

Nurturing the Citizens of the Future: Milk Stations and Child Nutrition in Puerto Rico, 1929–60

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Abstract: Between the 1930s and 1960s Puerto Rico was transformed from a marginal United States territory into an industrialised ‘showcase of development’. This article investigates the organisation of milk station programmes on the island during this crucial period and how these reflected the circulation of child welfare knowledge, nutrition expertise and public health practices. During the Depression, these perspectives fostered a recast of the eugenic regeneration ideologies motivating medical assessments of and sanitary interventions with Puerto Rico’s rural poor since the nineteenth century. Innovations in nutrition knowledge and an emerging rural hygiene movement highlighted the negative health effects of the island’s monocrops economy. In this context, the nourishment of children’s bodies assumed symbolic and instrumental significance for the reconfiguration of colonial and developmental models promoted by the new Popular Democratic Party (PPD). The experience of public health professionals in relief work during the 1930s contributed to the articulation of food and nutrition as key elements of this party’s populist discourse. Programmes like milk stations became part of strategies to rear and manage the labour force needed in the industrial development model promoted by the PPD. From the perspective of poor Puerto Ricans, however, they were part of the materialisation of its promise of social justice for the poorer classes.

Keywords: History of public health, History of nutrition, Medical history of Puerto Rico, Child welfare

Countries of limited resources must take special care of the health of their inhabitants in order to maintain their progress and norms of civilization. These countries, lacking material resources, depend almost exclusively on workers’ arms and labour. The healthier these countries are, the stronger they will be to fight adversity. Therefore, in Puerto Rico the pursuit of health is fundamental for the creation and maintenance of civilization.

Antonio Fernós Isern, Commissioner of Health, 1944.¹

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¹ Fernós Isern to Paniagua, ‘Declaración’, 24 November 1944. Archivo General de Puerto Rico, fondo Oficina del Gobernador, tarea 96-20, caja 1825, folder 215.1 Fondo and tarea are the same subsequently.

Portrayals of life in Puerto Rico during the Great Depression conveyed images of abject poverty and widespread disease. The island was particularly infamous for its malnutrition situation, especially among children. Experts associated it with the deficiencies of the island's diet, ignorance of healthy eating habits and a difficult economic situation. The extension of the New Deal to Puerto Rico was one of the most significant institutional responses by the United States to these health and social problems since the 1898 occupation and marked the beginning of a period of rapid changes.² Antonio Fernós Isern, Commissioner of Health from 1931 to 1933 and from 1943 to 1946, was a leading architect of these changes. As one of the founding members of the Partido Popular Democrático (PPD) [Popular Democratic Party] during the late 1930s, Fernós Isern contributed to crafting its social justice discourse, calling for reforms to the absentee landownership system and the power of sugar cane emporiums.³ The party's slogan *pan, tierra y libertad* [bread, land, and liberty] reflects the central role that notions about nutrition and food played in its political ideology.⁴ In 1948 Luis Muñoz Marín, the founder of the PPD, became Puerto Rico's first elected Governor. Under his leadership, the government implemented an economic development strategy based on incentivising export-led industrial manufacture.⁵

The apparent success of this model in raising standards of living led international observers to name Puerto Rico as the Caribbean showcase of development.⁶ Juan Pons, Commissioner and Secretary of Health from 1946 to 1957, declared triumphantly that between 1930 and 1960 'life expectancy in Puerto Rico rose from 40.65 years to 69.56'. Mortality rates decreased from 19.7 per 100 000, as an average for the 1930–9 period, to 6.7 in 1960. Deaths from tuberculosis went from 212.5 per 100 000 to 29.3, malaria from 54.1 to 0, and infant mortality from 88.3 to 43.7. Given such achievements Pons stressed that 'although the entire civilized world showed an accelerating decrease in mortality rates, from 1930 to 1960 the progress of Puerto Rico in public health has no parallel in any other country'.⁷ These results framed the international promotion of the Commonwealth (*Estado Libre Asociado*, ELA) status, inaugurated in 1952 after the US Congress approved its Constitution. According to Fernós Isern who served as President of the Constitutional Convention, the ELA finally put an end to Puerto Rico's 'colonial night'.⁸ Nevertheless, although the ELA afforded Puerto Rico's government some degree of administrative autonomy the island remains to this day under the sovereignty of Congress.

² Manuel Rodríguez, *A New Deal for the Tropics: Puerto Rico during the Depression Era, 1932–1935* (Princeton, NJ: Markus Wiener, 2011).

³ Roberto Colón Ocasio, *Antonio Fernós Isern Soberanista, Luis Muñoz Marín Autonomista* (San Juan, Puerto Rico: Fundación Educativa Antonio Fernós Isern, 2009).

⁴ Cruz M. Ortiz Cuadra, 'Buena Vida no es Vida Buena: Disquisiciones Muñocistas sobre Nutrición y Consumo', *Exégesis*, 18, 52 (2005), 24–33.

⁵ Emilio Pantojas-García, *Development Strategies as Ideology: Puerto Rico's Export-Led Industrialization Experience* (Boulder, CO: Rienner, 1990); Ricardo Duchesne, 'The Industrialization of Puerto Rico, 1948–1980: Between Classical and Dependency Theory', *Journal of Developing Societies*, 16, 2 (2000), 223–44.

⁶ Gordon Lewis, 'Puerto Rico: A Case-study of Change in an Underdeveloped Area', *The Journal of Politics*, 17, 4 (1955), 614–50; David Ross, *The Long Uphill Path: A Historical Study of Puerto Rico's Economic Development* (San Juan, Puerto Rico: Editorial Edil, 1969). In 1967, the World Bank classified Puerto Rico as a "'developed nation", the first Latin American state to be officially given that designation': Duchesne, *op. cit.* (note 5), 223.

