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Chapter II

The Backdrop of UN Nutrition Agencies

...no one who undertakes to study, as we have done, the evidence which is available regarding the nutrition of colonial peoples can fail to be deeply impressed by the great range and complexity of the problem and by the extent to which our knowledge of it is still imperfect and incomplete...where the facts of the problem are clear the solution may still await discovery...the problem of malnutrition is still to a considerable degree also a scientific problem.

Nutrition in the Colonial Empire, a report by the Committee on Nutrition in the Colonial Empire, London, 1939¹

Introduction

A number of circumstances between W.W.I and W.W.II allowed large-scale international co-operation on nutritional health issues to move ahead for the first time. In this chapter I shall touch on many of the individuals, ideologies, events, and investigations which became the bedrock on which UN agencies involved in nutrition formed. The International Institute of Agriculture (IIA), created in 1905 by David Lubin, a Polish-American merchant, was the first international, intergovernmental organization to demonstrate interest in agricultural issues.² Although the IIA did not work tactically on nutrition as would the Health Organisation of the League of Nations (HOLN), its work, particularly after W.W.I, contributed to raising international consciousness of agricultural concerns linked to health.³

Historian Michael Worboys argued cogently that malnutrition was "discovered" between the wars. According to him, "the direct transfer of the 'dietary

¹*Nutrition in the Colonial Empire, First Report-Part I*, London, His Majesty's Stationery Office, 1939, p. 133.

²R. W. Phillips, *FAO: its origins, formation and evolution 1945-1981*, Rome, FAO, 1981, p. 3. IIA was situated in Rome, future site of all other major international food and nutrition agencies.

³Although Weindling and Dubin have adopted the term "The League of Nations Health Organisation" (LNHO) to refer to this agency, the historically correct term is The Health Organisation of the League of Nations. See: Martin David Dubin, 'The League of Nations Health Organisation', in Paul Weindling (ed), *International health organisations and movements, 1918-1939*, Cambridge, Cambridge University Press, 1995, pp. 56-80, and Paul Weindling, 'The Role of International Organizations in Setting Nutritional Standards in the 1920s and 1930s', in H. Kamminga & A. Cunningham (eds), *The Science And Culture Of Nutrition, 1840-1940*, Amsterdam and Atlanta, Editions Rodopi B. V., 1995, pp. 319-332.

survey' from the centre to the periphery" resulted in the widespread discovery of malnutrition in the Colonial Empire.⁴ Worboys explained that a science of nutrition, called "the new science of nutrition", was required to analyze and essentially establish the existence of malnutrition in the colonies. These important findings followed W.W.I, which in part had led to the formation of the HOLN, situated in Paris.⁵ Initially the HOLN dealt with health problems in Europe and North America, particularly the spread of epidemics such as cholera, measles, and tuberculosis. In the area of nutrition, there was scattered work on international nutrition issues which appeared in the *Quarterly Bulletin of the Health Organisation*. Overall, concern for nutrition -- both scientific and political -- generally remained in the realm of technologically developed countries.⁶ Thus, although malnutrition may have been discovered in the developing countries *before* W.W.II, its treatment there would have to await the programmes and policies of a post-war world.

In the *Progress of the Science of Nutrition In Japan*, one of the few nutritionally-oriented reports the HOLN published during the 1920s, the editor wrote that nutritional problems could be classified under two major headings: physiological and economic. From the physiological perspective he advocated the need for scientific information on what the human body requires and how the necessary nutrients could best be obtained. From the economic perspective, he called for information about how these essential foods could "most profitably [be] utilized in conformity with the economic resources of each country."⁷ This statement, along with others from the HOLN and other sources, hoisted the dichotomy in the dialogue about nutrition -- economics versus science -- above the heads of politicians and scientists. All comprehensive debate on hunger that followed included some mention of these pivotal issues.

⁴M. Worboys, 'The discovery of colonial malnutrition between the wars', in D. Arnold (ed), *Imperial medicine and indigenous societies*, Manchester and New York, Manchester University Press, 1988, 208-26, on p. 222.

⁵For a basic description of the formation of the HOLN see Martin David Dubin, *op. cit.*, note 3 above. See also: Neville M. Goodman, *International Health Organizations And Their Work*, 2nd ed., Edinburgh and London, Churchill Livingstone, 1971, pp. 107-37.

⁶Saiki's 1926 book, *The Progress of the Science of Nutrition in Japan*, well displayed the type of work which interested nutritionists at the HOLN. Among the chapter titles are: 'The basal metabolism of common labourers', 'The biological value of the nitrogenous substances found in our main vegetable foods', and 'Vitamin content of Japanese food materials'. These titles point clearly to the already super-scientific state of nutrition in the industrialized world. The community problems or public health problems which might very well have been placed in the realm of the nutritionists, were taken out, sequestered, and left to activists and a few pioneering nutritionists to publicize. T. Saiki (ed), *Progress Of The Science Of Nutrition In Japan*, Geneva, League of Nations, 1926.

⁷*Ibid.*, p. 5.

By the early-1920s, groundbreaking scientific work in vitamins had led researchers to view several infectious diseases, and good health itself, in nutritional terms. In 1921 Robert McCarrison wrote of a holistic view of health which considered nutrition central. According to McCarrison, "many of the infectious scourges to which human beings are subject - such, for example, as infantile diarrhoea and tuberculosis" require both analyses of the pathogenic organism as well as the dietary state of the sufferer.⁸ For him, diet was as much a determinant for disease as the pathogens themselves, and the doctor of the 1920s onward would have to be nutritionally knowledgeable in order to be effective. Thus the medical practitioner had summary prescriptions for nutrition in the household which the affluent public seemed to digest rather easily. It was widely accepted as kitchen science that infant growth "both in stature and in wisdom was directly related to their food."⁹ Beyond such a basic premise, there was a tacit understanding in the medical community that this new science was uncovering how "the lack of particular constituents in the diet could interfere with normal growth".¹⁰ As far as many scientists were concerned, this comparatively "new" development in science -- linked tightly to vitamin research -- had been singularly the product of twentieth century research.

Politics

During the 1930s England was the epicentre of a nutritional movement which anticipated debates to be heard in the developing world two decades later. Among organizations active in England, The Committee Against Malnutrition and the Children's Minimum Council espoused an ideology implicating poverty -- essentially economic inadequacies -- as the root cause of poor diets and malnutrition. Initially the British government and conservatives vehemently responded that ignorance, exacerbated by educational and moral deficiencies, was the true cause.¹¹ These contrasting views translated into diametrically opposed methods for nutritional

⁸R. McCarrison, *Studies In Deficiency Disease*, 1st ed, London, Henry Frowde And Hodder & Stoughton, 1921, p. 4.

⁹J. A. Nixon, 'The Influence of Food on the Production and Prevention of Disease', *The Bristol Medico-Chirurgical Journal*, 1930, XLVII(178), pp. 256-86.

