms of “professionalization”, standardization, and pharmaceuticalization (Feierman 1985, Last and Chavunduka 1986). As we have seen with the case of artemisinin, the role of the WHO has therefore shifted toward facilitating the worldwide circulation of industrialized herbal

preparations, thus enabling a process critical to the globalization of health, but still marginal to the field of global health.

During the 1990s, traditional medicine moved from being a strategy for national self-reliance to being a tool for managing the impact of structural adjustment programs by incorporating useful elements of traditional therapies into national health care systems (Langwick 2011). Indeed, the WHO proposed locally produced herbal medicines as one way to meet the Global Strategy for Health for All by the Year 2000 objectives.

Four decades after the Alma-Ata declaration, the WHO, through its own Traditional Medicine Unit, has invested significant energy and resources in the development of non-biomedical therapies (Bode 2013). At the same time, Chinese and Indian firms have put the production and consumption of Asian preparations on their agenda (Pordié and Gaudillière 2014). This business strategy has less to do with traditional medicine as a solution to fiscal tightening, and more to do with the growing demand for “natural” forms of healing among patients (Craig 2012). This move is also based on the oft-cited WHO statistic that up to 80% of the Global South relies primarily or exclusively on traditional medicines to meet their primary health care needs (Bode 2013).

When herbal products, such as Ayurvedic preparations, began to circulate globally, the WHO naturally saw an increase in its influence as a regulator and promoter of such treatments. At the same time, the number of global actors pushing the industrialization of herbal medicines increased to include the World Trade Organization (WTO), the World Intellectual Property Organization (WIPO), and the World Bank. The global expansion of the market for Asian medicines has contributed to the inscription of these products within a larger system of health governance, which has evolved in parallel to the expansion of the circulation itself (Coderey 2020). This system is an assemblage of local, national, and global actors, trade rules and guidelines, financial resources, and market interests—permeated by

significant power relations, which are also sources of friction. For instance, while global pharmaceutical regulations set by the WHO and WTO are essential for accelerating the movement of herbal drugs at the state level, WHO trade and migration policies can also impact drug flows. As exemplified in Kenya, expensive licenses for Ayurvedic practitioners and imported medicines act as barriers to market entry. However, as we will show, national arrangements regulating Ayurvedic drugs do not only cause friction, but also create opportunities for intermediate traders by providing new transnational drug channels circumventing the WHO's regulatory authority.

At the macro level, the WHO sets policy frameworks determining which *materia medica* should be allowed to be traded according to research protocols, and legal and ethical codes. In this sense, the WHO acts as the directing and coordinating authority on international health work (Brown, Cueto et al. 2006). In order for Ayurvedic pharmaceuticals to be marketed, they must be registered in their country of origin, they have to meet the safety requirements of the recipient country, and they must demonstrate that they adequately suit the receiving country's "needs" (World Health Organization 2005). Of course, these needs are subject to different interpretations. Kenyan Drug Regulation Authorities determine, for instance, whether Ayurvedic drugs are classified as food supplements or herbal therapeutic products; marketing authorization for the latter is more complicated. Therefore, in addition to the WHO, African authorities have a huge impact on the mobility of Ayurvedic drugs in East Africa. Pharmaceutical facility inspections conducted by African Drug Authorities in India illustrate one important prerequisite for drug registration.

Large and profitable Indian enterprises, such as The Himalaya Drug Company, which successfully convert the Ayurvedic herbal tradition into cutting edge medical technology (see Markets, Medicines, and Health Globalization) (Pordié and Gaudillière 2014), become integrated into a growing market through their capacity to adhere to WHO's normative

standards, such as “good manufacturing practices” (Bhattacharya, Reddy et al. 2014). The representatives of these enterprises acknowledge that the “WHO-filter,” i.e. licensing and inspection procedures, is an indispensable element of drug quality, as well as a way to control the broader market (Meier zu Biesen 2017). Big firms value such regulations as a means to “wipe out the competition,” as the WHO’s transnationally valid quality assurance requirements that regulate the transition of herbs and traders across borders cannot be easily undertaken by smaller companies which lack the financial and technological means. As a consequence, small-scale Indian entrepreneurs and firms who cannot comply with the border regimes operate more and more on the illicit side of the pharmaceutical trade. In response to the harsh conditions they face—such as arbitrary seizures, high drug taxes, and onerous administrative regimes—these smaller companies build their own networks that enable Ayurveda drug flow.