⁷ Dorothy Dulles Bourne and James Bourne, *Thirty Years of Change in Puerto Rico: A Case Study of Ten Selected Rural Areas* (New York: Frederick A. Praeger, 1966), 81.

⁸ Antonio Fernós Isern, *Estado Libre Asociado de Puerto Rico: Antecedentes, Creación y Desarrollo hasta la Época Presente* (Río Piedras: Editorial de la Universidad de Puerto Rico, 1974), 5.

This article investigates infant and child nutrition programmes during this crucial period in Puerto Rico's history. It focuses on the functioning of milk stations and on the biomedical, public health and political practices informing these services. The article pays particular attention to how the organisation of these programmes reflected the international circulation of eugenic ideologies and nutrition science knowledge. As in other Latin American contexts, Puerto Rican public health experts embraced preventive eugenics' flexible interpretations of heredity as an alternative to the deterministic postulates of tropical medicine, which 'constructed a non-white' and inherently flawed race.⁹ As Fernós Isern emphasised 'although Puerto Rico was a tropical island' there were no 'jungles, primeval forests, aboriginal natives and primitive superstitions to hinder' public health work.¹⁰ By separating the island from tropical medicine's racial and ecological imaginaries, Puerto Rican public health officials emphasised their membership in an international community of civilised, modern and expert-driven societies.

Historians have analysed how eugenic ideologies shaped Puerto Rican elites' notions of modernity and public health practices during the last decades of Spanish colonialism and the first years of US intervention.¹¹ Interwar public health professionals also put their 'faith in the application of biology and medicine' to cultivate a healthier society and counter US authorities' racial beliefs.¹² Fernós Isern reiterated that 'we do not discuss the possibility of white establishments in the tropics' as we are 'evidence in favour of the contention that the white man breeds so rapidly in tropical climates that excessive population results'.¹³ As part of their struggle for a better conception of the tropics, officials like Fernós Isern presented the potential of public health to regenerate the poor as further evidence of Puerto Rico's whiteness and civilisation.

The implementation of child nutrition programmes during the Depression and the Second World War was part of these efforts to regenerate the poor and cultivate a stronger and more productive society. I argue, however, that medical assessments of Puerto Rico's poorer classes during the 1930s were reshaped by expanding nutrition knowledge and a rural hygiene movement presenting public health as a response to 'the problem of agrarian decline'.¹⁴ New conceptualisations of malnutrition as a chronic state with linkages to patterns of agricultural production profoundly influenced Puerto Rican medical discourses.

⁹ Laura Briggs, *Reproducing Empire: Race, Sex, Science and US Imperialism in Puerto Rico* (Berkeley, CA: University of California Press, 2002), 100.

¹⁰ Antonio Fernós Isern, 'Urban Growth and Public Health in Porto Rico', *Porto Rico Health Review*, 1, 4 (1925), 3–7: 3.

¹¹ Benigno Trigo, 'Anemia, Witches, and Vampires: Figures to Govern the Colony', in Benigno Trigo (ed.), *Subjects of Crisis: Race and Gender as Disease in Latin America* (Middletown, CT: Wesleyan University Press; Hanover, NH: University Press of New England, 2000), 69–89; Ivette Rodríguez-Santana, 'Conquests of Death: Disease, Health and Hygiene in the Formation of a Social Body (Puerto Rico, 1880–1929)' (unpublished PhD thesis: Yale University, 2005); José Amador, 'Redeeming the Tropics: Public Health and National Identity in Cuba, Puerto Rico, and Brazil' (unpublished PhD thesis: University of Michigan, 2008); Nicole Trujillo-Pagán, 'Health beyond Prescription: A Post-Colonial History of Puerto Rican Medicine at the turn of the Twentieth Century' (unpublished PhD thesis: University of Michigan, 2003); 'The Politics of Professionalization: Puerto Rican Physicians during the transition from Spanish to US Colonialism', in Juanita de Barros, Steven Palmer and David Wright (eds), *Health and Medicine in the Circum-Caribbean, 1800–1968* (New York: Routledge, 2009), 142–64; 'Worms as a Hook for Colonising Puerto Rico', *Social History of Medicine*, 26, 4 (2013), 611–32 and *Modern Colonization by Medical Intervention: US Medicine in Puerto Rico* (Boston, MA: Brill, 2013).

¹² Alexandra Stern, *Eugenic Nation: Faults and Frontiers of Better Breeding in Modern America* (Berkeley, CA: University of California Press, 2005), 6.

¹³ Antonio Fernós Isern, 'The White and the Tropics', *Porto Rico Health Review*, 2, 2 (1926), 6–7: 6.

¹⁴ Sunil S. Amrith, *Decolonizing International Health: India and Southeast Asia, 1930–1965* (Basingstoke: Palgrave Macmillan, 2006), 21.

This influence was articulated in emphases on the negative health effects of the island's monocrops economy, presented as the root cause of the rural poor's ignorance, chronic debility and low productivity. In this context, attending to children's nutrition needs through programmes like milk stations assumed a renewed importance for the cultivation of healthy citizens and the maintenance of civilisation.

These processes were central to the transformation of Puerto Ricans into citizens of a modern colony and subjects of the new industrial development model promoted by the PPD after the Second World War. These reconfigurations were mediated by a generation of public health professionals whose experiences in New Deal nutrition and medical work contributed to the articulation of food as a key symbol of this party's discourse. The particular significance of milk in this project reflects how in Puerto Rico, as in other Latin American settings, food was an important tool for populist governments and a critical conveyor of political messages.¹⁵ Through programmes such as milk stations, public health institutions aided in the rearing and management of the labour force needed for a rapidly industrialising Puerto Rico. For poor Puerto Ricans, on the other hand, the expansion of public health and medical services was part of the materialisation of the party's promise of social justice. They appropriated this discourse to claim access to nutrition services and, more broadly, for their right to food and health.

