



Calculating war, calculating peace: the Rockefeller Foundation and science research in Britain

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ABSTRACT

The history of reconstruction and philanthropic aid efforts in Western Europe after the Second World War ended cannot be fully understood without examining the wartime networks, scientific projects and miscalculations of Allied planners. This case study of a Rockefeller Foundation project in Second World War Britain shows that the war gave scientists studying human nutrition an opportunity to conduct research on an unprecedented scale, with an unprecedented level of government support. The war thus paradoxically extended the vitality of certain international health projects at a time when support for many public health institutions and personnel was suspended. Nutrition research projects in Britain made considerable gains in refining the measurement and definition of malnutrition during the war, yet had little access to information about the fallout from food shortages operating across the Channel in occupied territory. Planning a rational, efficient system for dealing with hunger in liberated post-war territories proved to be an elusive goal. Only with the end of war in Europe could Allied scientists begin to witness the full force and extent of starvation policies imposed on civilians and prisoners by the Nazi regime and its allies. After assessing full-fledged starvation cases in the spring of 1945, a number of researchers who had worked in wartime Britain turned to assessing nutritional deficiencies in wider populations in Western Europe. The reconstruction period in Allied-occupied Germany provided a new set of opportunities for testing the effects of civilian rationing policies.

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With an Allied victory in sight in the latter half of the Second World War, calculating the requirements of emergency post-war relief and reconstruction became ever more pressing. The spectre of food shortages raised fears of widespread political instability and mass civilian death in liberated areas. But what did the major Allied powers know about conditions on the European continent after the Nazis and their partners occupied country after country? What was the state of civilian health, and had famine conditions taken hold? Some piecemeal information about shortages and damage to agriculture and supply lines had leaked out through intelligence sources, underground publications and a handful of wartime prisoner exchanges. Historians have scrutinized reports and letters

smuggled out of Nazi-held territory to evaluate what was known about deliberate starvation of Europe's Jewish communities as well. Yet data collection on public health, vital statistics and epidemics for civilian populations as a whole, which had begun to be systematized and gathered under the umbrella of the League of Nations Health Office (LNHO) before the war, had largely been dismantled.¹ Government committees and philanthropic organizations alike thus faced the quandary of determining the cost of the war as well as 'calculating the peace'.²

This article focuses on one such project that emerged under the aegis of the Rockefeller Foundation's International Health Division (IHD) in Britain and gradually became part of efforts to create rational, efficient tools for assessing hunger, nutritional deficiencies and need in liberated territories, particularly Western Europe. This project's assessment of British civilian health during the Second World War serves as a reminder that while the war was 'shared' on both sides of the Channel, the Channel remained a formidable border, a great divide through which little scientific information passed for over five long years. The war placed great limits on the geographic reach of science, with tools refined in a national vacuum. Yet this article also confirms that war could be a 'friend' to scientific research in ways not previously dreamt of: the gates for wide-reaching scientific research on human nutrition were suddenly flung wide open.

The global landscape of humanitarian projects also indisputably changed after 1939, both contracting and expanding. The war forced private philanthropies to curtail many of their activities overseas drastically and recalibrate their relations with government bodies, including armies. Merle Curti's classic overview, *American Philanthropy Abroad*, showed increasing government control and oversight in the US foreign relief sector.³ The US government also, for instance, greatly increased its outright funding for relief during the war, long becoming the main funder of what emerged as the world's largest war victims' relief organization for a time, the United Nations Relief and Rehabilitation Administration (UNRRA, 1943–1947).⁴ Finally, wartime Allied governments began investing heavily in certain scientific sectors, and this necessarily impacted philanthropies such as the New York-based Rockefeller Foundation, which had hitherto provided extensive funding for research and researchers in medicine and public health, rather than for large-scale humanitarian relief.⁵ One of the major secular philanthropies in the first half of the twentieth century alongside such bodies as the Red Cross Societies, the foundation was hardly unique in being forced to reassess its future role. Yet its prominent global reach in the interwar years and its new projects in Britain during the Second World War offer an exemplary path for understanding the aspirations, uncertainty and limits of Allied post-war planners embedded in the philanthropic landscape. Could its long-honed working methods and models of patronage survive the challenges brought by the war? How effectively could science operate in a deep well of sociopolitical problems? And could philanthropic work centred on science and public health co-exist with the ascent of national governments' investments in 'big science'?

Recent histories of the foundation's IHD in particular offer little detailed information about the projects it sustained in Europe during the Second World War, other than to suggest that the period was one of relative dormancy and scaling back, with its once-large fellowship programme virtually suspended. The IHD's European base reorganized under two men, Wilbur Sawyer and George K. Strode, before the United States even entered the war.⁶ Although the foundation's European

headquarters in Paris closed down in the face of the German invasion and moved to London, not all of the scientific and public health projects subsidized by Rockefeller monies in Europe were immediately shuttered during the occupation.⁷ Some nutrition studies and institutes in Spain and France received wartime funding, as did collaborative work with US Army partners late in the war, primarily involving experiments to develop preventive measures against typhus.⁸ Like many international organizations devoted to humanitarian or public health work, the foundation was forced to forge some wholly new partnerships in Europe during the Second World War.⁹

A number of historians imply that the disruption of the war 'also marked the beginning of the end of the role that the foundation had played in the world since 1913'.¹⁰ The wartime activity of a loose-knit group of IHD scientists investigating human nutrition presents a different picture. The work of those researchers demonstrates that the privations of both the war and its immediate aftermath in Western Europe paradoxically created expansive new scientific opportunities, even as pieces of the foundation's institutional scaffolding were suspended, dismantled and even destroyed in many places in the new world order. Given considerable licence as consultants for British wartime ministries, these researchers found themselves with unparalleled access to both civilians and military personnel as they sought to calculate essential human physiological needs. The degree of consent and coercion connected with this research remains hazy, but their 'laboratory' for nutrition research was vast. Their 'opportunities' continued in some form after Allied armies took control of Europe in 1945 and occupied Germany, including the chance to probe and evaluate the human body in extremis.