Ayurvedic entrepreneurs and medical practitioners in Nairobi are often known by word of mouth, especially in Westland, where the largest part of the ethnically Indian population is concentrated (Chand 2010). These Ayurvedic entrepreneurs—practitioners, private enterprises, small-scale pharmaceutical companies—bypass the official regulations governing the circulation of goods, and operate in a complex system of trade stratification, of which diaspora networks are an important example. A distinctive aspect of Indian engagement in East Africa takes the form of the large diaspora, which is a constitutive influence in India’s multifaceted relations with the continent today, including the formation of new trade networks under the slogan of “South-South cooperation” (Bhattacharya 2010, Duclos 2012, Chorev 2019). The diaspora communities are important as potential consumers of Ayurvedic medicines and as indispensable players in their marketing strategy. Intermediate traders—Indian merchants, commercial intermediaries, and brokers—have mobilized transnational networks offering alternative infrastructures for Ayurvedic drug flow. Their

modes of trade include cross-border drug delivery and movements via physical and electronic means, constituting transnational medical spaces and drug channels through real-world practices (Zanini, Raffaetà et al. 2013, Quet, Pordié et al. 2018).

Thus, “medicines on the move,” must not only be analyzed through the prism of global institutional power. The WHO—acting as a “boundary organization” (McNamara 2020)—remains embedded in policy developments, but there are ways in which it is also marginal as a governing institution. Despite its relative power, the WHO and other global health actors have erased neither the central role of the state, nor those of innumerable local and national actors who actualize Ayurvedic medicines in the form of South-South partnerships. Medical entrepreneurs operating between India and Africa do so sometimes in conjunction with the state and global health actors and sometimes in opposition to these actors (Coderey 2020). Moreover, the Kenyan state maintains centrality and decides how to apply WHO guidelines. It can also circumvent the WHO and determine its own norms regarding manufacturing practices, drug laws, drug prices, and border regimes. Hence, the way the state organizes health depends significantly on local socio-political and economic configurations, local assumptions about safety and efficacy, market desires, and globally linked entrepreneurship. In addition to legal requirements, purchasing power and cultural preferences play a key role in Ayurveda’s transregional trade.

A Road to Africa – China and Global Health

In 1975, when the WHO and UNICEF issued their first major document on what would become the primary health care strategy, mainland China had just been given the organization’s member seat that Taiwan had occupied until 1972. In spite of the novelty of its presence within the WHO, Chinese health policy in general—the experiences of barefoot

doctors in rural communities, the integration of Chinese traditional medicines into biomedicine—became important resources in the preparation of the 1978 Alma-Ata conference. However, there was one area of Chinese medical diplomacy that barely affected the WHO agenda during these years and the following decades: the numerous projects aiming at “cooperation and solidarity” in the domain of health that the country was advancing in Africa. Yet this parallel project had many consequences for the relationship between China and the WHO. We can analyze this relationship in two different stages: the first starts in the 1960s, at the inception of Chinese development policies in Africa; the second, much more recent period, refers to the launch of China’s Belt and Road Initiative, under the mandate of Xi Jinping in 2013.

China first established diplomatic relations with African countries in the late 1950s.⁵⁹ Medical cooperation between China and Africa started as early as 1963, when China sent its first medical team to Algeria (Li 2011). In 1966, the Chinese government formalized its first development policies in relation to Africa. Between 1965 and 1969, the total amount of Chinese aid to Africa amounted to two hundred million dollars.⁶⁰ After China's economic reforms in 1978, China-Africa relations changed from a model of "grant aid" to that of "bilateral cooperation.”

Since 1963, when the first Chinese medical team went to Africa,⁶¹ more than 23,000 Chinese health professionals have been sent to 69 countries and regions around the world, treating hundreds of millions of patients. Currently, China has more than 60 medical teams in 66 different countries, including 51 in Africa. They provide services to nearly 270 million people and train tens of thousands of local doctors. Wang Liji, Deputy Director of the Department of International Cooperation at the National Commission on Health and Family Planning, states, "Through this selfless assistance over the past 50 years, China has gained the confidence of African countries, which has helped to strengthen Sino-African friendship.”⁶²

After China's economic reforms and opening to the global market from 1978 onward, China-Africa relations changed from a model of "grant aid" to that of "bilateral cooperation" based on the growth of economic exchange. In 1999, China's annual trade with Africa reached \$64.8 billion, rising from about one billion dollars in 1990. In 2000, the first Forum on China-Africa Cooperation was held in Beijing, with 45 African countries attending⁶³. This meeting encouraged the establishment of more than 600 Chinese companies in Africa. In 2006, the country put forward its official "Policy towards Africa," the aims of which are to "develop a new type of strategic partnership [...] characterized by political equality and mutual trust, cooperation in a win-win economic spirit, and the strengthening of cultural exchanges."⁶⁴