¹⁰*Ibid.*

¹¹David Smith, 'The Food Leaders Scheme, 1942-52', in Elaine M. Prisk (ed), *The Urban Context. Proceedings of the XII International Home Economics and Consumer Studies Research Conference*, 1, Liverpool, John Moores University, 16-19, 1992. See also: D. Smith and M. Nicolson, 'Nutrition, education, ignorance and income: a twentieth-century debate,' in H. Kamminga & A. Cunningham (eds), *The Science And Culture Of Nutrition, 1840-1940*, Amsterdam and Atlanta, Editions Rodopi B. V., 1995, 288-318.

improvement during the 1930s: one side lobbied for economic progress frequently without an eye toward nutritional education, while the other pushed solely for education.¹² This very public debate moved to an international level after W.W.II as a number of individuals who participated provided leadership in the international health organizations founded during and after W.W.II.¹³

John Boyd Orr, a Scottish nutritionist, was one of the most influential players in nutritional issues in Britain, and later, in the world. Born in 1880, Orr passed through his adolescence and early adulthood witnessing evidence of malnutrition in the children and adults of urban Glasgow.¹⁴ His first-hand observation of poverty impressed him and planted the seeds of his later nutritional advocacy. Orr came to direct the Rowett Research Institute in Aberdeen which, in 1927, he guided into human nutritional studies on the nutritional value of cow's milk.¹⁵ Working along with David Lubbock, his dynamic nutritionist son-in-law, he made a public name for himself by demonstrating that free milk could significantly improve the health of school children, particularly of those from poor families. As a result of their work and fervent advocacy, in 1931 the House of Commons authorized Scotland to improve childhood health by providing inexpensive or free milk to all school children.¹⁶ By 1936, when Orr's seminal tome, *Food Health and Income*, went to press, he had become an effectual and respected figure in the British public eye.¹⁷ Rallied by Orr's assertions that nearly one third of British people did not have sufficient income to support an adequate diet, the book quickly went on to be one of the most innovative and influential pieces on nutrition before W.W.II.¹⁸ *Food Health and Income* was the first detailed scientific report to show the magnitude of the poor state of nutrition in Britain.¹⁹ It broke new ground for the interaction of nutritional science and policy by illuminating a direct relationship between its title's three elements. Orr's resulting proposal suggested that development must rely on a number of factors such as

¹²Ibid.

¹³Smith has comprehensively illustrated the interactions of nutritional science and policy between the wars as well as the roles of significant British nutritionists. See: David Smith, 'Nutrition science and the two world wars', in David Smith (ed), *Nutrition in Britain*, London and New York, Routledge, in press, pp. 143-66.

¹⁴John Boyd Orr Baron Boyd Orr of Brechin Mearns', in *Biographical Memoirs of Fellows of the Royal Society*, London, The Royal Society, 1972, 18, 43-81, pp. 45-6.

¹⁵Ibid., p. 58.

¹⁶J. B. Orr, *As I Recall*, London, Macgibbon and Kee, 1966, pp. 114-15.

¹⁷J. B. Orr, *Food health and income: report on a survey of adequacy of diet in relation to income*, London, Macmillan and Co. Limited, 1936.

¹⁸Orr, op. cit., note 14 above, p. 60.

¹⁹Orr, op. cit., note 16 above, p. 17.

improved socio-economic status and other factors previously dismissed as irrelevant to improvements in health and nutritional status.

Orr's work formed the crest of an information wave containing an abundance of new data on the nutritional condition of people in the world. His work rapidly inspired dozens of countries to undertake similar research. One of Orr's peers, Edward Mellanby, also became a leading political figure in nutrition, though his scientific work was more intricate and superficially less pragmatic. Nevertheless, Mellanby was the consummate scientist-politician, perpetually weaving advances in nutrition into a political framework for the evolution of sensible nutritional policy. Like Orr, Mellanby's initial work was domestic in scope. Whereas Orr's work was very much socio-economic, Mellanby's was astutely scientific. While secretary of the Medical Research Council (MRC), Mellanby rhetorically avoided generalizations and consistently acknowledged the gaps of knowledge in nutritional science. Although he stated in 1934 that, according to current diagnostic techniques, a large proportion of British people suffered from malnutrition, he nevertheless declared that lapses in nutritional knowledge and diagnosis placed the nation "at an impasse on this problem of malnutrition."²⁰ Mellanby believed that the flood of recent nutritional research had not rendered the formulation of nutritional policy in Britain any easier.²¹ Central to the gap in nutritional understanding, wrote Mellanby, was a lack of nutritional data which could formulate standards for adequate nutrition.²²

The Health Organisation of the League of Nations

Mellanby's call, along with the inspired message from Orr and others of the need for improved nutritional policy, rang loudly in the halls of the recently formed HOLN, which published the first internationally-sanctioned and approved dietary requirements in 1935.²³ W. R. Aykroyd, later the director of FAO's Nutrition

²⁰Edward Mellanby, *Nutrition and Disease*, 1st ed, London, Oliver & Boyd, 1934, pp. 74-5.

²¹Mellanby reflected on the weakness of the current scientific position: "We know too much to take the older views as to the criteria of malnutrition seriously, [views correlating height and weight to malnutrition] and we know too little to lay down specific rules as to what criteria should be used according to recent knowledge." *Ibid.*, p. 75.

²²*Ibid.*

²³Weindling, 'The Role of International Organizations in Setting Nutritional Standards in the 1920s and 1930s', *op. cit.*, note 3 above, p. 325. Mellanby's influence on the HOLN increased in 1933 when he assumed his post at the MRC. The HOLN was founded in 1923 and was stationed in Geneva. In its original stated objectives, nutrition did not figure into the organisation's *raison d'être*. By 1926 the HOLN had worked primarily on epidemic diseases throughout Europe and had comparatively little if any experience in Latin America, Asia, or Africa. No programmes to date had targeted nutritional

Division, commented in 1946 that "Actually nutrition made its first appearance in the international sphere at the Assembly of the League of Nations in 1935".²⁴ The HOLN had an extremely limited nutritional programme which focused on nutritional standards and on the socio-economic determinants of good health. Under the dynamic leadership of Ludwik Rajchman, the HOLN's nutrition programme expanded through the 1930s with thirty-nine nutritionally-related publications in 1936 alone, up from a total of twelve for 1924-1931.²⁵

Perhaps more important than its publications, the HOLN brought more British scientists into the international nutritional policy fold, including Aykroyd, then the Director of the Nutrition Research Laboratories in Coonoor, India, whom Rajchman hired to formulate an international nutritional policy.²⁶ The innovative and unusual nature of the HOLN -- an impressively autonomous international health organization sanctioned by more countries than any previous attempt -- served well to mould and be moulded by great nutritionists who would come to dominate the international field.²⁷ The nutrition work of the HOLN, which was primarily conducted in British research institutions, buttressed and expanded the shocking findings of prevalent

concerns. See: *Handbook of International Organisations*, Geneva, League of Nations, XII B.1, 1927, pp. 17-18. Due to the influence of F. L. MacDougall, a friend of Orr's and advisor to High Commissioner for Australia in London, Orr served on the committee which produced these standards in 1935. 'John Boyd Orr Baron Boyd Orr of Brechin Mearns', op. cit., note 14 above, p. 60.

²⁴Wallace R. Aykroyd, 'Nutrition and poverty - a brief world survey', October 1946, FAO Archives, 57.1D1, p. 1.