Existing historical studies of public health and medicine in Puerto Rico focus primarily on the late nineteenth and early twentieth century and emphasise their role in the US colonial administration of the island.¹⁶ A few go beyond this time period and investigate the population control movement, the implementation of contraception technologies, and the medicalisation of childbirth during the mid-twentieth century.¹⁷ However, the focus remains limited to the earlier period and to public health efforts against communicable diseases. These studies generally do not explore how the relationship between professional elites and local populations influenced activity after the 1930s. This article contributes to filling this gap by exploring the application of nutrition and child health knowledge in the organisation of milk stations in Puerto Rico. This analysis further demonstrates the island's role as a testing ground for the expertise that transformed other colonial subjects into 'mobilized, sterilized, and enlightened' 'developmental subjects' later in the century.¹⁸

The article first discusses the political economy and public health conditions on the island during the late 1920s and early 1930s. It then examines the establishment of the milk stations programme by the Department of Health in 1929 and the importance of New Deal legislation in its functioning. After this, it explores the creation of a new milk stations and child feeding programme as part of war emergency measures during the early 1940s. Throughout this discussion, the article analyses how nutrition ideas interacted with the populist discourse of the PPD, how these linked local dynamics to

¹⁵ John C. Super and Thomas C. Wright, *Food, Politics, and Society in Latin America* (Lincoln, NE: University of Nebraska Press, 1985); Natalia Milanese, 'Food Politics and Consumption in Peronist Argentina', *Hispanic American Historical Review*, 90, 1 (2010), 75–108.

¹⁶ *Op. cit.* (note 11); Fernando Feliú, 'Rendering the Invisible Visible and the Visible Invisible: The Colonizing Function of Bailey K. Ashford's Antianemia Campaigns', in Benigno Trigo (ed.), *Foucault and Latin America: Appropriations and Deployments of Discursive Analysis* (New York: Routledge, 2002), 153–68.

¹⁷ Laura Briggs, *op. cit.* (note 9); Annette Ramírez de Arellano and Conrad Seipp, *Colonialism, Catholicism, and Contraception: A History of Birth Control in Puerto Rico* (Chapel Hill, NC: University of North Carolina Press, 1983); Isabel M. Córdova, 'Transitioning: The History of Childbirth in Puerto Rico, 1948–1990s' (unpublished PhD thesis: University of Michigan, 2008).

¹⁸ Nick Cullather, *The Hungry World: America's Cold War Battle against Poverty in Asia* (Cambridge, MA: Harvard University Press, 2010), 8.

international discussions, and the role of the island in the configuration of US relief feeding programmes as politico-economic strategies. It finally traces the integration of milk stations into the public health infrastructures of a new colonial state during the early 1950s and their relation with the emerging industrial development model. By focusing on the local functioning of milk stations, this discussion highlights how people articulated the material and symbolic significance of this programme for their daily lives.

Public Health and Political Economy in Puerto Rico during the Interwar Years

Between the 1920s and 1940s Puerto Rico remained an unincorporated territory of the United States. The Jones Act, passed by Congress in 1917, substituted the 1900 Foraker Act as the island's organic document. While this act gave Puerto Ricans US citizenship, it was not accompanied by efforts to change the island's colonial status. Given its geopolitical and economic value, 'it was not on the path to independence like Cuba; it would not be incorporated like Hawaii; it would remain a colony'.¹⁹ The Jones Act also reorganised local government and created, among others, the position of Commissioner of Health, appointed by the colonial governor to head a Department of Health.

Although rural–urban migration was already underway, the Puerto Rico of these decades was still a predominantly rural and young society. By 1935 the census estimated a total of 1 723 534 inhabitants of which 563 616 lived in urban areas and 1 159 918 in rural regions. Of the total rural population 38 796 were infants of less than one year and 481 136 children from 2 to 13 years of age.²⁰ The effects of the Depression on this society's agricultural economy provoked increased mobilisation by nationalist groups and labour movements.²¹ This unrest motivated the drafting of the Tydings Bill in 1936 which proposed a plebiscite on Puerto Rico's independence.²² Muñoz Marín founded the PPD in 1938 after leaving the Liberal Party over disagreements about its official stance on the Tydings Bill. Although initially a pro-independence movement, the PPD leadership gradually embraced a middle ground ideology that advocated 'a plan of development in concert with the United States'.²³

The crisis of the Depression also brought the 'poorer classes, especially the rural peasants or *jíbaros*', to the centre of professional and political discussions. Through the work of rural rehabilitation programmes, Muñoz Marín and his generation of intellectuals 'came face to face with a segment of the population that had been traditionally considered wretched, sickly, aloof, and morally suspect'.²⁴ As Trujillo-Pagán notes, for nineteenth-century liberal elites the bodies of rural peasants were 'both symbol and myth of Puerto Rico as a sick nation'.²⁵ For this generation of physicians the health of individual and social bodies required 'altering the personal and sexual habits of the poor as well as

¹⁹ Solsiree Del Moral, *Negotiating Empire: The Cultural Politics of Schools in Puerto Rico, 1898–1952* (Madison, WI: The University of Wisconsin Press, 2013), 7.

²⁰ Puerto Rico Reconstruction Administration, 'Censo de Puerto Rico 1935: Población y Agricultura', (Washington, DC: US Government Printing Office, 1938).