For five decades, China has engaged in bilateral cooperation with Africa, based on a palette of activities including sending Chinese medical teams to provide free medical services, offering free facilities and medication, training African medical personnel, and building hospitals in various African countries. (Li 2011) Foreign aid is thus a critical piece of China's role in health globalization. Health aid is delivered through medical teams, hospital construction, pharmaceutical and equipment donation, health professional training programs, and public-health/health-security-program support, including malaria control (Chen, Pender et al. 2019).⁶⁵ Although Chinese medical teams are highly visible in African countries, several researchers have pointed to their lack of inclusion within the field of global health, highlighting their operational flaws and lack of alignment with other international donor programs (Chen, Pender et al. 2019).

In September and October 2013, during his visit to Central and Southeast Asian countries, President Xi Jinping proposed a major initiative to jointly build the Silk Road Economic Belt and a 21st Century Maritime Silk Road, a project which garnered much attention from the international community. In March 2015—with the authorization of the

State Council—the National Development and Reform Commission, the Ministry of Foreign Affairs, and the Ministry of Commerce jointly issued the “Vision and Action for Promoting the Construction of the Silk Road Economic Belt and the 21st Century Maritime Silk Road,” which included expanding “cooperation in the field of medicine.”

Traditional Chinese medicine is an important part of the exchange and cooperation between countries along the New Silk Road.⁶⁶ In December 2016, in order to actively respond to the Belt and Road Initiative,⁶⁷ the State Administration of Traditional Chinese Medicine and the National Development and Reform Commission jointly issued “The ‘One Belt and One Road’ Development Plan for Chinese Medicine (2016-2020).” This development plan aims to strengthen exchange and cooperation with countries along the New Silk Road in the field of Chinese medicine. According to the planning requirements, by 2020, thirty centers for traditional Chinese medicine were envisioned to be established in cooperation with countries along the route; twenty international standards for Chinese medicine to be promulgated; one hundred Chinese medicine products to be registered; and fifty Chinese medicine pharmacopoeia ‘demonstration bases’ highlighting international cooperation and exchange to be built. The goal, according to the PRC, is that, by that time, “the value of Chinese medicine medical care and health care will be widely recognized by people along the route.”

Under the guidance of national promoters of the route, various Chinese regional authorities have formulated corresponding support policies. For example, the 13th Five-Year Plan for the Development of Traditional Chinese Medicine [TCM] in Shaanxi Province proposes to support TCM enterprises, medical institutions, and units in the province; to carry out TCM education and training within key countries in the Belt and Road, as well as in Hong Kong, Macao and Taiwan; and to foster multi-level and multi-field cooperation especially in terms of creating overseas TCM treatment centers and of promoting health

tourism. “Guangdong Province’s Implementation Plan for the Outline of the Strategic Plan for the Development of Traditional Chinese Medicine (2016-2030)” supports TCM institutions in carrying out investment and cooperation in the field of TCM health in the countries along the Belt and Road and encourages pharmaceutical enterprises selling TCM preparations to apply for overseas trademark registration and to build internationally renowned brands.

As a result of its dramatic economic growth, China seeks a profound transformation of its presence abroad, regardless of the country of destination, from a simple “made in China” label to an overall appreciation for the “conceptual dynamics of creation/initiative in China” (Wang 2019). In this way, China is attempting to become an exporter of standards and values at the international level, moving beyond the industrial products attached to its current image of “factory of the world.” Chinese medicine is emerging as a diplomatic tool when promoting the interests of the Chinese state and pursuing international recognition of Chinese knowledge (for more details, see Wang 2019).

While in European countries, Chinese medicine is viewed as an alternative and complementary practice, a holistic medicine that relies on less "technical" forms of listening and intervention, and which responds to criticisms of biomedicine, in some African countries TCM is a tool of primary health care. In fact, the export of TCM is one strategy in the overall Chinese project of strengthening and reorganizing entire health care systems, systems that are considered deeply deficient and in a state of permanent crisis. In general terms, regardless of the country of destination, the new Chinese health diplomacy, in general, and the recent Belt and Road Initiative, in particular, operate without any links to or coordination with the classical players of global health, including the WHO, thus contributing to the latter’s provincializing. While the WHO has drawn inspiration from China for instance when developing its Health for All policies, our analysis shows that the reverse cannot be claimed.