The Rockefeller Foundation on the road to war

In April 1941 two men affiliated with the International Health Division flew across the Atlantic to England by way of Lisbon. Despite its greatly reduced number of personnel in Europe – just a handful in Britain – the foundation sought through its carefully chosen experts on the ground to claim a place in shaping wartime assessments of the state of civilian health in Britain, where it had long-standing investments.¹¹ Largely working under the roof of one Oxford-based nutrition project, its representatives joined a wide array of scientific projects and institutes debating the critical components of human nutrition.¹² Discussions among public health experts at the League of Nations in the preceding decades foreshadowed much of this work.¹³ But a closer look at the foundation's nutritional project in wartime Britain underlines the limits of what interventions were possible in practice. Wartime nutritional science was fractured with disputes about human requirements, and the Western Allies' knowledge about altered food consumption levels and scarcity in Nazi-occupied territory remained fragmentary at best for the entire war.¹⁴ The Allied government and international relief agencies charged with providing adequate food and resources for liberated populations thus faced a myriad of unforeseen obstacles. The scientific community, philanthropies and officials knew that a severe problem lay ahead, but could not have anticipated its precise dimensions.¹⁵ While representatives of the International Committee of the Red Cross may have provided occasional snapshots of prisoner health in Nazi POW camps during the war, they could offer poor guidance for assessing more general food and nutritional shortfalls

to aid planners across the Channel, for their visits to a limited array of POW and concentration camps were always tightly controlled and of short duration.¹⁶

The Rockefeller Foundation's work in addressing international health problems had begun shortly before the First World War and was at first heavily invested in curtailing or eradicating diseases ranging from hookworm to yellow fever to malaria.¹⁷ Its International Health Division, which grew to become the foundation's most prominent programme, pursued such problems as tuberculosis, influenza and rabies, and invested broadly in building up public health services in poorly served areas.¹⁸ The IHD's favoured approach evolved into cultivating scientific partnerships and laying the groundwork for model institutions in medicine and public health, such as the London School of Hygiene and Tropical Medicine.¹⁹ Through an extensive fellowship programme, the division also promoted and helped provide supplementary training for an elite tier of health and medical experts who were expected to carry through reform and expansion of public health training in their respective countries across the globe.²⁰ Sunil Amrith, in a study of the interwar public health discourse in Asia and the 'internationalisation' of public health, notes that despite the US government's decision not to join the League of Nations, the philanthropy financed a substantial percentage of the league's health office budget, an investment that stretched from the early 1920s into the mid-1930s.²¹ Far less has been written about the full scope of the Rockefeller Foundation's wartime projects and their ambitious objectives. Their importance should not be underestimated in the era leading up to the founding of the UN's World Health Organization (WHO) in 1948.²²

The Rockefeller men and the Oxford Nutrition Survey

Upon his arrival in London in the spring of 1941, foundation staff member Hugh H. Smith, an American virologist who had participated in developing a yellow fever vaccine in the 1930s, set up a wartime foothold for the foundation in the London School of Hygiene and Tropical Medicine. The school owed much of its original mission and shape to Rockefeller investments in 'model' institutions in the 1920s, and like many London-based educational institutions, its students and faculty had dispersed for the duration of the war. With access to continental Europe and the foundation's European projects largely cut off, Smith used his time in London to track developments in the British scientific community and British government public health circles. Though not a US government official, he enjoyed unusually broad access to British officials and the plethora of new committees that had formed to tackle looming wartime crises. Not least, he remained well-positioned because his neighbours on the London School's premises included large sections of the wartime Ministry of Health and Ministry of Food. British officials had a mutual interest in nurturing their ties with Smith's philanthropic paymaster: the Rockefeller Foundation had a long and prestigious track record of financing public health investments in that country.²³

The second Rockefeller scientist flown in from the United States that spring, biochemist and vitamins expert A.P. ('Peter') Meiklejohn, came at the request of Sir Wilson Jameson, Chief Medical Officer for England from 1940 to 1950, a central figure in the Ministry of Health and long-time dean of the London School, Jameson was interested in having a free-ranging scientific investigator at hand who could help gauge the wartime health of Britain's domestic population.²⁴ Meiklejohn's appointment eventually extended

through the entire war, while Smith returned to the United States in 1944 and was replaced by an immunology specialist, Charles N. Leach.²⁵ Meiklejohn – like Smith and his successor – would don many hats over the course of the war. He laboured intensely on a newly founded nutrition unit in Oxford, while cultivating close ties with nutritional scientists and policymakers across Britain; he also entertained visiting experts and officials from the United States, British colonial outposts and continental Europe. Virgil P. Sydenstricker, a more senior and established biochemistry researcher from the medical school in Augusta, Georgia, joined him in these and similar efforts for a portion of 1942 and 1943, also at the behest of the Rockefeller Foundation.

This small core of Rockefeller researchers and their collaborators brought new energy and resources with them. Peter Meiklejohn enjoyed the flexibility of working outside the constraints of a formal government post, yet was hardly an outsider. A Scotsman born in Hertfordshire in 1909, he had trained in biochemistry and medicine at Oxford in the mid-1930s. After briefly working as a physician in London, he obtained a visiting post at a research laboratory affiliated with Harvard Medical School in Boston, Massachusetts, before joining the ranks of the Rockefeller Foundation's International Health Division.²⁶ After returning home in the spring of 1941 to serve as a consultant to nutrition projects supported by the British Ministry of Health, his chief assignment soon evolved into jump-starting the fledgling Oxford Nutrition Survey, a cluster of studies conducted in part for the ministry. A scientist affiliated with Oxford University's Department of Biochemistry, Hugh Sinclair, had initiated the project as the war began.²⁷ Meiklejohn and consultants who later joined the Survey team for periods – above all the American Sydenstricker, a pioneer in the study of anaemia and pellagra – kept in regular contact not only with the foundation's staff (who were partly funding the project) but also officials at the British Ministries of Health and Food.²⁸ As the war continued, the Survey became a catch-all for a number of studies on deficiency indicators and vitamin supplements requested by the Ministry of Health and Britain's Medical Research Council.²⁹ These agencies had a strong interest in monitoring the effects of wartime rationing on the British civilian population.³⁰

Hugh Sinclair, director of the Oxford Survey, initiated a stream of new studies and held the fort at home, attempting to secure funding for better facilities and a more permanent base at Oxford University. Early on the Survey's staff looked at working-class families in the city of Oxford itself, both evaluating food consumption through questionnaires and conducting a range of clinical and biochemical tests on local men, women and children. In 1942 the project conducted clinical exams on 120 pregnant women at an antenatal clinic in the city, analysed their blood and questioned them about their food intake.³¹ Survey staff also performed biochemical tests on nearly 2500 further blood samples furnished by the Army and Emergency Blood Transfusion Services, bringing them into contact with haematologist Janet Vaughan, who had set up a blood storage depot in nearby Slough to aid with bombing casualties in London and was experimenting with blood preservation methods. In 1942 the Oxford staff under Sinclair (probably over a dozen people at any given time) also began surveying military recruits as well as select groups of manual workers. Answering a request from the Ministry of Food, the team spent time scrutinizing sample meals from wartime British Restaurants. In 1943 and 1944 these kinds of projects – often involving hundreds of participants – expanded, including testing of the effects of vitamin supplements given to factory workers.³² Other projects

followed, such as testing of pregnant women, new mothers, men and women in the services and freed POWs for their level of vitamin deficiencies and making recommendations for treatment.³³