²¹ César J. Ayala and Rafael Bernabe, *Puerto Rico in the American Century: A History Since 1898* (Chapel Hill, NC: University of North Carolina Press, 2007), ch. 5.

²² José Trias Monge, *Puerto Rico: The Trials of the Oldest Colony in the World* (New Haven, CT: Yale University Press, 1997), ch. 8.

²³ Laura Briggs, *op. cit.* (note 9), 112.

²⁴ Nathaniel Córdoba, 'In His Image and Likeness: The Puerto Rican *Jíbaro* as Political Icon', *CENTRO: Journal of the Center for Puerto Rican Studies*, 12, 2 (2005), 170–91: 173.

²⁵ Trujillo-Pagán, *Modern Colonization, op. cit.* (note 11), 9–10.

curtailing their racial heterogeneity'.²⁶ Laboratory medicine contributed to this image through the discovery of the hookworm and its presence in the bodies of peasants, already considered suspicious due to their proximity to the 'members of the "African race"'.²⁷ This discourse around the racially unintelligible *jíbaro*, weakened by energy-sucking parasites and incapable of fully utilising his labour, was appropriated by US medical authorities during the early twentieth century.

Although the influence of US medicine eroded the status that local professionals had achieved during the last years of Spanish rule, Puerto Rican physicians contributed to 'reshape and redefine the meanings' of the new colonial condition by challenging the racialism of tropical medicine.²⁸ This challenge was framed in the language of preventive eugenics. In contrast to the 'hard' Mendelian eugenics dominant in Britain and the US, preventive eugenics was informed by neo-Lamarckian ideologies and aimed to improve society by removing 'social and behavioural factors considered damaging to people's hereditary health'.²⁹ Puerto Rican professionals such as teachers and public health experts promoted this 'vision for regeneration, social uplift, and progress' based on race, class and gender ideologies. These professionals 'were optimistic that they could regenerate and whiten the Puerto Rican national body' by promoting birth control and teaching hygiene and sanitation.³⁰

Women and men concerned with the relationship between health and social problems worked 'under very eugenic division names' such as the Bureau of Social Medicine and Puericulture of the Department of Health.³¹ With funding and personnel from the Rockefeller Foundation (RF) the Department established health units offering infant hygiene clinics, prenatal and maternity care, educational conferences and treatment for tuberculosis.³² The organisation of these child welfare services in Puerto Rico was part of a Pan-American movement that focused on the health status and living conditions of children.³³ In 1930s Mexico, for example, the government embarked on the construction of a 'network of urban clinics where mothers were instructed in modern child care techniques'. As adepts of the emerging field of puericulture, Mexican physicians believed that 'medical science could provide more than far-reaching health benefits to the Mexican people': they could also 'cure social ills'.³⁴

Antonio Fernós Isern and José Rodríguez Pastor, officials at Puerto Rico's Department of Health, were part of this inter-continental network of medical professionals who saw in scientific child rearing the key to regenerate society at large. They stressed the potential

²⁶ Eileen Findlay, *Imposing Decency: The Politics of Sexuality and Race in Puerto Rico, 1870–1920* (Durham, NC: Duke University Press, 1999), 88.

²⁷ Trigo, *op. cit.* (note 11), 87.

²⁸ Trujillo-Pagán, *Modern Colonization, op. cit.* (note 11), 31.

²⁹ Nancy Stepan, *The Hour of Eugenics: Race, Gender, and Nation in Latin America* (Ithaca, NY: Cornell University Press, 1991), 17; Alexandra Minna Stern, "'The Hour of Eugenics" in Veracruz, Mexico: Radical Politics, Public Health, and Latin America's only Sterilization Law', *Hispanic American Historical Review* 91, 3 (2011), 431–43.

³⁰ Solsiree Del Moral, *op. cit.* (note 19), 19.

³¹ Laura Briggs, *op. cit.* (note 9), 101.

³² Pedro Ortiz, 'Sanitation and Health Activities are Fostered in Porto Rico under Direction of Commissioner', *Porto Rico Review of Public Health and Tropical Medicine*, 5, 1 (1929), 8–10.

³³ Donna Guy, 'The Pan American Child Congresses, 1916–1942: Pan Americanism, Child Reform, and the Welfare State in Latin America', *Journal of Family History*, 23, 3 (1998), 272–91.

³⁴ Ann S. Blum, 'Dying of Sadness: Hospitalism and Child Welfare in Mexico City, 1920–1940', in Diego Armus (ed.), *Disease in the History of Modern Latin America: From Malaria to AIDS* (Durham, NC: Duke University Press, 2003), 209–36: 209–10.

of public health to both eliminate disease problems and regenerate Puerto Rico's poor. Although the decentralised way in which the Department collected information about these disease problems often produced misleading data, statistician Manuel A. Pérez emphasised that 'many of the factors contributing to our high mortality are of a social and economic character'.³⁵ Malaria, for example, was more prevalent in the coasts where the irrigation needs of sugar cane cultivation fostered the propagation of mosquitoes.³⁶ According to one RF official, although hookworm infestation was widespread 'it practically affected 100% of the population' in the coffee highlands. Similarly, given the lower resistance of poorly fed bodies, mortality from tuberculosis remained 'appalling' everywhere with a death rate of 301 per 100 000 population in the fiscal year 1928–9.³⁷