²⁵Weindling, 'The Role of International Organizations in Setting Nutritional Standards in the 1920s and 1930s', op. cit., note 3 above, pp. 321-23. Weindling reported that Rajchman's interest in nutrition dated to his work with Funk at the Warsaw Institute of Hygiene. This association along with others suggest that the networks of nutritionists and scientists interested in nutrition were remarkably small and well-connected. Rajchman is today increasingly recognized as having been one of the world's great international health advocates. For a comprehensive biography see: Marta Aleksandra Balńska, *Une Vie pour L'humanitaire: Ludwik Rajchman (1881-1965)*, Paris, Editions la Découverte, 1995. Although the HOLN claimed in 1935 that it had considered "the question of the best possible feeding of the greatest number" for ten years, an examination of publications and committees suggests, to the contrary, that such questions were not thoroughly examined before the 1930s. See: *Nutrition Considered in Relation to Public Health And to Economic Conditions*, Geneva, Information Section, The League of Nations, 1935, p. 5.

²⁶Anne Hardy, 'Beriberi, Vitamin B1 and World Food Policy, 1925-1970', *Medical History*, 1995, 39, 61-77, on p. 65. See also: 'Report on the work of the health organisation between June 1938 and April 1939 and on its 1939 programme', *Bulletin of the Health Organisation*, 1939, VIII(1-2), 1-86, on p. 28.

²⁷For explanations of the special autonomy the HOLN enjoyed due to its leadership and close ties to the Rockefeller foundation, see Paul Weindling, 'Social medicine at the League of Nations Health Organisation and the International Labour Office compared', pp. 134-53, and Martin David Dubin, 'The League of Nations Health Organization', pp. 56-80, in Paul Weindling, (ed), *International Health Organisations And Movements 1918-1939*, Cambridge, Cambridge University Press, 1995.

malnutrition in the industrialized countries, though fell far short of reinforcing sparse work on the topic in the developing world.²⁸

During the mid-1930s, the HOLN initiated international nutritional studies -- the first of their kind. Apparently influenced by Orr, in 1935 it published *Nutrition Considered In Relation To Public Health and to Economic Conditions*.²⁹ This vague rhetorical committee report called for a broad policy of nutritional improvement to be heralded by economic improvements, nutritional education, and increased food supplies. It well reflected the clashing currents fuelled by those who saw malnutrition as a problem of ignorance, and by those who saw it as problem of economics.³⁰ The report also highlighted the important, though frequently subservient, role of women in shaping future nutritional concerns around women and children. One prominent female member of the committee called for an emphasis on the nutritional needs of infants and pregnant and lactating mothers. In spite of her pleas, the committee frigidly stated that "nutrition in infancy, childhood and adolescence must be planned...In the case of adults, these [nutritional] needs will have to be considered in connection with age, sex, and the nature of employment."³¹ Thus, far from making the nutrition of mothers and children a research priority, as future committees would do, this committee broadly stipulated the need for universal nutritional requirements.

In 1936, the HOLN technical committee published 'Report on the physiological basis of nutrition' which coincided with the publication of *The Problem of Nutrition*.³² These documents pointed to the emergence of nutrition as far more than a domestic issue of concern and began to frame the problem of nutrition as one involving colonial powers in the developing world. They expanded the conceptualization of nutrition issues from the domestic and internationally unilateral realm to the developing multinational stage. In the countries seated on this stage -- Union of South Africa, Belgium, Bulgaria, Czechoslovakia, Finland, France, Hungary, Britain, and Italy

²⁸*The Problem of Nutrition*, Geneva, League of Nations, 1936. See also: Weindling, 'The Role of International Organizations in Setting Nutritional Standards in the 1920s and 1930s', op. cit., note 3 above, p. 322. The heart of scientific research for the HOLN could be found at the British Medical Research Council (MRC) which, in 1933, began strongly positive relations with the HOLN.

²⁹*Nutrition Considered in Relation to Public Health and to Economic Conditions*, op. cit., note 25 above.

³⁰*Ibid.*, on pp. 7, 10-11, 16. It seems that most HOLN nutrition committee members shared Orr's sentiment that the price of food had to be brought down to the reach of the lower classes. A few, most prominently the French, emphasized that ignorance as well as poverty was at the root of malnutrition among the poor as well as the rich. (p. 16)

³¹*Ibid.*, pp. 17-18.

³²'Report on the physiological bases of nutrition', *Quarterly Bulletin of the Health Organisation*, 1936, V(3), pp. 391-415; and *The Problem of Nutrition*, op. cit., note 28 above.

among them -- it was observed that there were two central hunger problems: 1)the poor could not afford to purchase adequate food and 2)the poor as well as the upper class were ignorant of nutritional science.³³

The committees working on nutrition for the HOLN demanded a wide range of information -- from global production of milk products to the nutritional results of bottling fruit.³⁴ The list of problems requiring further study published in 1936 included the following:

The assessment of the nutritional state of children; Nutritive food requirements during the first year of life; Minimum vitamin and mineral requirements; Minimum fat requirements; The nutritive and 'supplementary' values of the different protein-containing foods, to determine to what extent and in what forms animal protein is necessary for growth and health; and the relative nutritive value of different cereals according to the degree of milling.³⁵

This veritable wish list for research reflects how little scientists knew about what people ate, how much food was supplied, what was nutritionally required, and how broadly they were conceptualizing nutritional problems. In spite of their admitted ignorance, in September 1936 the HOLN Technical Commission on Nutrition mustered consensus on average values for basic dietary requirements, including calories and protein, and published them in 'The physiological bases of nutrition'.³⁶ Ironically, the same issue of *The Quarterly Bulletin of the Health Organisation* containing this report also contained a fascinating report which questioned protein obsession. Under the misleading title 'The protein component in the human diet', the author, Professor Terroine from Paris, stated on the subject of protein:

There is no need to include proteins of animal origin in the diet of man, whatever the stage of life considered and whatever the nature of the needs to be satisfied...The prejudice in favour of meat and the luxurious habits which are constantly increasing the consumption of this food are as absurd physiologically as they are economically.³⁷

³³Ibid.

³⁴Ibid., pp. 270-71.

³⁵*Survey of National Nutrition Policies*, C.478.M.321.1938.II.A, Geneva, League of Nations, 1938, pp. 7-8.

³⁶'Report on the physiological bases of nutrition', op. cit., note 32 above.

³⁷Émile F. Terroine, 'The Protein Component in the Human Diet', *Quarterly Bulletin of the Health Organisation*, 1936, V(3), 427-92, on pp. 490-91.

He further commented importantly that

It is a fact that nearly always 'if you take care of the calories, the protein will take care of itself'. The first predominant consideration would be to provide all populations, all classes of society, young and old, with the quantity of food which is necessary to meet energy requirements of all kinds; once this has been done, it will rarely be found that all other needs have not been simultaneously satisfied, especially if a mixed diet is used. The main purpose of public health policy in the field of nutrition must be to eliminate under-feeding; thereafter, very little will need to be done to prevent malnutrition. (emphasis his)³⁸

Terroine went on to ridicule the idea of a gold dietary standard and upheld a standard peasant diet as being perfectly sufficient and supportable under new scientific knowledge.³⁹ This study was a landmark in the spotty history of protein obsession. While other studies and recommendations were already dwelling on low protein intakes, particularly from animal sources, Terroine was advocating a holistic nutritional view.