Throughout his work for the Rockefeller Foundation, Peter Meiklejohn remained in perpetual motion, constantly on trains between London and Oxford; meeting with new contacts in places where new surveys were planned (visiting regional medical officers, local doctors and health visitors and typically town officials as well); and attending an unending string of meetings convened by new wartime scientific societies and committees attached to assorted ministries and the scientific advisor to the Ministry of Food, the dynamic biochemist and vitamins researcher Jack Drummond.³⁴ Meiklejohn hosted visitors to the Survey premises from both sides of the Atlantic, and conferred with university officials and colleagues at Oxford about methodology, equipment and potential staff. He took time to familiarize himself with earlier surveys of poverty in Britain as well as to consult contemporary experts on the cost of living or nutrition – Prof. A.L. Bowley, head of the Oxford Institute of Statistics, John B. Youmans in the United States and the eminent nutritional scientist Elsie Widdowson in Cambridge. He worked extensively for the Oxford Survey on perfecting techniques for analysing blood samples.

He was also deeply involved in developing so-called rapid mobile nutritional surveys, conducting extensive fieldwork from January 1942 through August 1943: in Accrington and Merthyr Tydfil in 1942, Chesterfield in late 1942 and early 1943 and Dundee in the summer of 1943, usually with a small staff in tow. Using two mobile ‘nutrition vans’ or labs, he gauged the physical or nutritional status of a range of people, in the end examining well over 4000 people. He often worked with local medical officers to make sampling arrangements and a dietician with the project, who made home visits to interview participants about their resources and consumption habits in the quest to understand deficiencies and their causes. Through the first years of his Oxford duties, Meiklejohn strove to perfect mobile equipment as well as his data collection methods. As in other studies of this Oxford group, the ‘rapid surveys’ entailed clinical exams of the mouth, tongue, eyes and tendon reflexes, as well as blood sampling and questionnaires on consumption habits. The team would uncover a few cases of riboflavin deficiency, many more of gingivitis and clinical evidence of some other instances of nutritional problems in industrial towns.³⁵ After completing these studies, he spent the autumn of 1943 through May of 1944 on leave, conducting a study on the far poorer indigenous and refugee population on Abadan, an island in the Persian Gulf, for the Anglo-Iranian Oil Company.

Virgil P. Sydenstricker, too, embarked on a continuous round of meetings all over Britain as an expert consultant. In addition, he conducted some on-site survey testing for the Oxford group and accompanied Meiklejohn’s team on at least one mobile survey to South Wales.³⁶ Working with the Ministry of Health, local medical officers and nutrition researchers, he conducted a wide-ranging survey of antenatal clinics, schools and factories across Britain, probing the fitness and health of some 4580 individuals in over a dozen locations in just half a year, a massive undertaking that complemented Meiklejohn’s and Sinclair’s survey work.

Despite these wide-reaching efforts, the team gradually discovered that coordinating diverse surveys, findings and agencies posed a chronic problem, as did the question of what to test for, how to test and what equipment to use in the quest to measure the

presence of human nutritional deficiencies. Troublingly, Meiklejohn heard from the team's technician and dietician

that determinations carried out here on plasma from Dr. [Edward] Mellanby's experimental vitamin A-deficient subjects do not always agree with the determinations carried out on the same material in Sheffield and in Dr. Moore's laboratory in Cambridge. Nor do the Sheffield and Cambridge figures always agree.³⁷

Incompatible sampling as well as a lack of uniform equipment and techniques for analysis from survey team to survey team continued to plague the nutrition research field throughout the war years.³⁸ On other levels, too, practitioners in the field did not know precisely at what or for what they were looking. Sydenstricker – armed with colour medical slides brought from home – quickly learned, for instance, that many researchers in their field in Britain lacked 'eyes-on' experience of certain deficiency diseases or their symptoms. Most experts in the vitamins and nutrition field in Britain, including Meiklejohn, had also never encountered actual cases of near-starvation or hunger oedema.³⁹ For all the new resources and 'opportunities' made possible by the war, a host of the technical obstacles facing nutritional scientists were in fact never overcome during these years. Other concerns would also dog the Survey scientists' research agenda, design, scope and procedures, but already by the summer of 1942 these were in some measure displaced by strategizing about the liberation of Western Europe.

Eyes on the post-war challenge

Initially focused on domestic agendas – showing that food rationing policies had or had not compromised British health – the Oxford Nutrition Survey's staff and other British nutrition research projects soon found themselves drawn into a rather nebulous guessing game about what had unfolded on the continent under Nazi food, military and racial policies and through wartime rationing.⁴⁰ These discussions escalated by the middle of 1942 and unleashed an outpouring of speculation and planning memos, many penned by nutrition experts. Yet scientists and policymakers in Britain caught only glimpses of continental conditions during the war, information that remained sporadic, uneven and highly tenuous. As noted above, a number of US experts and affiliates of the Rockefeller Foundation conducted small-scale nutrition surveys in continental Europe in 1940–41, including in occupied and unoccupied France as well as in Spain.⁴¹ Historian Jan Láníček has argued that the Nazis' deliberate starvation of the Jews under their control was widely publicized early in the war, even outside Europe. Letters coming out of ghettos in Eastern Europe, reports from news services such as the Jewish Telegraphic Agency and publications such as Boris Shub and Zorach Warhaftig's *Starvation Over Europe (Made in Germany)* – issued by the Institute of Jewish Affairs in New York in 1943 – suggested that the Germans were using starvation to eradicate the Jews of Europe.⁴² (By contrast, any knowledge of living conditions and food shortfalls acquired by the Ministry of Economic Warfare, which was organizing the British wartime blockade of continental Europe, remains unclear, but may have been guarded tightly.⁴³) The sporadic claims about food supplies and the adequacy or inadequacy of ration levels across the Channel remain difficult to verify.⁴⁴ We do know that a few French institutes in Paris and elsewhere continued to carry out nutritional survey work and published their findings

throughout the war, although these results remained inaccessible to Allied scientists until the latter half of 1944.⁴⁵ Even with more solid data on malnutrition as the war drew to a close, tropical medicine and nutrition experts such as Dr Hugh S. Stannus would still comment, 'The conditions of starvation . . . made a complex picture of many unknowns.'⁴⁶ Ultimately, the affliction of inadequate planning never belonged to nutritionists alone, for as Christopher Knowles has concluded in his study of the British Military Government in occupied Germany from 1945 to 1948: 'Faced with the reality of conditions on the ground, plans for a harsh occupation prepared during the war [by both British and US occupation planners] appeared inadequate and were rapidly superseded.'⁴⁷