The infant mortality rate was also high with 146 deaths per 1000 live births for 1927–8. According to Fernós Isern and Rodríguez Pastor, it was affected by population density and economic conditions, by the caretaker's education and race, as well as by the infant's social status and sex. In their view, 'the ignorance of our masses as to infant hygiene' was particularly evident in the 'lack of proper care as to cleanliness and systematic feeding'.³⁸ The practice of feeding infants 'herb teas in dirty bottles' and 'mixed or artificial feeding' made from solids like rice with bean gravy contributed to make diarrhoea and enteritis the primary cause of infant mortality.³⁹ Although the island's invariable climate and 'other diseases that assume gastro-intestinal forms' also affected the prevalence of these disorders, Fernós Isern and Rodríguez Pastor argued that 'economic and social factors aggravate all the former causes'.⁴⁰

The inauguration of the Puerto Rico School of Tropical Medicine (STM) in 1926 gave Fernós Isern and his colleagues an opportunity to expand their knowledge about the island's disease problems.⁴¹ Created under the auspices of Columbia University and mainly focused on the study of infectious diseases, the school's Department of Chemistry also included research and training in nutrition. These activities occurred as the recent 'discovery' of vitamins revolutionised nutrition sciences and led to the gradual understanding of malnutrition as a chronic condition characterised by long-term deficiencies.⁴² Building on this new research, biochemical studies conducted at the STM during the late 1920s and 1930s determined that the monotonous diet of Puerto Ricans – composed mainly of polished rice, dried red beans, and starchy crops – failed to meet the

³⁵ Manuel A. Pérez, 'Factors Contributing to a High Death Rate in Puerto Rico', *The Puerto Rico Journal of Public Health and Tropical Medicine*, 8, 4 (1933), 421–47: 421.

³⁶ Pablo Morales Otero *et al.*, 'Health and Socioeconomic Studies in Puerto Rico, I: Health and Socioeconomic Conditions on a Sugar Cane Plantation', *The Puerto Rico Journal of Public Health and Topical Medicine*, 12, 4 (1937), 405–90.

³⁷ Tentative Report of the Committee of the American Child Health Association, Rockefeller Archive Center (RAC), Rockefeller Foundation (RF), Record Group (RG) 1.1, series 243, box 1, folder 18, 4–5.

³⁸ Antonio Fernós Isern and José Rodríguez Pastor, 'A Survey of Infant Mortality in Porto Rico', *The Porto Rico Journal of Public Health and Tropical Medicine*, 6 (1930), 151–93: 163.

³⁹ *Ibid.*, 172.

⁴⁰ *Ibid.*, 177.

⁴¹ Annette Ramírez de Arellano, 'The Politics of Medical Education in Puerto Rico' (unpublished PhD thesis: Columbia University, 1985).

⁴² James Vernon, 'The Ethics of Hunger and the Assembly of Society: The Techno-politics of the School Meal in Modern Britain', *The American Historical Review*, 110, 3 (2005), 693–72; Nick Cullather, 'The Foreign Policy of the Calorie', *The American Historical Review*, 112, 2 (2007), 337–64.

basic vitamins, minerals and proteins requirements and increased people's vulnerability to prevalent diseases.⁴³

While this nutrition research activity occurred in Puerto Rico, international discussions about health increasingly focused on understanding the relationship between agriculture, food supply and malnutrition. With the biochemistry of vitamins and minerals increasingly elucidated and their relationship with deficiency diseases established, the new nutrition sciences contributed to debates about public health, labour, and rural reconstruction during the Depression. As Barona notes, nutritional expertise was a key element of the international landscape during this period becoming 'an essential factor for the making of citizenship and implying changing relationships between state, society and individuals'.⁴⁴

The Depression promoted similar discussions about the problems of Puerto Rico's agrarian economy and fostered reformulations of the role of biomedicine and public health in the reconstruction of its rural society. The ideas offered by nutrition sciences and rural hygiene, especially in relation to children's malnutrition, crucially contributed to these reformulations. As Ruis argues, malnutrition in children was not simply a medical problem 'but a social, cultural, and political one; it provided a useful metaphor for a wide range of issues and an effective platform for the promotion of numerous health-related agendas'.⁴⁵ In Puerto Rico, discussions about the milk supply were salient elements of public health agendas that linked the encroachment of the monocrops economy with the problem of malnutrition among rural children.

The relationship between contaminated milk and infant mortality had been recognised as a serious public health problem in Europe and North America since the late nineteenth century.⁴⁶ However, this was not a significant contributor to infant mortality on the island because this product was scarce and not affordable for most of the population. According to Fernós Isern and Rodríguez Pastor, 'the prohibitive cost of milk is of greater importance, as far as it concerns the aetiology of infant mortality in Porto Rico' after the first six months of age.⁴⁷ The relationship between monocrops agriculture and the problem of limited milk supply did not escape observers such as nutritional biochemist Henry Sherman. After visiting the island in 1930 Sherman noted that increasing the availability of milk would be 'of great difficulty here, especially with the concentration of land in the hands of large owners interested only in the growing of cash crops'.⁴⁸

Pablo Morales Otero, President of the Puerto Rico Medical Association, also emphasised the relationship between this apparent decrease in the number of small landowners, the increasing reliance on imports to satisfy local food needs, and the island's

⁴³ Donald Cook, 'Some Aspects of the Food Problem in Puerto Rico', *Porto Rico Review of Public Health and Tropical Medicine*, 3, 2 (1927–1928), 59–67; Donald Cook *et al.*, 'Preliminary Study of a Common Puerto Rican Diet', *Porto Rico Review of Public Health and Tropical Medicine*, 4 (1928), 253–5; Donald Cook and Trinita Rivera, 'Rice and Beans as an Adequate Diet', *The Porto Rico Journal of Public Health and Tropical Medicine*, 5, 1 (1929–30), 16–20; Joseph Axtmayer, 'A Study of Vitamin B Complex of Red Kidney Beans and Polished Rice', *Journal of Nutrition*, 2, 4 (1930), 353–7.