Capacious nutritional views were hardly *à la mode* in the 1930s as committee members were only slowly coming to a broader understanding of international nutritional concerns and were focusing on dietary minutiae. After citing overwhelming statistics on poverty and malnutrition in the United States and Britain, one report rhetorically questioned, "If this is the case in these relatively advanced countries, what is the position elsewhere?"⁴⁰ The groundwork had not yet been initiated, but there was a tacit recognition that hunger and malnutrition in developing countries were abominable problems. Nutrition, according to the League of Nations, was a concern for all humanity, in much the naive vein peace had been following W.W.I. The breadth of nutritional concern in the "advanced countries" scarcely lay outside of their territorial borders, and certainly not outside of their colonies.⁴¹

³⁸Ibid., p. 491. Australian Stanley Bruce, in a famous address to the Assembly of the League of Nations, summed up contemporary thinking on protein and calories. He said, "The discovery of the vitamin, the realisation of the profound significance of mineral salts and of the need for high-quality proteins has brought us to the point where we know that **calories are not enough.**" (emphasis mine) Stanley Bruce, 11 September 1935, in *The McDougall Memoranda -- Some Documents Relating to the Origins of FAO and the Contribution Made by Frank L. McDougall* FAO., 1956, p. 21.

³⁹Terroine, op. cit., note 37 above, p. 492.

⁴⁰*Nutrition Considered in Relation to Public Health And to Economic Conditions*, op. cit., note 25 above, p. 9.

⁴¹The League acknowledged the probable prevalence of malnutrition in the colonies in 1935. By 1938, Britain alone had conducted peripheral surveys or studies in Nigeria, Malta, Northern

Momentum in the League of Nations early in 1936 had led twelve nations to request a specific branch of the HOLN to deal with questions pertaining to nutrition. The response was the establishment of a mixed committee on nutrition. This committee produced the most conclusive statement by the HOLN on the nutrition issue in 1937's *Nutrition – Final Report of the Mixed Committee of the League of Nations on The Relation of Nutrition To Health, Agriculture and Economic Policy*, written by such nutritional luminaries as Frederick McDougall, Mellanby, McCollum, Van Rijn, and Viscount Astor. The document elaborated on the process by which the world economic depression along with the Burnet-Aykroyd report of 1935, 'Nutrition and Public Health', and the 'Report on the Physiological Bases of Nutrition' of 1936, had prompted the HOLN to make nutritional policy recommendations to member governments. The committee hailed the Burnet-Aykroyd report as the critical document depicting nutrition as "no longer an exclusively physiological problem and...henceforward...[as] a matter of concern to both public health officers and economists."⁴² The Mixed Committee report well summed up the state of nutritional knowledge and ideology in 1937. It described in detail "how nutrition has played its part in the present stage of human progress in countries of Western civilisation" and then optimistically proclaimed that "the application of the 'Newer Knowledge' [of nutrition] has only just begun. If the hope which nutrition holds out can be transformed into a reality, entirely new perspectives will be opened up for the improvement of human welfare."⁴³ Of primary political importance, the commission asserted that national nutritional policies had to be established with the input and leadership of governments and that such policies would have to be based on food consumption surveys.⁴⁴ The report repeatedly cited milk provided through national policies as the primary means for improving the health of populations, particularly for mothers, infants, and children.⁴⁵ Although the committee lamented the presupposition that colonial populations were malnourished, it sheepishly had little more to say about

Rhodesia, Trinidad, Tobago, Uganda, Zanzibar, Dominica, Barbados, Ceylon, Jamaica and elsewhere. *Survey of National Nutrition Policies*, op. cit., note 35 above, p. 119. See: E. Burnet and W. R. Aykroyd, 'Nutrition and public health', *Quarterly Bulletin of the Health Organisation of the League of Nations*, 1935, IV(June), pp. 1-140. See also: M. Worboys, op. cit., note 4 above, p. 214.

⁴²*Nutrition – Final Report of the Mixed Committee of the League of Nations on The Relation of Nutrition To Health, Agriculture and Economic Policy*, Geneva, League of Nations, 1937, p. 12. The report, however, self-avowedly fell short of examining the interaction of economics and nutrition. (p. 54)

⁴³*Ibid.*, p. 31.

⁴⁴*Ibid.*, p. 16.

⁴⁵*Ibid.*, p. 19.

hunger in the developing countries. Out of the three-hundred pages of the report, six pages dealt directly with the evidence for malnutrition in the colonial areas and Asia, and the remaining pages of the report directed attention to governments in the industrialized nations.⁴⁶ Preliminary findings suggested that protein intake in the tropics and the East were unacceptably low, while in Africa animal fat intake was depressed.⁴⁷ The committee stated that it had been "obliged" to exclude Asia and tropical countries from the study due to a decisive lack of information. Nevertheless, the committee members agreed that most peoples inhabiting that part of the globe were overwhelmingly undernourished. Although the information was scarce, the committee members reiterated that malnutrition in the world was "at once a challenge and an opportunity: a challenge to men's consciences and an opportunity to eradicate a social evil by methods designed to increase economic prosperity."⁴⁸

By 1938 the HOLN had aided in the organization of National Nutrition Committees in twenty-one countries (including underdeveloped India, Egypt, and Iraq) whose responsibilities included collection of information about nutritional problems, analysis, promotion of further investigations, and recommendation of national dietary changes. The enquiries which had been made by these committees up to 1938 were self-proclaimed to be "largely of a preliminary and tentative character".⁴⁹ In its 1938-1939 annual report, the HOLN readily admitted that in spite of its nutritional endeavours, there was a dearth of nutritional knowledge:

there is a lack of exact information on the conditions governing the diet of populations, particularly those in rural areas. Doubtless it is already clear that the state of nutrition is often defective; yet precise data as to the extent and real gravity of undernutrition are lacking in the great majority of countries, and there is accordingly little information available regarding the nature of the dietary deficiencies.⁵⁰

⁴⁶The authors apologetically explained that data were unavailable for the Far East and other developing areas. Furthermore, they stated that "The information at present available regarding the diet of native populations of colonial areas is not sufficient to form the basis of a comprehensive picture." *Ibid.*, p. 320.

⁴⁷*Ibid.*, pp. 321-22. This reference to animal fat clashed with Terroine's earlier assertion that animal proteins (and fats) were unnecessary.

⁴⁸*Nutrition: Report submitted by the Second Committee to the Assembly, Geneva, document A.57.1937.II.B, 28 September 1937, 1-3, on p. 3.*

⁴⁹*Survey of National Nutrition Policies, op. cit., note 35 above, p. 13.*

⁵⁰'Report on the work of the health organisation between June 1938 and April 1939 and on its 1939 programme', *op. cit., note 26 above, p. 26.*

In response to the hunger for more detailed nutritional findings, the HOLN was gearing up for international nutrition surveys.⁵¹ In March 1939, the year of the last meeting of the HOLN Health Committee,⁵² the HOLN published a monograph which directed countries and HOLN nutrition committees to conduct standardized nutritional surveys.⁵³ By the time HOLN members met to implement the report's recommendations, the war had escalated and the work of the organization had been truncated.⁵⁴ With the thunder of W.W.II as a backdrop, these surveys would have to wait.