All these unknowns notwithstanding, Rockefeller Foundation representatives began discussing research opportunities in liberated areas of Europe with British officials such as Jack Drummond as early as the first half of 1942, and some began sketching out scenarios in which Anglo-American nutrition experts would act as a kind of elite 'advance guard' for post-war occupation and reconstruction work. They envisioned scientists and public health experts (themselves included) gathering rapid, targeted reconnaissance on famine and malnutrition levels; small teams of specialists would travel through liberated Western Europe aboard new mobile biochemical testing laboratories, vans they had equipped and modified throughout the war. According to these plans, the teams would quickly assess food needs and direct their partners in the United Nations Relief and Rehabilitation Administration (UNRRA) and the Army about where to provide relief and in what form.⁴⁸ The long-term objective behind these 'nutritional reconstruction' efforts in Western Europe was not merely restoring greater food access to a deprived population; it entailed continuing the work of identifying and refining standards for a desirable, sustainable level of human health. Ambitions once confined to pinpointing vitamin deficiency levels in provincial British towns – Accrington, Chesterfield, Exmouth – now expanded in new directions, with new outlets: helping manage food relief across post-war Europe.⁴⁹

Longstanding methodological disagreements in the scientific community continued, but were now also entangled in ambitious new agendas. The individuals who populated this world of scientific planning ultimately differed in their institutional backgrounds and research priorities. By and by, what seemed at stake for all of them was not just scaling back fatigue and listlessness among schoolchildren and mothers in Lancashire or London factory workers, but managing food relief across a vast expanse of post-war Europe while drawing ever more lessons about the character of malnutrition and deficiency diseases. In fact, some British officials reportedly also foresaw a continuing role for the Rockefeller Foundation, believing its associates could assume 'responsibility for the scientific studies in each occupied country and . . . the nutrition teams might well lead to the development of modern Health Departments'.⁵⁰

While post-war planning had never been a remit of the Oxford Nutrition Survey, both Hugh Sinclair and Peter Meiklejohn were not slow in staking a claim to future peacetime relevance and authority in their field. Both now penned memos and reminders of their availability and suitability for work in Western Europe. In his May 1944 memo on 'Army Nutritional Intelligence Units', Hugh Sinclair counselled caution about relying on local intelligence instead of concrete scientific analyses.⁵¹ Virgil Sydenstricker, too, periodically weighed in. All three men ultimately did succeed in inserting themselves in critical

projects on the other side of the Channel in 1945, albeit with delays and the unforeseen crises of the liberation months. Meiklejohn, loaned to UNRRA's European region Health Division on a temporary basis, was apparently the author of a memo titled 'Plans for Field Work in Medical Nutrition' in early October 1944.⁵² He was hardly naïve or impractical about performing nutritional assessments and 'getting effective relief organised quickly', yet the memo now seems absurdly optimistic. While conceding that local circumstances might prove difficult and unpredictable, the memo suggested assuredly that a rational, efficient organization for 'accurate medical appraisal of nutritional needs' could be undertaken in what had recently been war zones, with enough personnel freed up from army duties to conduct biochemical testing and rapid medical reconnaissance on large civilian populations. Even a year earlier, in November 1943, he pronounced with confidence at a London gathering to discuss post-war nutritional relief,

knowledge of human nutrition has now reached the point where teams of trained investigators can go out and bring back in a relatively short space of time a scientifically acceptable assessment of the state of nutritional health of samples of the population.⁵³

Confidence and miscalculation

For all their self-confidence, growing experience and precision instruments, the investigators studying wartime British nutritional problems had been operating at a long remove from continental Europe. Any fantasies the 'Rockefeller men' may have harboured about smooth-functioning operations in liberated territory were quickly shattered in the latter half of 1944 and early 1945. Alone getting across the Channel from Britain without military credentials proved virtually impossible. London-based Charles N. Leach, eager to see what remained of the foundation's office and staff in Paris, was forced to wait months in the autumn of 1944 until the requisite visas, transportation and local arrangements (including access to meals) were in place for his trip.⁵⁴ Once there, it proved difficult to find a way back to Britain again.⁵⁵ Furthermore, foundation staff found it 'difficult to know who to deal with in France and will be until Government investigations on various individuals have been completed'.⁵⁶ A number of former associates and medical experts faced charges of wartime collaboration or had lost their positions because of their wartime political record.⁵⁷ The ranks of old familiar associates – former Rockefeller Foundation fellows in particular – proved decimated wherever they looked. For instance, visiting Toledo, Spain, in February 1946 to survey nursing education, Leach enquired about the fate of various former fellows going back to the late 1920s. While a number had gone into private practice or held positions in public health, he also learned from a doctor in the city that quite a few had been 'executed by Franco' (including one woman), were in exile or their whereabouts were unknown.⁵⁸ Meiklejohn faced even more protracted bureaucratic problems than Leach in the latter half of 1944. Still on temporary loan to UNRRA, he was pressed into service with the US Surgeon General's office as a consultant to the US Army's Civil Affairs Division. However, the paperwork for his transfer stalled and his status remained in limbo for months. (He ultimately resigned from the foundation to work for UNRRA, quickly ascending to run its nutrition division in 1946).⁵⁹

All bureaucratic hurdles aside, what did these Anglo-American experts actually understand about conditions across the Channel as the war was ending? As we have seen, a number of those who were poised to deploy mobile vans across liberated territories were dismissive of the 'local knowledge' they expected to encounter. As noted above, Sinclair in his Army Intelligence Units memo had declared such information to be 'highly distorted'. And while the size of rations in some occupied countries was known, for instance, he considered it to be of little value 'since a mere description of diets in terms of calories, vitamins, minerals, etc. gives a very inadequate picture of the probable state of health of the people consuming them'. Some information had finally crossed the Channel about recent mortality and morbidity, even about the incidence of particular 'nutritional defects'. Still, he wrote,

information is likely to be scanty and inaccurate, owing to the fact that the clinical side of human nutrition was poorly understood by most European physicians before the war. Some recent accounts, from occupied territories, of the alleged clinical consequences of food make very dubious reading.⁶⁰