⁴⁴ Josep Barona, 'Nutrition and Health: The International Context During the Inter-war Crisis', *Social History of Medicine*, 21, 1 (2008), 87–105: 88.

⁴⁵ A. R. Ruis, "'Children with Half-Starved Bodies" and the Assessment of Malnutrition in the United States, 1890–1950', *Bulletin of the History of Medicine*, 87, 3 (2013), 378–406: 381.

⁴⁶ Richard A. Meckel, *Save the Babies: American Public Health Reform and the Prevention of Infant Mortality, 1850–1929* (Ann Arbor: University of Michigan Press, 1990).

⁴⁷ Fernós Isern and Rodríguez Pastor, *op. cit.* (note 38), 175.

⁴⁸ Henry Sherman, 'Some Aspects of the Chemistry of Nutrition in Relation to Health', *The Porto Rico Journal of Public Health and Tropical Medicine*, 5, 4 (1930), 407–32: 428.

malnutrition problem.⁴⁹ Researchers at the STM calculated that the island imported more than half of its energy needs and that rice and beans made up forty-seven per cent of total food imports.⁵⁰ As a result of this precarious diet, they argued, ‘malnutrition was ubiquitous’. In this context, the provision of milk for children ‘took a rank as a public health measure along with the hospitalisation of open cases of tuberculosis, the field work against hookworm and malaria, and the laboratory studies of intestinal diseases’.⁵¹

For Puerto Rico’s Hungry Children: Milk Stations During the Depression

The image of cow’s milk as a natural foodstuff ‘essential for human development and a feature of civilized nations’ gradually emerged during the second half of the nineteenth century.⁵² However, milk was also associated with gastro-intestinal disorders and could serve as vector for diseases such as typhoid and bovine tuberculosis. Turning a potentially dangerous product into ‘nature’s perfect food’ was the result of a complex interaction between agro-economic imperatives, demographic changes, gender and religious ideas, scientific innovation and public health regulation.⁵³

Apart from enacting regulation, public health authorities promoted safe milk distribution programmes as a way to prevent the transmission of diseases to infants. Following the model of France’s *Goutte de Lait* programme, individuals concerned with high infant mortality advocated the construction of milk stations in the United States.⁵⁴ In Latin America, Uruguay was one of the first countries to establish a similar programme in 1908.⁵⁵ In Uruguay and France the provision of milk ‘was one of many different activities designed to insure the health of the child’, such as medical attention and ‘instruction in the hygienic care of infants’, while US stations were mostly funded by charitable agencies and did little beyond distributing milk.⁵⁶

The expansion of public schooling and of programmes like milk stations also increased the visibility of children’s malnutrition as a public health problem. Although malnutrition’s status as a clinical concept remained malleable and its diagnosis was a highly contested area of medical practice during the 1920s and 1930s, new knowledge about deficiency diseases made subclinical cases more evident.⁵⁷ This new knowledge also facilitated the emergence of milk consumption as a solution to children’s malnutrition. Building on its reputation as a natural beverage, nutrition science presented milk as ‘an important source of animal protein and vitamins’.⁵⁸ Experiments among school-age children further

⁴⁹ Pablo Morales Otero, ‘Nuestros más Importantes Problemas Sanitarios’, *Boletín de la Asociación Médica de Puerto Rico*, 26 (1934), 98–102.

⁵⁰ Cook, *op. cit.* (note 43).

⁵¹ Editorial Section, ‘The Health of Porto Rican Children’, *American Journal of Public Health*, 21, 12 (1931), 1362–4.

⁵² Sandra Aguilar-Rodríguez, ‘Nutrition and Modernity: Milk Consumption in 1940s and 1950s Mexico’, *Radical History Review*, 2011, 110 (2011), 36–56: 37.

⁵³ Melanie E. DuPuis, *Nature’s Perfect Food: How Milk became America’s Drink* (New York: New York University Press, 2002).

⁵⁴ Meckel, *op. cit.* (note 46).

⁵⁵ Birn Anne-Emanuelle, ‘Milking the Welfare State: Social Policies and Uruguay’s Infant Mortality Stagnation’, in Harold J. Cook, Sanjoy Bhattacharya and Anne Hardy (eds), *History of the Social Determinants of Health: Global Histories, Contemporary Debates* (Hyderabad: Orient Black Swan, 2008), 174–202.

⁵⁶ *Ibid.*, 180; Rima D. Apple, ‘Reaching out to Mothers: Public Health and Child Welfare’ (London: European Association for the History of Medicine and Health Publications, 2002), 13.

⁵⁷ A. R. Ruis, *op. cit.* (note 45), 384.

⁵⁸ Aguilar-Rodríguez, *op. cit.* (note 52), 37.

established this image of cow's milk as a nutritious beverage necessary for growth and development. For example, in 1928 British physician John Boyd Orr published findings showing that 'there was a clear correlation' between added milk and extra growth in children and that the 'increase in the height and weight of children who received an added milk diet was 20% greater than that of children who received no extra milk'.⁵⁹

George Payne of the Rockefeller Foundation, who supervised the functioning of the municipal health units in Puerto Rico, and the unit physician Ezequiel Martínez conducted a similar study among children attending two schools in Río Piedras.⁶⁰ Payne and Martínez's study aimed to 'search for some article of food which might be used in school lunches for the poorer classes to improve the general health and to reduce the evidence of under-nutrition'. For this they compared the weights of children in two experimental groups, one receiving a supplement of whole milk powder and the other bananas. Their study showed that although all children experienced a net loss in weight 'the group receiving milk showed a smaller net loss than any other group'.⁶¹

Thus, by the late 1920s the link between milk consumption and child nutrition was well established. For example, Mexican policy makers 'gave enormous importance to the spread of milk drinking because they believed that it would transform Mexico for the better'. Post-revolutionary governments implemented milk distribution programmes with the explicit purpose of lowering infant mortality and raising healthy citizens. As part of this agenda, the introduction and promotion of powdered milk 'became one of the main projects designed to increase consumption of animal protein' among vulnerable populations, especially children.⁶² Health authorities in Puerto Rico also associated malnutrition and infant mortality with a very low per capita consumption of milk, especially in rural areas where the death of children seemed to be an everyday occurrence at the time of Payne and Martínez's experiment.