Instead, it looks like Chinese developmental policies towards Africa, following their own trajectories, have approached the WHO as peripheral.

Conclusion

Seen from inside the organization, the WHO's adaptation to global health could be summed up as a re-focusing on its deep historical roots. By mediating its own operational ambition and concentrating on normative activities—guidelines, epidemiological reporting etc.—under Director General Gro Harlem Brundlandt, shifts in the WHO created an organization that somehow resembled the League of Nations Health Organization (LNHO) (Cueto, Brown et al. 2019). This predecessor of the WHO had also come to prominence after the First World War by focusing on similar activities. (Borowy 2009)

Yet, we argue that the recent provincialization of the WHO bears only superficial resemblance to that of the LNHO between the wars. In the 1920s, the LNHO operated in a complex web of states that allowed for the normative activities of an international political body. In the 1990s, in an environment of economic globalization, critique of the UN system and proliferation of non-state actors, the context was less amenable to international political oversight.

On the one hand, the rise of DOTS is an example of the WHO trying to renew its normative role, providing a global standard for how to run national tuberculosis programs. But if we look deeper, we see that the standard was created by others, and was in direct opposition to the WHO's previous control strategy. In reality, it was the World Bank that made the WHO the face of a program that directly contradicted WHO's principles and policies. In, our second archival exploration, the case of the relationship between the WHO and World Bank, we discover an approach on the side of the WHO that can be summarized as adaptive learning. In this case, the WHO utilized its relationship with the World Bank to

increase the legitimacy and the resources available for its primary health care strategy, take into account the mounting economization of health, and update tropical diseases research. This collaboration does not only reveal unexpected roots for the World Bank sanitary turn but also sheds light on the tensions this turn and the development agenda more broadly created in the very same organization that sidelined the WHO with regards to tuberculosis and DOTS. In our third case, that of medical genetics, we see a different set of challenges. The role of the WHO in this novel field was limited from the start, partially due to the organization's traditional focus on infectious disease control, and partially due to a lack of interest of many Southern states in the implications of genetic conditions and their role in public health. In our fourth study, in Kenya we have an exemplary case of authority under erosion, where the WHO's normative activities around Ayurvedic medicines and their proliferation are increasingly evaded by a trade that is first and foremost regional, leaving the WHO's normative role a memory of past days of Anglo-European dominance. Finally, in our story about China and the WHO, we see that despite an early sympathy with the WHO's policies on primary health care, the Chinese government took a divergent path of bilateral health aid in Africa. The importance and impact of this alternative agenda expanded with China's escalating role in the world economy with initiatives enlarged to the global promotion of traditional Chinese medicine.

Ultimately, the WHO's role in global health remains both inadequate and indispensable. In a world of neoliberal governance and medico-economic interests, be they corporate, humanitarian, or any combination of the two, the WHO signals the continued need for political processes, with their elements of representation, public accountability, and strategic debates about health needs. In the case of the WHO, that such processes whatever their limitations might be, come part and parcel with the production of rich, publicly

accessible data is not a coincidence. Rather, they are one of the foundations upon which such a role can be built.

¹ See most recently Cueto, Brown et al. (2019, 239-279), where the authors analyzed the 1990s, a decade in which the WHO was in a deep crisis with regards to political influence and finance. N. Chorev (2012) authored a comprehensive analysis of the WHO from the 1970s to 1990s, which also views the period as one of crisis. For the Rockefeller foundation see Farley (2004).

² See the headquarters at: <https://www.who.int/about/structure/modernizing-who-headquarters.pdf>

³ Well described form India by Brimnes (2016).

⁴ They are collected as Fox, Ellard et al. (1999); McMillen (2015, chap. 8 and 9).

⁵ Memorandum "East African Tuberculosis Trials", 12.2.1962, PRO, FD 12/552, p.13.

⁶ Mahler to Rouillon 21.4.83, WHO archives, T9/348/2, No. 3.

⁷ Interview with Arata Kochi, November 2017

⁸ WB archives, File 30134432, draft memo "WHO/IBRD" by J. Lee, February 19th, 1975.

⁹ WB archives, File 30134432, memo "Visit to WHO" by S. Boskey, March 19th, 1975.

¹⁰ WB archives, File 30134432, memo "Visit to WHO" by S. Boskey, March 19th, 1975, p.4

¹¹ WB archives, File 30134432, memo "Visit to WHO" by S. Boskey, March 19th, 1975, p.5

¹² WHO archives, P13-372-5, Jacket 3, Collaboration with IBRD in family planning, letter from K. Kanagaratnam (WB), January 14th, 1981.