Nutritional Science in the Developing World before the War

While the 1930s and early-1940s had seen isolated examples of scientists working on an array of nutritional problems in the developing world, such research was generally disconnected and not well-publicized. Furthermore, the vast majority of people who worked in the nutritional sciences were women, and it has been suggested that their work "feminized" the science and obscured it from the scientific spotlight.⁵⁵ One of these women was Cicely D. Williams, who made her revolutionary identification of kwashiorkor in 1933 while working on the Gold Coast.⁵⁶ Williams brilliantly linked the onset of kwashiorkor to inadequate protein consumption often induced by poor breastfeeding.⁵⁷ Her illuminating work stood alone for more than a decade in a world where few scientists and doctors studied nutritional problems in the developing world, and still fewer, perhaps, heeded the findings of a woman.

Prior to 1945, the vast majority of British medical people who conducted research in the developing world were enlisted by the Colonial Office, as Williams had

⁵¹Ibid., pp. 27-32.

⁵²N. M. Goodman, *op. cit.*, note 5 above, p. 136.

⁵³E. J. Bigwood, *Guiding Principles for Studies on the Nutrition of Populations*, Geneva, League of Nations, no. C.H. 1401, 1939.

⁵⁴John Boyd Orr Baron Boyd Orr of Brechin Mearns', *op. cit.*, note 14 above, p. 60.

⁵⁵Rima D. Apple, 'Science gendered: nutrition in the United States, 1840-1940', in H. Kamminga and A. Cunningham (eds), *The Science And Culture Of Nutrition, 1840-1940*, Amsterdam and Atlanta, Editions Rodopi B. V., 1995, 129-54, on p. 147. Apple noted that one-hundred percent of nutritionists in 1921 were women whereas their proportion had fallen to forty-two percent by 1938. (p. 153)

⁵⁶Williams was, however, a paediatrician, not a nutritionist, by training. Many of her papers are held at the Contemporary Medical Archives Centre (CMAC) at the Wellcome Institute for the History of Medicine, London. Unfortunately, the documents shed very little light on her international nutritional involvement.

⁵⁷Cicely D. Williams, 'A Nutritional Disease of Childhood Associated with a Maize Diet', *Archives of Disease in Childhood*, 1933, 8, 423-33.

been. The involvement of the U.S. was considerably less as such work was shunned by many as academically unacceptable.⁵⁸ It was not until the late-1940s and early-1950s that nutritional science in the developing world developed a tangible foundation. The only individuals who could truly begin to grasp the breadth of the nutritional problems in the developing world were usually those in the field, and their voices were among the weakest in the international medical community. Their patients were not the same patients being seen in the wards of Columbia-Presbyterian Hospital in New York or Bart's in London. The patients in the field on the Ivory Coast, the Far East, and the West Indies were interesting cases from another world, suffering from exotic problems generally unseen in the wealthy nations. Although some doctors in the developing countries published articles in internationally renowned peer review journals about indigenous nutritional problems, their reports were scattered and sparked interest in only a few avant-garde physicians, researchers and members of the British and Dutch Colonial Services.

In 1939 Mellanby suggested that colonial territories could expect to experience a drop in mortality rates and improvement in general health which would be commensurate with improvements in their food supply.⁵⁹ Thus malnutrition to Mellanby was not precisely a disease, but rather the result of a shortage of essential foods. His holistic perspective sounded remarkably close to Orr's, though his paternalistic attitude toward natives was unmistakable. Mellanby stated that "There are great troubles ahead and many people would feel happier about the future of native races if more men with scientific training and outlook, especially on the biological side, held the important administrative posts in colonial countries." He went on to take up the proverbial white man's burden: "Having put our hand to the plough [in tropical countries]...there can be no turning back, and we can only pray that there is sufficient wisdom left among us to use the fruits of science properly."⁶⁰ Mellanby's nutritional ideology contrasted sharply with others since he believed that colonial problems were primarily biological and that nutritional science was the key to solving them.

⁵⁸Nevin S. Scrimshaw, interview, 25 July 1995.

⁵⁹E. Mellanby, *Recent Advances in Medical Science A Study of their Social and Economic Implications*, Cambridge, Cambridge University Press, 1939, p. 58.

⁶⁰*Ibid.*, p. 59.

International Hunger Fighting

The conscious fight against malnutrition in the developing world cannot be clearly traced until after the formation of international organizations committed to addressing this problem. The relevant UN agencies appear to have had their aegis in the formation of the IIA as well as in the work of the HOLN in the late-1930s. As early as 1935 the HOLN foresaw the need for massive international agencies. At that time the League declared,

A state of things has been observed in certain countries that no doubt exists in all: the diet of a more or less large section of the population is below what physiologists regard as the ideal standard. Money spent on raising this to the desirable level would improve both public health and the position of agriculture. Who can doubt that such a policy, if judiciously applied, would be of benefit to the country that applied it? Can it be applied to the world as a whole? The difficulties which undoubtedly exist will grow less as international institutions develop.⁶¹

As nutritional science came in vogue during the late 1930s, there was increased recognition on the part of a few prescient thinkers like Orr, that this field would eventually interact heavily with economics and agriculture. After pointing out that all but the poorest people could afford staple foods such as wheat and sugar, he advanced the issue by noting that

the advance in the science of nutrition has forced us to accept a new standard of food requirements which is much higher than merely satisfying hunger...According to this new standard there is a shortage of many foodstuffs which are of importance for health, and the cost of the kind of diet now recognized to be needed for health is admitted to be, even in the wealthiest countries, beyond the purchasing power of a large proportion of the population.⁶²

Orr wrote these words in the book *What Science Stands For* and targeted the public as his audience. Through similar public tracts and appearances Orr made the case for the importance of nutrition even in wealthier, healthier Britain.

⁶¹*Nutrition Considered in Relation to Public Health And to Economic Conditions*, op. cit., note 25 above, p. 11.

⁶²J. B. Orr, 'Nutritional science and state planning', in *What Science Stands For*, London, George Allen & Unwin LTD, 1937, 11-29, on p. 12.

In Orr's view, hunger, or undernutrition, had been vanquished as the primary scourge and replaced with less pressing, but nevertheless harmful, malnutrition.⁶³ His views carried considerable weight and influence far beyond the borders of his homeland.⁶⁴ For Orr, government involvement was a necessary component of nutritional policy and could best be addressed through agricultural policies:

The growing demand to get the new science of nutrition applied for the improvement of the health and physique of the nation calls for a reconsideration of the Government agricultural policy...a State agricultural policy must form part of a national food policy, the basis of which must be the provision of a diet adequate for health for every member of the community.⁶⁵

This ideology, first explicated during the mid-1930s, years later would form the foundation of Orr's notions on global food policies.

Orr's rhetoric reflected his confidence in the new science of nutrition and the need for its dissemination: "until quite recently medical education in practical dietetics was almost wholly limited to what could be expressed in terms of calories and proteins, and assumptions based on their technical training still linger in the minds of some medical men."⁶⁶ He continued: "[this old idea of dietary requirements is] also held by many economists and politicians, who do not realize the extent to which our knowledge of food requirements has increased in the last twenty years."⁶⁷ Orr frequently harped on how the new science of nutrition could have tangible health benefits on previously "acceptable" levels of disease. He wrote, "Children with what are unfortunately regarded as minor defects, such as slight rickets, a slight degree of nutritional anaemia, and carious teeth, might ... be regarded as normal. Although they can run about and attend school, children with these defects are, in fact, suffering from malnutrition due to faulty diet."⁶⁸ Orr thereby shifted the discourse on health and sickness: what had been considered acceptable and healthy was now unacceptable and morbid. Echoing the voice of the British nutrition movement, Orr called for an ideal

⁶³In this case, Orr employed the term hunger to be synonymous with starvation.