This was one of the most vivid recollections of a survey tour Theodore Roosevelt Jr made after being appointed Governor in 1929. Roosevelt summarised his impressions of the island in various articles appearing in the US press.⁶³ Among these, *The Literary Digest* published an account of his observations under the title 'Porto Rico's Hungry Children'. 'The basis of health is adequate food', the new Governor wrote, 'and this is what the children of Porto Rico have not had, and do not get to-day'. With 'hundreds of thousands on starvation diets the results are obvious; in their weak and depleted condition they go down before attacks of any serious disease'. As a result, 'on the roads time and again I have passed pathetic little groups carrying small home-made coffins'.⁶⁴

These portrayals of the plight of Puerto Rico's children compelled charitable organisations in the US to pay attention to the living conditions of 'these future American citizens' who were 'suffering more than any other children beneath the American flag'.⁶⁵ Among these, the American Child Health Association (ACHA) visited the island in

⁵⁹ Francis McKee, 'The Popularisation of Milk as a Beverage during the 1930s', in David F. Smith (ed.), *Nutrition in Britain: Science, Scientists and Politics in the Twentieth Century* (London: Routledge, 1997), 123–49: 126.

⁶⁰ George Payne and Ezequiel Martínez Rivera, 'An Experiment in Supplementing the Diet of School Children', *Porto Rico Review of Public Health and Tropical Medicine*, 4, 6 (1930), 247–52.

⁶¹ *Ibid.*, 251.

⁶² Aguilar-Rodríguez, *op. cit.* (note 52), 43.

⁶³ Theodore Roosevelt Jr, 'Needy Porto Rico', *The New York Times*; 11 December 1929, 28, and 'Puerto Rico's Hungry Children', *The Literary Digest*, 103 (1929), 11.

⁶⁴ Theodore Roosevelt Jr, 'Puerto Rico's Hungry Children', *Ibid.*

⁶⁵ *Ibid.*

January of 1930 to conduct a systematic inquiry ‘in respect to the health, nutrition and social relations of the people, especially the children, of Porto Rico’.⁶⁶ After the Association submitted its preliminary report, the American Relief Administration (ARA) made available a \$100 000 emergency fund for the Departments of Health and Instruction. From these \$75 000 was allocated to the Department of Instruction for the purpose of feeding school and pre-school children and \$25 000 to the Department of Health. From this portion, \$1000 was ‘to be used for medicines for babies who attend the clinics in the [public health] units’ and \$24 000 ‘was to be used exclusively for the purchase and distribution of milk for infants and mothers’ at stations to be established throughout the island.⁶⁷

Even though Payne objected to this limitation of ARA funds exclusively to the purchase of milk – without considering the costs of personnel training, transportation and operation of the stations – he agreed to head the committee in charge of implementing the proposed infant feeding plan.⁶⁸ For this, the Department of Health divided the island into twelve districts, each comprising from five to seven towns. Personnel from the Department trained twelve women ‘with college education in the principles of infant care with emphasis on infant feeding’. Once trained, these women received the title of Infant Feeding Instructors and were sent to their respective districts to co-ordinate the distribution of milk. Instructors organised in each town a Young Mother’s Club ‘composed of ten intelligent, well-to-do mothers’ who were responsible for distributing milk, for educating ‘poorer and more ignorant mothers in matters pertaining to child health’, and for ‘making visits to the homes to see that milk is properly prepared and fed to the child’. Milk distributed at the stations was only for infants ‘except in the case of poor nursing mothers, whose milk supply is inadequate because of lack of food’. In these cases milk was provided to the mother, but had to be consumed ‘in the presence of the instructor or of one of the members of the club’.⁶⁹

This emphasis on training and supervision of mothers was characteristic of puericulture programmes which promoted scientific motherhood and ‘better baby care’.⁷⁰ Apart from fulfilling these goals, infant feeding instructors’ work supervising and educating poor mothers had a particular significance in the Puerto Rico of the 1930s. They were part of the emerging professional classes that Del Moral identifies as ‘intermediate agents’ between the colonial state and the working poor.⁷¹ As Rodríguez Pastor described in a letter to Payne, with over eighty milk stations established throughout the island infant feeding instructors developed a particular relationship with the communities. He reported that in some towns they were known as *lecheras* (milk ladies) and that residents had named one particular Mother’s Club *La vaquita del nene* (The kid’s cow).⁷²

While instructors had to charge ‘the equivalent to one-third of the cost of the milk given out’, ‘they could secure a trust fund from the members of the Club or some charitable society from which to pay for milk for those mothers who were too poor to pay that

⁶⁶ Samuel Crumbine *et al.*, *Porto Rico: An Inquiry into the Health, Nutritional, and Social Conditions in Porto Rico as they May Affect Children* (New York: American Child Health Association, 1931), 10.

⁶⁷ Payne to Howard, 18 February 1930. RAC, RF, RG 1.1 series 243, box 1, folder 18.