The underlying arrogance of such missives seems unwarranted. While the approximate size of rations in some occupied countries may have been known, for instance, nutrition experts in Britain had miscalculated the epicentres of famine and shortages in the last year of the war, long fixing their gaze not only on Western Europe, but on France, the most accessible starting point. With the war still on, Sydenstricker, Sinclair and others in their field had few good choices for assessing the situation accurately. The Rockefeller team's talk of experts riding through liberated Western Europe in mobile research vans nurtured the fantasy that many biochemical puzzles about nutrition had been solved by 1945 and that considerable agreement reigned in the field about the identification and trajectory of malnutrition. Beyond that, many of the old nagging problems of incompatible equipment, research methods and medical interpretations in fact lived on into the post-war era. Despite the extensive investment and faith placed in nutritional research in Britain during the war years, knowledge about nutrition remained partial and imperfect, some distance from (as claimed) a firm understanding of exact human requirements. Studies and sampling had vastly expanded in scale during the war, in part with Rockefeller Foundation and Ministry of Health backing, yet many findings remained tentative and experimental designs were still not uniform from project to project. The difficulty of interpreting data or agreeing on adequate testing protocols and equipment – already mentioned above – remained. Tables of recommended human requirements had been forged on both sides of the Atlantic before the outbreak of war, including guidelines set by a League of Nations commission on human nutritional requirements back in 1936.⁶¹ But here, too, much remained in dispute about the symptoms and evidence for deficiency disease and malnutrition; many evaluations would remain highly subjective and hence problematic, even without political agendas and inter-agency turf wars running interference.⁶²

The war had spurred greater cooperation in Allied scientific communities, yet political differences and self-interest hovered just outside the door. Meiklejohn signalled as much when he concluded in an April 1945 account of wartime France, for instance:

We are not in agreement with the French authorities who maintain that the level of protein consumption during the war years has been responsible for a variety of disturbances of health. It is clear there was no evidence of any widespread famine or starvation at any time during the war years.⁶³

Starvation experts in occupied Germany

The road to 'freedom from want' in the aftermath of the war would long remain strewn with political and logistical obstacles. By the summer of 1945 the most acute initial crisis of the Dutch famine and liberated Nazi camps had passed, but with agricultural production severely disrupted, all of Europe in fact remained on the brink of a food crisis, with ration cards and tickets still in place in many countries for years after the war ended. Some of the scientists populating this wartime story quickly returned to their lives at domestic civilian research institutions. Many of the other Anglo-American scientists in this story in fact stayed on, even when opportunities – for some, the 'research opportunities' (cynically put) to work with starvation cases – gradually evaporated in Europe; they kept an active hand in monitoring civilian health and advising occupation authorities on food policy. Occupied Germany continued to have appeal as a good 'test case'. Food policy would become a particularly key factor in creating political stability in a defeated Germany.⁶⁴ For scientists, claiming a place in occupation-era policy advisory bodies entailed a trade-off. It meant that these men (in most instances men) were forced to reconcile their scientific determinations of optimal human nutrition with what was politically feasible.⁶⁵ The war had deepened their expertise on many levels, but not closed the chasm between those two poles.

At some level the repurposing of Hugh Sinclair's mobile units for gauging nutrition of a population under Allied occupation was surely ironic. Originally developed to measure how the British population was coping with the wartime rationing regime, they were now put to use in measuring the health and fitness of the civilian population in a defeated Germany.⁶⁶ A number of other Allied experts, sent across the Channel in the last months of the war to assess famine and famine relief among occupied populations, – Jack Drummond and Virgil Sydenstricker in the western Netherlands, Charles Leach and A.P. Meiklejohn at Bergen-Belsen – now also turned their energies to evaluating whether the ration levels imposed on Germans and Austrians had been screwed down too low to affect the population's capacity for efficient labour and, hence, some form of recovery and reconstruction.⁶⁷ A Combined Nutrition Committee consisting of British, French and US representatives met every few months beginning in July 1945 until at least October 1947, assiduously gathering in health and nutrition data on a number of German populations. The cast of characters is familiar: the committee's illustrious experts included men such as Hugh Sinclair and Meiklejohn. Assembling to discuss their eighth Combined Nutrition Study in the French and British-US Zones of Germany during the period 12–23 October 1947, the committee found improvement in the nutrition of the urban populations it had surveyed. Minutes of the meeting note that 'no definite cases of famine oedema were observed . . . famine oedema is now very rare', and by October 1947, 'no unequivocal evidence of any important incidence of definite vitamin deficiencies'.⁶⁸

Famine management in a new global order

With local infrastructure and agriculture in ruins across much of the globe in 1945, many experts in nutritional science circles increasingly turned their hopes and energies in the direction of a new set of international relief initiatives: UNRRA; the Food and

Agriculture Organization of the United Nations (FAO); and ICEF or UNICEF, the UN International Children's Emergency Fund created in December 1946.⁶⁹ These arguably brought about a seismic shift in the scope and activities of international philanthropic and charitable agencies.⁷⁰ But the imprint of a global war on humanitarian work, its scale and agents, would endure in both discernible and less visible ways. Meiklejohn had moved on to work as a nutrition consultant at UNRRA for a time, where his endeavours largely focused on parts of Europe. At about the same time the Rockefeller Foundation's International Health Division cut short its investments in nutrition research before closing down the IHD altogether. Still, as some historians have argued, the question of continuities in the humanitarian and public health programmes that 'bridge the aftermath of the First World War and the interwar period with the Second World War and its aftermath are not yet well studied'; the extent to which personnel from the League of Nations moved on to the United Nations and brought practices forged during the interwar years with them demand a closer look.⁷¹ John Farley, in his overview of the IHD's history, argues that the division 'left a legacy of ideas and methods that were carried over into the WHO, particularly into its Global Malaria Eradication Program'.⁷² Ludovic Tournès concurs, writing 'The RF provided UNRRA not only with staff but also with a considerable number of working methods, particularly relating to questions of health, as well as with a network of contacts around the world.'⁷³ The foundation provided expertise during the transition period as the UN was being created and 'a set of working practices on the ground that would serve as operating models for international organisations after 1945'.⁷⁴ Tournès points to the migration of Rockefeller Foundation personnel – Wilbur Sawyer, George Strode and other staff – to the ranks of the new relief agency. Sawyer became the director of the large Division of Health at UNRRA headquarters and aided with the transition to the longer-lived WHO. Others from the ranks of American philanthropy joined the new organization's committees as experts on particular diseases.⁷⁵

The efficacy of the IHD itself seemed destined to fade alongside these developments because, Tournès concludes, 'the health problems resulting from the war were on a scale that could not be tackled solely by a private organisation such as their own, with a modest budget ... and limited logistics'.⁷⁶ To their credit, men such as Sawyer and Meiklejohn recognized that they might now be more effective on a different playing field, the latter moving on to management of scarce food resources in occupied western Germany. IHD funding for scientific research and facilities was reactivated in many places, but former fellows from Germany were given the cold shoulder for a lengthy period.⁷⁷ Regardless, increased US government spending on 'big science' in the emerging Cold War era meant that the critical role of the IHD in global public health and science would continue to diminish, and the division was finally closed down in 1951, unable to 'reinvent itself' in step with the times.⁷⁸