¹³ WHO archives, P-13-372-5, Jacket 2 (1975-79), cable WPRO to Geneva, April 13th, 1978,

¹⁴ Lee Howard "Major issues affecting the mobilization of resources for health for all by the year 2000", WHO Archives, folder B 12/87/4 (80), J 1.

¹⁵ Report on the consultation on the Health 2000 Resources Group Geneva, 10-11 December 1979, HRG/CON/79.7, WHO Archives, folder B 12/87/4, J1.

¹⁶ Report of the first meeting of the Health 2000 Resources Group, 1-2 May 1980, WHO Archives, folder B 12/87/4 (80), J 1.

¹⁷ In 1979 for the first time, the regular budget was less than half of the total amount expended (Ibid.).

¹⁸ Ibid.

¹⁹ "Report on the consultation on the health 2000 resources group Geneva, 10-11 December 1979, HRG/CON/79.7, WHO Archives, B 12/87/4 (80), J1

²⁰ Ibid.

²¹ Report on the consultation on the health 2000 resources group Geneva, 10-11 Ddecember 1979, HRG/CON/79.7, WHO Archives, B 12/87/4(80) J1.

²² The group also included representatives of the Christian Medical Commission, the USSR and Malawi in representation of "developing countries" along with WHO Secretariat members.

²³ Cited in J. Kilgour to members of the HRG Steering Committee, 5 February 1981, WHO Archives, B 12/87/4 (81), J1.

²⁴ "Guidelines for analysis of country resource utilization for Primary health care", WHO Archives, B 12/87/4 (80), J1.

²⁵ H. Mahler to Regional Directors, 23 April 1981, WHO Archives, B 12/445/2 SRL.

²⁶ "Health resources group for primary health care. Report on the second meeting of the Steering Committee, Geneva 2-3 July 1981", Who Archives, B 12/87/4(81), J1.

²⁷ J. Evans to J. Kilgour, 2 February 1982, WHO Archives B12/87/4(81), J2 (cf).

²⁸ J. Mashler to J. Kilgour, 20 July 1982, WHO Archives B 12/87/4.

²⁹ "Health Resources Group for Primary Health Care (HRG) Progress Report as at 31 October 1983 HRG/Prog.Rep/83.2", WHO Archives, B 12/87/4 (83).

³⁰ "Health Resources Group for PHC – Second meeting of the steering committee, Geneva, 2-3 july 1981, summary records, WHO Archives, B 12/87/4(81), J1.

³¹ Mr. Warford, WB representative, "Draft - Health resources group for primary health care – report on the third meeting of the committee of the HRG geneva 12-13 december 1983", p. 12, B 12/87/4(83).

³² Ibid.

³³ "Health Resources Group for Primary Health Care. Progress Report as at 30 June 1984", WHO Archives, B12/87/4 (84).

³⁴ H. Mahler to Regional Directors, 31 May 1985, WHO Archives B 12/87/4 (85). Despite the termination of the HRG, until the end of the 1980s, WHO headquarters continued to be solicited for assistance with CRUs in member countries.

³⁵ WHO archive: World Health Organization. 1985. "Planning of the finances of health for all: economic strategies to support the strategy for health for all: report by the Director-General"

³⁶ Memorandum from Kuliev to Director-General, 15 May 1981, "Proposal for task group meeting on HMG Programme". WHO archives, G3-87-5.

³⁷ Interview with A. Kuliev, Chicago, December 2018.

³⁸ Interview with R. Williamson, Paris, January 2019.

³⁹ Temporary advisors invited to the Task Group Meeting on WHO HGP: W. Schull (USA), N. Bochkov (USSR), J. Edwards (UK), F. Epstein (Switzerland), A. Boyo (Nigeria) and I.C Verma (India). The "difficulty" of reforming the HGP by focusing on hemoglobinopathies notably stemmed from the commitment of these older experts to the study of the impact of radiation on human genetics. For instance, J.V. Neel (Prof. of Human Genetics, Michigan), member of the Expert Advisory Panel on Human Genetics since 1957, commented in March 1983 a draft report of the November 1982 meetings in Geneva: "The statement there, about the 'urgent need' for a definitive statement on the impact of radiation by an expert group of human geneticists, is about the sharpest statement that appears in the entire document. I agree with it wholeheartedly". WHO Archives, G3-87-6.

⁴⁰ Interview with B. Modell, London, November 2016.