⁶⁴David Lubbock noted Orr's relations to nutritionally-interested politicians in the international community. See, for example: David Lubbock, 'Origins and early development of FAO', in D. P. Cuthbertson (ed), *Progress in Nutrition and Allied Sciences*, Edinburgh and London, Oliver & Boyd, 1963, pp. 23-30.

⁶⁵Orr, op. cit., note 62 above, pp. 12-13.

⁶⁶Ibid., p. 14.

⁶⁷Ibid.

⁶⁸Ibid., pp. 16-17.

nutritional standard which, if unachievable for all people, should in his view at least be consummated for mothers and children "for the sake of the future of the race".⁶⁹ In conclusion, Orr affirmed that a national food policy which provided the malnourished part of the population, which he estimated to be half of the total population, with adequate nutrition "would constitute the greatest social reform of our age."⁷⁰

According to Viscount Astor, Chairman of the League of Nations Commission on Nutrition and Agriculture for two years, there was not sufficient enthusiasm for plans like Orr's. At a conference in 1939, Astor remarked:

The public do [sic] not yet realize either the importance of nutrition or the damage caused by malnutrition...the same is true in large measure even of the medical profession....The connection between agriculture and nutrition is obvious. What has not yet been realized is the difficulty in having an adequate nutrition policy and a properly nourished population unless we re-orientate and alter our present agricultural policy.⁷¹

For the time being, the relationship between agriculture and nutrition remained the centrepiece for idealistic discussion of international nutrition problems.

Nutritional Issues during the War

Although W.W.II swiftly brought the emerging, idealistic international work of the HOLN to a halt, it inspired relevant domestic nutritional studies which had previously been desired. If there were any motivating force in moving the status of nutrition to the fore on national agendas, it was the war, and the place most nutrition-minded was England. There, the issue of nutritional requirements arrived on every citizen's doorstep and kitchen table as the government embarked on its rationing programme.⁷² Among other projects, the Food Leaders Scheme, initiated in April

⁶⁹Ibid., p. 18.

⁷⁰Ibid., p. 29.

⁷¹Viscount Astor, comment in *Nutrition and the Public Health, Proceedings of a National Conference on the Wider Aspects of Nutrition*, 1939, London, British Medical Association, p. 38.

⁷²In the US, nutritional concerns were less profound than they were in Britain. This stems in part from a historic abundance of "protective" foods in the United States and a concomitantly low level of nutritional deficiency diseases. In 1943 a prominent American nutritionist stated that "Our greatest nutritional handicap in the United States is not that part of our population which is starving in the historic sense, nor that part which is recognized as suffering from specific nutritional deficiency diseases, but the part (probably much larger than those other two parts put together) which is 'getting along on poor diets.'" H. C. Sherman, *The Science of Nutrition*, New York, Columbia University Press, 1943, pp. 118-19.

1942, sought to educate women on purchasing and preparing the most nutritious foods.⁷³ This focus on education and survival under rationing produced an unusual interplay between science and practicality. While nutritionists worked feverishly to determine the composition and importance of foods, it was seen as being equally important that this information be disseminated and followed quickly. After all, nutrition, it seemed, could cure all social ills. In America, improved nutrition had even been credited as "a major factor in the unquestionable finding that boys and girls now enter college both younger and taller than formerly."⁷⁴

Orr was a leading figure in wartime nutritional policy and aptly noted in 1940 that due to the war, the international nutrition movement "was likely to be retarded".⁷⁵ However, Orr, in his characteristically brilliant rhetoric, pointed out that nutrition would be crucial to the success of Britain in the war. Thus, he wrote, "It is as important to apply all our scientific knowledge to the improvement of the nation's stamina and powers of resistance [through improved nutrition] as to apply our scientific knowledge to the improvement of weapons of war."⁷⁶ Many others joined in this view, not the least of whom was the British government.

Besides the British focus on rationing, the U.S. and Britain sought to determine the ideal nutritional requirements of a soldier in the field. As troop numbers increased, civilians had increasing types of food rationed based on previously culled nutritional knowledge. In the nutritional laboratories which had been fuelling developments in the study of nutrition, research efforts were stymied as staff joined the war effort and scientists set their sights on military and civilian health targets under the spectre of war.⁷⁷ The intensive studies which nutritionists had been called on to conduct by the HOLN did not continue, even in a military capacity.

Before the U.S. had even entered the war, a report by the internationally-influential National Research Council (NRC) in Washington assured the government and public that the U.S. could produce adequate protein to feed an army of seven million and a civilian population of one hundred and thirty-nine million.⁷⁸ The data,

⁷³David Smith, 'The Food Leaders Scheme, 1942-52', in Elaine M. Prisk (ed), *The Urban Context. Proceedings of the XII International Home Economics and Consumer Studies Research Conference*, Liverpool, John Moores University, 1, 1992, pp. 16-19.

⁷⁴Sherman, *op. cit.*, note 72 above, p. 143.

⁷⁵J. B. Orr, 'National food requirements', in *The Nation's Larder and the Housewife's Part therein*, London, G. Bell and Sons, LTD, 1940, 46-64, on p. 56.

⁷⁶*Ibid.*, pp. 58-9.

⁷⁷At Orr's Rowett Research Institute, for example, the whole research programme was put on hold until after the war. 'John Boyd Orr Baron Boyd Orr of Brechin Mearns', *op. cit.*, note 14 above, p. 62.

⁷⁸W. C. Rose, D. B. Jones, W. J. Morse, and R. C. Pollock, *The Nation's Protein Supply*, Washington, D.C., Food and Nutrition Board of the National Research Council, 1942, pp. 6-8. British Ministry of

however, were based on exceptionally inconclusive studies. Thus the council made protein estimates for individual soldiers which varied from 73 grams to an admittedly "improbable" 150 grams. The council assuaged government fears and stated categorically that "the American people are in no immediate danger of experiencing a deficiency in the protein supply." Nevertheless, the council cautioned that "should this country be called upon to export a very considerable proportion of its high-protein foods, a protein shortage might occur unless in the meantime appropriate measures are taken to prevent it." The "appropriate measures" included an optimistic net production increase, to be provided to the allies, of "1 billion pounds of beef, 1 billion pounds of pork, 1 billion dozen eggs, 500 million pounds of dry whole milk, and 500 million pounds of dry beans".⁷⁹ The commission foresaw a possible protein crisis occurring at the end of the war. This was one of the earliest examples of fear over a possible international protein deficit and served to further impel nutritionists to concentrate on protein rather than other elements of the diet. Additionally, this report and others prompted international leaders to boost the position of food supply on the international agenda.