From some perspectives, the wartime cooperation fostered by IHD initiatives soon proved fragile as well. US government support for UNRRA ultimately faltered and US leaders pursued a number of parallel global relief projects that found less favour across the Atlantic. President Truman – in a move that signalled hostility towards the plans sown by Sir John Boyd Orr and the FAO – called upon former president Herbert Hoover (still revered as a kind of domestic saint for his relief work after the First World War) to grapple with the looming global food shortage of the post-war period.⁷⁹

Accompanied by many figures from his old American Relief Association 'fraternity' – which had addressed the post-1918 food crises – Hoover went on several whirlwind missions to survey shortages and food stockpiles in Europe, Asia and South America in 1946 and 1947, in one case visiting high officials in 38 countries in just 76 days. Estimating relief expenditures remained a scientific and technical problem, as before, but brought a new set of 'unknowns'. They were also enmeshed in a wholly new set of high politics and sharp global divisions, above all the battlefields of the Cold War and decolonization. The links of private humanitarian organizations to governmental and intergovernmental agencies certainly operated with some continuity from the war years, but were soon negotiated anew. New subsistence crises and manifestations of food insecurity erupted across the globe, prompting scientific experts, private relief agencies and public policy makers to again calculate the price of war and peace.

Notes

1. Assessment efforts around health in Europe continued, but faced great constraints. See Borowy, *Coming to Terms with World Health*, 432–5. On earlier LNHO work, see Barona, *The Rockefeller Foundation*, 103, 105.
2. Parallel projects at the highest government levels to discuss and prepare estimates of post-war needs, both domestic and international, included the Inter-Allied Post-war Requirements Committee (formed in 1941 with representatives of several European governments-in-exile) and UNRRA (officially formed in November 1943). Some overlap existed in their leadership and ranks, with Sir Frederick Leith-Ross, chief economic adviser to the British government, holding prominent roles in both. See Inter-Allied Committee on Post-war Requirements, "Report to Allied Governments" (June 1943) (London: n.p., 1943), Appendix 1; Leith-Ross, *Money Talks*, 289–90, 294–301; Shephard, *The Long Road Home*, 33–4, 51; Milward, *War, Economy and Society*, 282, echoes Woodbridge, *UNRRA*, I, 328–9, on the difficulties of making clean comparisons between different countries. Woodbridge, *UNRRA*, I, 324, also remarked that 'as many different sets of conclusions on [postwar import needs] were developed as there were groups calculating them'. Unclear is the degree to which major Jewish philanthropies such as the Joint Distribution Committee were consulted about their own projections.
3. The board aimed for improved efficiency and accountability in the voluntary sector. See Curti, *American Philanthropy*, 452–6. Cf. Kelly Spring's essay, this issue, on the Council of British Societies for Relief Abroad (COBSRA), formed during the war.
4. On government programmes of foreign assistance and cultural exchange expanding after the Second World War, see Rosenberg, "Missions to the World," 251–2, 256.
5. After the First World War, the Rockefeller Foundation made its last grant to the European feeding programme of the American Relief Administration (ARA) and stopped funding immensely costly war relief. See Weindling, "Philanthropy and World Health," 271, and cf. 278.
6. Farley, *To Cast Out Disease*, 128ff.; and Tournès, "The Rockefeller Foundation and the Transition," 331–2. Limited financing of German scientific projects continued into the 1930s after the Nazis came to power before grinding to a halt. The record of the foundation's support for refugee and displaced scholars and scientists from Germany and Austria is mixed, with historian Paul Weindling giving the organization poor marks. Weindling, "An Overloaded Ark," 478, 480, 483, 488–9.
7. On the slow withdrawal from Europe, see Weindling, "Out of the Ghetto," 210; Farley, *To Cast Out Disease*, 129–33. Cf. Tournès, "The Rockefeller Foundation," 336.
8. Tournès, "The Rockefeller Foundation," 331, 333.

9. Lizzie Collingham's 2011 study points to the new rise of nutrition experts: 'Obscure nutritionists suddenly found themselves in positions of power within government and the military and were able to exert varying levels of influence on food policies.' Collingham, *Taste of War*, 10, and cf. 352–3, 395. By contrast, Vernon in *Hunger*, 124ff., argues that the influence of nutritionists in government policy circles had already taken hold in the early 1930s rather than at the outbreak of the Second World War, yet he also concludes that nutritional scientists significantly redefined the parameters of poverty and health in the 1940s.
10. Schneider, "The Men Who Followed Flexner," 50. Cf. Weindling, "Out of the Ghetto," 219.
11. Fisher, "The Rockefeller Foundation," 26–8; and Schneider, "Introduction," 5.
12. On some of the major nutrition research projects in Britain, see Smith, "Nutrition Science and the Two World Wars," and Weatherall, "The Foundation"; McCance and Widdowson, "An Experimental Study"; and Shave, "The Carnegie Dietary Survey," 71–9.
13. Barona, *Rockefeller Foundation*, esp. 87–92, 127–35.
14. *Ibid.*, 134.
15. See, e.g. "Problems of Health in Europe," *The Lancet* (29 April 1944): 576–7, an account of an April 1944 talk delivered to the London Association of the Medical Women's Federation by Dr Neville Goodman, deputy director of health in the London office of UNRRA.
16. See, e.g. Steinacher, "Weapon of Last Resort," esp. 158–68.
17. Farley, *To Cast Out Disease*. For a more popular account, see Williams' *The Plague Killers*.
18. Farley, *To Cast Out Disease*, 7, 295. The name of the IHD was changed a few times: Barona, *The Rockefeller Foundation*, 20.
19. Schneider, "The Men Who Followed Flexner," 24, 26.
20. On the foundation as 'a major force in facilitating the international mobility of scientists', see Weindling, "An Overloaded Ark," 477; Weindling, "Philanthropy and World Health," 269; Lin, David and Rodogno, "Fellowship Programs." Scholars such as Ludovic Tournès have begun assessing the history of the Rockefeller Foundation's fellowship programme in greater detail; it provided over 17,000 fellowships to scientists and professionals from over 88 countries between 1917 and 1970. See <https://heraldsofglobalization.net/> (accessed 28 March 2022).
21. Amrith, *Decolonizing International Health*, 25. Cf. Dubin, "League of Nations," 67–9, 72. On the importance of RF funds for the LNHO, see also Barona, *The Rockefeller Foundation*, 29, 51–2, 57–8, 87; and Fisher, "The Rockefeller Foundation," 39.
22. Cf. Farley, *To Cast Out Disease*, 2; and Birn and Fee, "The Art of Medicine," 1618.
23. On the Foundation's support for schools of hygiene and medicine, see Farley, "International Health Division," 217.
24. On the role of Sir William Wilson Jameson (1885–1962) in helping plan the post-war National Health Service, see Sanger, *Malcolm MacDonald*, 189, 191; and Sheard and Donaldson, *The Nation's Doctor*.
25. Leach, an American, had just moved to the Philippines to bring a consignment of yellow fever vaccine to the Dutch Navy when the Japanese invaded. He spent 1942–43 in captivity in Manila before being released in a mid-war prisoner exchange.
26. During his time in Boston he served as an instructor at Harvard Medical School (1940–41) and biochemistry at Harvard College. See also Reinisch, *Perils of Peace*, 181–5.
27. Ewin, *Fine Wines*, 301–2. On the origins of the Survey (to be taken with a grain of salt), see Sinclair, "Nutritional Surveys," and cf. Ewin, *Fine Wines*, 315. Hugh Macdonald Sinclair (1910–90) continued his work on nutrition in the Netherlands and occupied Germany at the end of the war before returning to Oxford.
28. Sydenstricker had arrived in Britain in March 1942. Pellagra, a condition characterized by dermatitis and more extreme ailments that can ultimately lead to death, is caused by a chronic lack of niacin (vitamin B3) or tryptophan, an amino acid. See Feldman, "Virgil P. Sydenstricker." He would later join UNRRA.