⁴¹ Report of a WHO advisory group, Community approaches to the control of hereditary diseases, Geneva, 3-5 October 1985. WHO archive, HDP/WG/85.10

⁴² Interview with A. Kuliev.

⁴³ Or, conversely, the articulation of "care and prevention," as sometimes stated starting in the late 1990s, under the influence of the pediatrician Arnold Christianson, who had long been caring for Down syndrome children. The prevailing order of words ("prevention" coming before "care") somehow reflects the emphasis put on prospective strategies among WHO experts.

⁴⁴ Interview with A. Kuliev.

⁴⁵ Report of a WHO advisory group, Community approaches to the control of hereditary diseases, Geneva, 3-5 October 1985. WHO archive, HDP/WG/85.10; (Modell, Kuliev et al. 1991).

⁴⁶ Interview with R. Williamson.

⁴⁷ "Minutes of a meeting held in Cagliari, Sardinia on 9.6.81 in association with the International Congress on Recent Advances in Thalassaemia, to discuss the desirability of a WHO programme for the control of haemoglobinopathies", p.3. Robert Williamson's personal archives.

⁴⁸ Report of a WHO advisory group, Community approaches to the control of hereditary diseases, Geneva, 3-5 October 1985. WHO archive, HDP/WG/85.10

⁴⁹ E.g.: *Guidelines on the Prevention and Control of Congenital Hypothyroidism* (1990, WHO/HDP/CON.HYPO/GL/90.4) and *on PKU* (1990, WHO/HDP/PKU/GL/90.4); *Guidelines for the Development of National Programmes for Monitoring Birth Defects* (1993, WHO/HDP/ICBDMS/GL/93.4); *for the Control of Haemoglobin Disorders* (1994, WHO/HDP/HB/GL/94.1); *Guidelines on Ethical Issues in Medical Genetics and the Provision of Genetics Services* (1995, WHO/HDP/GL/ETH/95.1); *Guidelines for the Diagnosis and Management of Cystic Fibrosis* (1996, WHO/HGN/ICF(M)A/GL/96.2); etc. Such reports multiply from 1994 to 1997.

⁵⁰ (Boyo, Cao et al. 1983); WHO Archive, HDP/WG/85.10.

⁵¹ Letter from Bulzhenkov to Nemat Hashem (Professor of Paediatrics and Genetics, Cairo), 11 January 1994. WHO archives, G3-370-1.

⁵² The first mention of this concept in EMRO annual reports dates back to 1993.

⁵³ See in particular Alwan and Modell (1997).

⁵⁴ A 1999 meeting in The Hague paid tribute to the involvement of the PAHO and EMRO over the previous ten or fifteen years. See *Services for the prevention and management of genetic disorders and birth defects in developing countries. Report of a joint WHO/WAOPBD meeting*, January 1999.

⁵⁵ The standard formulation that opens these report is, "This document is not a formal publication of the World Health Organization [...] The views expressed in documents by named authors are solely the responsibility of those authors".

⁵⁶ Email sent by Williamson to Boulyjenkov, April 2005. Williamson's archives.

⁵⁷ Interview with M. Katz, New York, December 2018.

⁵⁸ Interview with V. Boulyjenkov, Geneva, April 2019.

⁵⁹ On the Establishment of diplomatic relations with other African countries, see table: <http://www.fmprc.gov.cn/ce/ceza/eng/zghfz/zfgx/t165322.htm>

⁶⁰ Consultations of the Chinese archives. African countries for this assistance include Tanzania, Zambia, Guinea, Somalia. http://www.gov.cn/zwgk/2010-12/23/content_1771638.htm

⁶¹ 李安山, '中国援外医疗队的历史、规模及其影响', 外交评论, 2009年 第1期, p.25-45.

(Li 2000)

⁶² "La Chine au présent" (the French version of a Chinese Newspaper 今日中国) <http://french.peopledaily.com.cn/n/2015/0707/c96852-8916700.html>.

⁶³ It takes place every three years. The last one was held in 2018 in Beijing.

⁶⁴ Text in Mandarin: <http://blog.ifeng.com/article/33481.html>

⁶⁵ See table “China supported anti-malaria centres in Africa” (Men and Barton 2011, 47).

⁶⁶ “One Belt, One Road” Development Plan for Traditional Chinese Medicine (2016-2020), <http://bgs.satcm.gov.cn/gongzuodongtai/2018-03-24/1330.html>

⁶⁷ Initially known as the One Belt, One Road Initiative.