In October 1942, Frederick L. McDougall, an Australian active in the League of Nations, wrote a memorandum entitled 'Draft memorandum on a United Nations Programme for Freedom from Want of Food'. Largely following a similar memorandum from 1935, McDougall put forth several ideas on how the international community might cope with hunger in the world's population, which he believed to be prevalent. Mirroring Orr's surplus milk concerns, McDougall asserted that chronic malnutrition and hunger in a world with markets burdened by surplus food indicated the need for genuine international co-operation.⁸⁰ In November, Dr. Frank Boudreau, formerly the director of the Health Section of the League of Nations, implored Orr to come to the U.S. for high-level discussion of a World Food Plan. Orr conceded and during his visit spoke with Vice-President Wallace and Under-Secretary of State Dean Acheson.⁸¹ Probably spurred by Orr's visit, Eleanor Roosevelt learned of McDougall's

Health reports frequently cited NRC data, and the NRC 1941 report on food requirements served for years as an international nutritional yardstick. See: *Manual of Nutrition 1945*, London, His Majesty's Stationery Office, 1945, p. 43. See also: Sir John Boyd Orr, *Food And The People*, London, The Pilot Press LTD, 1943, pp. 9, 56; *Final Act of the United Nations Conference on Food and Agriculture*, Miscellaneous no. 4, London, His Majesty's Stationery Office, 1943, p. 7.

⁷⁹Rose et. al., *The Nation's Protein Supply*, op. cit., note 78 above, all quotes on p. 7.

⁸⁰Frederick L. McDougall, 'Draft Memorandum on a United Nations Programme for Freedom from Want of Food,' October 1942, in *The McDougall Memoranda – Some Documents Relating to the Origins of FAO and the Contribution Made by Frank L. McDougall*, Rome, FAO, 1956, pp. 26-38.

⁸¹John Boyd Orr Baron Boyd Orr of Brechin Mearns', op. cit., note 14 above,, pp. 63-64.

memorandum and then spoke with McDougall. Another meeting, this one with President Roosevelt, followed McDougall's first interaction with the White House.⁸² Although the issue appeared to lose the President's interest, Roosevelt soon called for a United Nations Conference on Food and Agriculture to be held in Hot Springs, Virginia, from 18 May to 3 June 1943.⁸³ The declarations of this meeting with all of their ultra-idealistic rhetoric mimicked Roosevelt's previously declared "Four Freedoms". In particular, the conference declared that freedom from hunger -- "a secure, an adequate, and a suitable supply of food for every man" -- was at the foundation of all other freedoms.⁸⁴ Due to the glaring absence of leading nutritionists such as Orr, discussion of nutrition was minimal.⁸⁵

The conference's official declaration stated that "The first cause of hunger and malnutrition is poverty. It is useless to produce more food unless men and nations provide the markets to absorb it. There must be an expansion of the whole world economy to provide the purchasing power sufficient to maintain an adequate diet for all."⁸⁶ In order to further these lofty goals, the conference established an Interim Commission on Food and Agriculture which would eventually become FAO in 1945. The goals of the Interim Commission included research on "how the body is nourished" and nutritional problems in other parts of the world. Further, the conference rather optimistically entrusted the fledgling and tiny commission to expand world food supplies and distribution.⁸⁷ As the war began its protracted conclusion, it seemed that in comparison to defeating the greatest enemy the industrialized countries had known, eliminating hunger throughout the world would only require the same persistence and scientific understanding that had provided the thrust of the war effort.

⁸²McDougall, op. cit., note 80 above, pp. 26-38. McDougall's early dedication to establishing a food and agricultural organization earned him credit as "the father of FAO". E.J.R. Heyward, interview, 12 September 1995. No history has credited Orr for his role in bringing a World Food Plan to the desk of President Roosevelt.

⁸³Phillips, op. cit., note 2 above, pp. 4-5.

⁸⁴*United Nations Conference on Food and Agriculture, Hot Springs, Virginia, May 18-June 3, 1943*, Washington, D.C., U.S. Government Printing Office, 1943, p. 1.

⁸⁵Orr's radical economic and social philosophy so bothered the British government, that Orr, among the most appropriate politicians for the conference, was excluded. MacDougall periodically informed Orr of the progress of the conference. 'John Boyd Orr Baron Boyd Orr of Brechin Mearns', op. cit., note 14 above, p. 64.

⁸⁶*Final Act of the United Nations Conference on Food and Agriculture*, op. cit., note 78 above, p. 16.

⁸⁷Ibid.

Colonial Malnutrition during the War

As previously stated, most research into the causes and results of hunger and malnutrition were suspended during W.W.II. However, the report *Nutrition in the Colonial Empire*, along with the lofty goals espoused by the HOLN through 1939, reverberated in the minds of some public-health minded people even during the war. *Nutrition in the Colonial Empire* was, in part, a malarial-induced idea of British nutritionist B. S. Platt.⁸⁸ Following a "heavy first dose of malaria" while conducting the Nyasaland Survey in present day Malawi, Platt began contemplating seriously the breadth of nutritional problems in the Empire.⁸⁹ In a letter to the Colonial Office, Platt proposed a number of ideas including a handbook of deficiency disease and a "review of advances applicable to colonial conditions".⁹⁰ Platt was disappointed that "Mellanby [secretary of the MRC] evidently doesn't think that they should be in the green report series of the MRC."⁹¹ and asked lightly, "How about a report series on 'Nutrition in the Colonial Territories' run as a joint affair of EAC [Economic Advisory Council] and MRC?--make them pale green!" (emphasis his)⁹² The EAC report which emerged from Platt's insistence was written by a nutrition committee (which included Orr and Mellanby) and was printed in two parts: one with a blue cover and the other in green.⁹³

For the nutritionally-inclined, *Nutrition in the Colonial Empire* considerably advanced and influenced ideas about nutrition in developing countries through its description of nutrition in forty-eight territories containing a population in excess of fifty-five million.⁹⁴ The details included, where available, were statistics on birth, infant mortality, and death rates, as well as key aspects of the native diet and nutritional deficiencies. Its frank insights into the clinical and sub-clinical forms of

⁸⁸W. R. Aykroyd was known to have given himself credit for large sections of the final report while those involved in it saw it as having been largely shaped by Platt. See: Hardy, op. cit., note 26 above, p. 67.

⁸⁹B. S. Platt, 'Letter to Eastwood', in Platt diary, Mbeya, 29 May 1939, LSHTM Archives. This piece of correspondence was evidently not the first to bring up the idea for the report since *Nutrition in the Colonial Empire* was published in July 1939.

⁹⁰Ibid.

⁹¹Ibid.

⁹²Ibid.

⁹³The full report was presented by a national committee which did not include Platt. However, the committee did credit Platt's major contribution to the project and, in the eyes of his peers, it was always considered Platt's document. *Nutrition in the Colonial Empire, First Report-Part I*, op. cit., note 1 above.

⁹⁴Ibid., p. 151.

malnutrition were notable in their own right, as well as in their identification of foci for future work. In conclusion, for example, the report stated:

The science of nutrition is still young and little is known of conditions in tropical countries. Of one conclusion, however, we have no doubt and that is the great importance of the subject...At the present time the effects of malnutrition are seen not only in definite disease but also in general ill health and lowered resistance to infection, inefficiency of labour in industry and agriculture, maternal and infantile mortality and a general lack of well being.⁹⁵

Thus, although the committee members acknowledged the shortcomings of research and nutritional knowledge, they were nonetheless able to intuit the vast, deleterious impact of malnutrition on many aspects of life. As for the causes, the report revealed that "the fundamental cause of malnutrition is the low standard of living of many of its inhabitants. Ignorance is a very important factor also...We should add also, as a third main cause, the influence of other diseases which react upon the state of nutrition of the individual."⁹⁶ These three main areas -- socio-economic status, ignorance, and the interactions of nutrition and infection -- would be among the leitmotifs of future nutrition policy-making and research.