29. The survey was financed primarily by the Ministry of the Health, the Medical Research Council under Sir Edward Mellanby, the Nuffield Trust and the Rockefeller Foundation's International Health Division. The Berkshire, Buckinghamshire and Oxon Regional Health Council and Oxford University also contributed some salaries and expenses. It was housed at Oxford University and later became the basis for a university institute for the study of human nutrition.
30. See Zweiniger-Bargielowska, *Austerity in Britain*, esp. 9–59, for an overview of rationing in the country.
31. Rockefeller Archive Center (hereafter RAC), "Report for July 1, 1943–June 30, 1944," RG 1.1, series 700, box 6, folder 32.
32. Periodically the government commissioned Survey personnel to pursue more discrete analyses of soldiers and sailors as well, to determine how they had fared under certain wartime regimes.
33. See RAC, Oxford Nutrition Survey, "Summary of Projects Undertaken 1941 May –1945 October" (typescript), RG 1.1, series 700, box 10, folder 79. On Sydenstricker's movements, see Robert B. Greenblatt, M.D. Library (Augusta, Georgia), V.P. Sydenstricker scrapbook, UNRRA travel authorization forms, Sydenstricker papers.
34. Sir Jack Drummond (1891–1952) served as nutrition advisor to Supreme Headquarters, Allied Expeditionary Force (SHAEF) beginning in 1944 and subsequently to the Allied Control Commission for Germany, though he maintained a connection to the Ministry of Food until after the war.
35. RAC, "Report, July 1, 1943–June 30, 1944," RG 1.1, series 700, box 6, folder 32.
36. RAC, Virgil P. Sydenstricker diaries, 1942 and 1943, RG 1.1, series 700, box 4, folder 28, and box 5, folder 29.
37. RAC, Meiklejohn diary, 5 December 1942, RG 1.1, series 700, box 5, folder 29; RAC, A.P. Meiklejohn, "Report on the State of Nutrition in France, 1941 to January 1945" (typescript, 20 April 1945), RG 1.1, series 700, box 8, folder 47, pp. 40, 43.
38. Cf. the comments on different observers reaching different conclusions about nutritional status in "Nutrition, War, and Poverty," *The Lancet* (23 December 1944): 825–6.
39. Further research is needed on the reception of the knowledge generated by colonial medical researchers and subsistence crises (such as the wartime Bengal famine), and on how many scientific investigations of nutrition had been 'exported' to colonial venues in the 1930s and beyond. See Collingham's commentary in *Taste of War*, 141–54.
40. This article will not catalogue these developments or the many important studies of German agrarian and food policy and the mass starvation of non-Jewish European populations living under Nazi occupation, including work by such historians as Christian Gerlach, Karel C. Berkhoff, Christian Streit, Alex J. Kay, Gesine Gerhard, Violetta Hionidou and Henri A. van der Zee. For a recent overview on the scale of famine and starvation caused by the Nazis (and in the Pacific conflict), see Collingham's sweeping comparative study of food and the nations at war during the Second World War in *The Taste of War*, e.g. 5, 7, 32–48, 180–99, 204ff., 303.
41. See, e.g. RAC, "Report on RFHC, June 29, 1940–June 30, 1941," RG 1.1, Series 700, box 11, folder 71.
42. Lániček, "Help for the Ghettos," 86–7, 89.
43. See the defensive position taken by the 3rd Earl of Selborne, Minister of Economic Warfare, in "Malnutrition in Occupied Countries" (parliamentary report), *The Lancet* (25 March 1944): 246. On the blockade, see Hindley, "Blockade before Bread," and cf. Zweig, "Feeding the Camps."
44. For instance, Lord Horder offered some very disparate examples in a House of Lords query about food supplies in enemy-occupied countries; see "Malnutrition in Occupied Countries," *The Lancet* (25 March 1944): 246, and cf. comments by Dr G. Bourne, University Laboratory of Physiology, Oxford, at a 6 November 1943 scientific meeting on "Post-War Nutritional Relief," *Proceedings of the Nutrition Society* 2 (1944): 189–90.