Due to its compelling illustration of the widespread nature of malnutrition, *Nutrition in the Colonial Empire* inspired considerable interest in colonial nutrition problems. By 1944, a movement for nutritional work in the colonies had come to the fore. In a report to the Fabian Colonial Bureau, a group of scientists called for a rather untimely charge against malnutrition in the colonies. In this group's opinion, there was a "formidable accumulation of evidence" that reflected the lowly state of health in the Colonies, especially in African territories. They resolutely highlighted the singular importance of programmes attacking malnutrition over all other public health projects. In fact, they went so far as to assert that while health was multi-faceted, malnutrition deserved a pedestal above infectious diseases, insect-borne disease, and medical service improvement.⁹⁷ G. M. Culwick and A. T. Culwick, two notable British anthropologists, conducted an impressive array of studies in present day Tanzania during the late-1930s, in part under the direction of Platt. In 1944, G. M. Culwick summed up her and her colleagues' feelings about nutrition: "the Colonial

⁹⁵Ibid.

⁹⁶Ibid., pp. 151, 155.

⁹⁷*Hunger and Health in the Colonies: Report to the Fabian Colonial Bureau*, London, Fabian Colonial Bureau, March 1944, quote on p. 3.

Empire woke up all of a sudden, some eight years ago, to the fact that it was faced with nutritional problems of considerable magnitude...The chorus of woe evoked by...[*Nutrition in the Colonial Empire*]...showed that the little heeded scientific voices of the preceding years had after all been saying something of the greatest importance."⁹⁸

Although the forcefulness of such remarks was not strikingly novel, it certainly echoed a growing sentiment that had been vocalized softly by the HOLN and exuberantly by the Hot Springs Conference. G. M. Culwick's comments demonstrate how remarkably influential the rhetoric from the Hot Springs Conference had been. Although the idealism advocated there may have lacked a rational basis -- surveys were utterly inadequate, populations were unreachable, health workers were poorly trained -- it inspired a new ideological framework for considering public health problems in the developing world. To many, no technical fix could improve people's lives as much as adequate nutrition, and adequate nutrition for all would not be achieved without first-rate advocacy in the government of nations.

John Boyd Orr: Nutritionist, Idealist, First Director-General of FAO

Since the early-1930s, Orr had been the fiercest and most prominent advocate of improved nutritional standards and food supplies throughout the world. In 1943, he mapped out a comprehensive vision of a world food organization which would boost world-wide food production, monitor and set prices on staple foods, and spread advances in nutritional science. In sum, Orr believed that international co-operation on nutritional issues could "accelerate the march of mankind towards the higher civilisation which science has made possible."⁹⁹ These aspirations he tied to the soon-to-be named FAO.

Following a moving address at the conference which established FAO in November 1945, Orr was appointed to serve as the first Director-General of the newly created organization.¹⁰⁰ From the outset, Orr spent the majority of his time on two

⁹⁸G. M. Culwick, 'Nutrition in East Africa', in Veronica Berry (ed), *The Culwick Papers 1934-1944: Population, Food and Health in Colonial Tanganyika*, London, Academy Books, 1994, 85-92, on p. 85. Berry's introduction and compilation of the Culwicks' papers provide a superb perspective on the rare nutritional work in developing countries conducted before W.W.II, and on the considerable influence of Platt.

⁹⁹Orr, op. cit., note 78 above, pp. 44-55.

¹⁰⁰FAO subsumed the previously mentioned IIA. Phillips, op. cit., note 2 above, p. 3. Three important accounts have related the formation of FAO and Orr's influence on the process. See:

major projects: 1)the food shortage in Europe and 2)the attempt to establish a world food board. The latter represented all of Orr's previously accumulated hopes to vanquish hunger from the planet. As he worked earnestly on this issue, he scarcely had time to tend to other duties of the office, or to the pressures from nutritionists and others to sequester FAO into a number of divisions. To Orr, the science necessary for victory over malnutrition had long since been acquired, the solution remained primarily political. Nevertheless, he was unable to gather the necessary support to form the required huge and potent international structure. The greatest resistance came from Great Britain, while there seemed to be at least stifled support from the White House. In Great Britain, few could digest Orr's idealism at a time when the government feared for the nation's food supply. Severe droughts during the summer of 1945 had decimated grain supplies beyond their already low post-war level.¹⁰¹ A government that could scarcely guarantee adequate nutrition for its people found Orr's philosophy repellent.

FAO, at least superficially, hardly appeared capable of influencing world nutrition policy. The organization had a skeleton crew invested with an awkward combination of tall orders and exceedingly limited powers. During the first year, Orr followed the custom of having an afternoon tea with the entire staff. Everyone was able to fit in the space of a large living room.¹⁰² Although impressed by Orr, many members of the staff believed his grand plans to be "idealistic and unrealistic."¹⁰³ Undeterred, Orr clearly saw the mission of FAO as the ending "of hunger and the raising of the standard of living of the people in the underdeveloped countries".¹⁰⁴

Conclusion

FAO was the UN's first international health-related agency and was formed during heady times of optimism for a peaceful world free from hunger. The appointment of Orr as first Director-General of the organization was at once a triumph of liberal politics over a conservative old world order. For all of Orr's expressed optimism about the rewards to be reaped thanks to advanced nutritional science, he had analytically located the aetiology of hunger in socio-economic statistical indicators

Lubbock, op. cit., note 64 above, pp. 23-30; Gove Hambidge, *The Story of FAO*, Princeton, Van Nostrand Company, Inc., 1955; P. L. Yates, *So bold an aim*, Rome and Quebec, FAO, 1955.

¹⁰¹*The World Food Shortage*, April 1946, London, His Majesty's Stationery Office, pp. 1-8.

¹⁰²Ralph Phillips, interview, 8 September 1995.

¹⁰³*Ibid.*

¹⁰⁴Orr, op. cit., note 16 above, p. 201.

as early as the 1930s. Noting that the wealthy were overwhelmingly healthy and the poor were predominantly malnourished, he moved nutritional debate away from science and education and toward economics. Orr believed that the international priority for health in the post-war world should be universal access to staple foods priced within reach of all people. By focusing the work of FAO on food supply, Orr temporarily downgraded the position of the scientist-nutritionist in international policy.

During Orr's time at the helm of FAO, it became clear that UN agencies and the UN itself would have considerably restrained powers in international policy-making. Two other agencies soon entered the health arena, WHO and Unicef, and their positions hardly seemed stronger than FAO's. The governments of the world were prepared to deal with crises in nutrition, but not to attack malnutrition radically as had never been done previously. Before substantive nutritional programmes could be contemplated, the nutritionists would first have to identify the problems scientifically before making their policy and programmatic recommendations. Although Orr had enough demographic data to show that the world population increased by 22 million per year, mainly in the developing countries, and that many of those born suffered from malnutrition, rampant hunger in Europe would have to be his central priority.¹⁰⁵ Figuring out the basic hunger problems of the developing world would be a task left to Orr's successors.

¹⁰⁵John Boyd Orr Baron Boyd Orr of Brechin Mearns', *op. cit.*, note 14 above, p. 67.