45. Leach reported that on 25 September 1944, he met with a colleague freshly returned from Paris, who brought with him a report from the Institut national d'hygiène in Paris and dozens of reprints from its sister organization in Marseilles. The former, with a staff of 110, 'continued to carry on throughout the German occupation'. RAC, Charles N. Leach (hereafter CNL) diary 1944, RG 12, box 263, folder "Leach 1944-1946." Cf. Farley, *To Cast Out Disease*, 135n3; and Tournès, *The Rockefeller Foundation*, 331-3, 335, 342-3.
46. On the May 1945 forum on the treatment of starvation at the Royal Society of Medicine, see "Reports of Societies, Physiology and Treatment of Starvation," *British Medical Journal* 1 (9 June 1945): 818.
47. Knowles, *Winning the Peace*, 14, and cf. 16-17, 21-2, 27, 29. On the Allied armies' earlier poor planning and incompetence in providing for the civilian population in Italy, see Shephard, *The Long Way Home*, 43-4. See also Steinert, "British Humanitarian Assistance," esp. on wartime investments in UNRRA, the COBSRA initiative and relief work training.
48. Ultimately, UNRRA's relief operations in the 'European region' stretched from Ethiopia and Cairo to the Balkans, Hungary and the Byelorussian and Ukrainian SSR, but limited its work in much of Western Europe to running hundreds of displaced persons camps after the war ended. The organization also conducted operations in East Asia, above all in China, the Philippines and Korea. See Woodbridge, *UNRRA*, II, 81-361, 371ff.; UNRRA, *Fifty Facts*.
49. Studies of human nutrition had already emerged in the late nineteenth century and centred on improving work efficiency in societies turning to mass industrial production, as well as on the health and fitness of military recruits. Some major breakthroughs in analysing deficiency diseases were rooted in research performed in colonial settings (e.g. the work of the Dutch military doctor Christiaan Eijkman). See Amrith, *Decolonizing International Health*, 28. Some of the researchers in Europe who came together under the umbrella of the League of Nations to discuss minimum standards of human health had experiences of health conditions in colonial sites.
50. RAC, letter, Hugh Smith to W.A. Sawyer, 24 August 1942, RG 1.1, series 700, box 9, folder 59. The impetus for this surging preoccupation with the post-war is unclear.
51. RAC; Hugh Sinclair, Oxford Nutrition Survey, "Army Nutritional Intelligence Units (Preliminary suggestions)," 30 May 1944, RG 1.1, series 700, box 10, folder 62; letter, Hugh Sinclair to CNL, 15 February 1945, RG 6.1, series 2.1, box 10, folder 79.
52. RAC, mimeo, RG 1.1 series 700, box 12, folder 83.
53. *Proceedings of the Nutrition Society* 2 (1944): 211, 212.
54. RAC, CNL diary, autumn 1944, RG 12, box 263, folder Leach 1944-1946.
55. Curti, *American Philanthropy*, 488, also writes that voluntary agencies 'faced a tangled knot of problems' in trying to rush immediate relief into occupied nations. Steinert, "British Humanitarian Assistance," 424-32, however, offers concrete examples of civilian relief units and teams already arriving on the continent in the autumn of 1944, e.g. under the umbrella of the British Red Cross and Quakers.
56. RAC, CNL diary, 24 November 1944, RG 12, box 263, folder Leach 1944-1946.
57. RAC, CNL diary, 11 November 1945, 4 December 1945, 15 January 1946, RG 12, box 263, folder Leach 1944-1946.
58. See RAC, CNL diary, February 1946, RG 12, box 263, folder Leach 1944-1946. Cf. Barona, "The Rockefeller Foundation, Social Policies," 55.
59. Farley, *To Cast Out Disease*, 11, 17, 144. Foundation official Wilbur Sawyer became UNRRA's director of health in 1944; regional director Fred Soper worked for the WHO. UNRRA itself was a short-lived transitional agency and lost US funding at the end of 1946.
60. RAC, Hugh Sinclair memo, "Army Nutritional Intelligence Units (Preliminary suggestions)" (30 May 1944), RG 1.1, series 700, box 10, folder 62.
61. See Sebrell, "Recollections," 25; obituary for the US public health leader W. Henry Sebrell, *New York Times*, 30 September 1992. For virtually every vitamin or nutrient and for calcium and iron, the 'official' recommended daily intake levels were different, depending on whether they had been set by the League of Nations Technical Commission in 1937, the

- Americans' National Research Council in 1941, the Combined Working Party in 1944 (consisting of UK, US and USSR agreements), or the French standard set by the 1944 Simmonet nutrition committee in 1944.
62. See, e.g. RAC, Virgil P. Sydenstricker, "Report on Nutrition Surveys in Great Britain" (typescript, 1943), RG 6.1, series 700, box 10, folder 79. For a fascinating account of how human malnutrition and suffering came to be measured later in the twentieth century, particularly by the United Nations Refugee Agency (UNHCR), see Glasman, *Humanitarianism*, esp. 28–9, 92–7.
 63. RAC, A.P. Meiklejohn, "Report on the State of Nutrition in France, 1941 to January 1945" (typescript, 20 April 1945), RG 1.1, series 700, box 8, folder 47, pp. 23ff., esp. 29, 35.
 64. Cf. Weinreb, *Modern Hungers*; Reinisch, *Perils of Peace*.
 65. The projects to which Meiklejohn was connected appear to have used women largely as tertiary support staff rather than as leaders in designing medical research; elsewhere in British nutrition research circles, a number of women in Britain did gain renown in the interwar years.
 66. Details on these deployments exceed the boundaries of this article. On German civilian health policies under Allied occupation and before West Germany's 'economic miracle', see Steinert, "Food and the Food Crisis," 266–88, and Reinisch, *Perils of Peace*.
 67. This article will not discuss parallel US mass mobile nutritional surveys of the German civilian population in the months after the end of the war in Europe, e.g. by scientists attached to the Nutrition Division of the US (Army) Medical Corps, a future project.
 68. Combined Nutrition Committee, "Report of the Eight[h] Combined Nutrition Survey of settled areas in the French, British-U.S. Zones of Germany made during the period '12 to 23 October 1947" (25 October 1947), in the US National Archives and Records Administration, College Park, Maryland, RG 260 (OMGUS), entry 157, box 828, pp. 7, 9. Committee members complained: 'We have been profoundly dissatisfied with the low standard of accuracy and objectivity of some of the data presented to us by nutrition survey teams which are sometimes entirely under the control of German workers. We believe it is of the highest importance to have exact scientific information concerning the state of nutrition of the German people.'
 69. Important as these projects were, Nick Cullather's recent contention that 'The construction of a postwar order began with food' remains open for debate. Cullather, *Hungry World*, 34.
 70. Some historians paint the early UNRRA organization as quite disorganized and incompetent, with many competing agencies fighting for power and short supplies as the war dragged on longer than expected. See Shephard, *The Long Road Home*, 54–7; Woodbridge, *UNRRA*, I, 323.
 71. Rodogno, Struck and Vogel, "Introduction," 11.
 72. Farley, *To Cast Out Disease*, 284, and cf. 296, 298. He also acknowledges the influence of the IHD's 'narrow biomedical approach' to public health and its 'medicalization'. A number of the men featured in Farley's account such as Sawyer and Strode died soon after the war; Sawyer resigned in 1944 and died in 1951, Strode retired in 1951 and lived only a few more years.
 73. Tournès, *The Rockefeller Foundation*, 324.
 74. *Ibid.* and cf. 331, 333, 339–40.
 75. *Ibid.*, 334–5; and Woodbridge, *UNRRA*, III, 6.
 76. Tournès, *The Rockefeller Foundation*, 332.
 77. Weindling, "Out of the Ghetto," 217, 219.
 78. Schneider, "Introduction," 2; Schneider, "The Men Who Followed Flexner," 50; Mueller, "The Rockefeller Foundation."
 79. On mainstream US hostility to Boyd Orr and the idea of a World Food Board, see Jachertz and Nützenadel, "Coping with Hunger," esp. 111. On Boyd Orr's post-war vision for the board, see, e.g. Collingham, *Taste of War*, 482–3; Vernon, *Hunger*, 154–7. For a short account of Hoover's work in this period, see Curti, *American Philanthropy*, 478–80.

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Disclosure statement

The opinions expressed here are my own and not necessarily those of the United States Holocaust Memorial Museum.

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