⁶⁸ *Ibid.*

⁶⁹ Crumbine *et al.*, *op. cit.* (note 66), 49–51.

⁷⁰ Apple, *op. cit.* (note 56).

⁷¹ Solsiree Del Moral, *op. cit.* (note 19).

⁷² Rodríguez Pastor to Payne, 24 August 1930, RAC, RF, RG 1.1 series 243, box 1, folder 18.

amount'.⁷³ In order to secure that trust fund, instructors often organised fundraising events. In August of 1930 one of these events took place in the town of Cayey. According to Rodríguez Pastor it was a 'big dance' called *El baile de los desnutridos* (The dance of the malnourished).⁷⁴ The organisation of this event reflects the close relationship that infant feeding instructors developed with local residents and the extent to which undernourishment became a defining characteristic of this population. The name chosen exemplifies how allusions to children's sickness and vulnerability were deployed as symbols of the poverty and decay of rural communities but also of their potential for cure through expert guidance.

As the number of rural public health units increased, milk stations were integrated with other services like prenatal care and screening for tuberculosis. Infants referred to milk stations by the unit physician received eight ounces of milk or milk formula daily for a period of six months.⁷⁵ Although the utilisation of fresh milk whenever it was possible to obtain a safe source and the encouragement of 'a better supply of milk throughout the island' were part of the initial planning, dairy production remained limited throughout the decade.⁷⁶ Therefore, the Department of Health relied on imported milk for its child welfare clinics. After the passage of section 32 of the Agricultural Adjustment Act (AAA) in 1935, donations of surplus powdered and evaporated milk from the US Department of Agriculture (USDA) became the primary source of support for the stations. In this way, Puerto Rico's milk stations program became a recipient of surpluses purchased by the USDA during the 1930s as a strategy to stabilise agricultural prices.⁷⁷

The milk stations programme also benefited from the establishment of other New Deal agencies. The Federal Emergency Relief Administration and the Porto Rico Emergency Relief Administration (PRERA) assigned \$10 000 and \$5000 a month respectively to 'enlarge and continue the programme of the milk stations'.⁷⁸ With these funds, the PRERA also organised Maternal and Nursery Schools under the medical direction of Fernós Isern. When the PRERA was dissolved, the Puerto Rico Reconstruction Administration continued funding child health and nutrition services.⁷⁹ The gradual extension to Puerto Rico of the Social Security Act's maternal and child welfare provisions further helped the local government to support the milk stations programme. When the Department of Health submitted 'an approved plan for maternal and child-health services administered by the Children's Bureau', Puerto Rico became eligible for federal grants totalling \$190 000 for the fiscal year of 1941.⁸⁰

With these additional funds the Department was operating 141 milk stations for 4 721 registered infants.⁸¹ Nonetheless, child welfare experts continued to call attention to the

⁷³ Crumbine *et al.*, *op. cit.* (note 66), 51.

⁷⁴ Rodríguez Pastor to Payne, *op. cit.* (note 72).

⁷⁵ A. L. Van Horn, 'Puerto Rico and Child Health', *The Child*, 4, 9 (1940), 235–7.

⁷⁶ Crumbine *et al.*, *op. cit.* (note 66), 51–2.

⁷⁷ Anne Effland, 'International programs of the USDA: Cross-purposes or a delicate balance?', in Sarah T. Phillips *et al.* (eds), *Reflections on One Hundred and Fifty Years of the United States Department of Agriculture*, Agricultural History, vol. 87, 3 (2013), 314–67:355.

⁷⁸ Nora Romeu de Ramírez, 'Milk Stations', *Memoria del Primer Congreso del Niño de Puerto Rico* (San Juan, Puerto Rico: Negociado de Materiales, Imprenta y Transporte, 1943), 604–6.

⁷⁹ Pablo Morales Otero, *Nuestros Problemas* (San Juan, Puerto Rico: Biblioteca de Autores Puertorriqueños, 1958), 112.

⁸⁰ Children's Bureau, 'The Liberalized Social Security Program', *The Child*, 4, 3 (1939), 78.

⁸¹ Ana Teresa Blanco, *Nutrition Studies in Puerto Rico* (Río Piedras: Social Science Research Center, University of Puerto Rico, 1946), 85–6.

needs of children over two years of age who were not eligible to participate in this programme. The advent of the Second World War fostered the sense of urgency that led to the creation of a nutrition programme for this population. It also provided the conditions for its transformation, together with the infant milk stations, as a symbol of the emerging PPD project and as an instrument of its politico-economic agendas.

Child Feeding and Agrarian Reform During the Second World War

On April of 1939, at the request of President Franklin Roosevelt, Secretary of Labour Frances Perkins convened experts on child health and welfare in the White House Conference of Children in a Democracy. This conference set a series of goals related to the health, educational and nutritional needs of children in the US and its possessions.⁸² In response to this initiative, the Puerto Rican Legislature approved Law No. 150 to convene child welfare experts in the First Puerto Rico Child Congress. Celebrated on December of 1941, the Congress presented proposals to reach the goals set by the White House Conference.⁸³ As Vice-President of the organising committee, Fernós Isern emphasised Puerto Rico's vital need to attend to the needs of children who were 'the most tender and delicate part of society and with a greater right to be cared for because it represents the security of its continuation'.⁸⁴ Consistent with this spirit, Congress participants recommended an increase in the number of milk stations in rural areas. These stations would 'become in the future infant feeding dispensaries where indigent mothers will receive, apart from milk formula, solid foods to complement the baby's nutrition'.⁸⁵

While the Puerto Rico Child Congress convened, a new government was attempting to reform landowning patterns on the island. Under the leadership of Muñoz Marín, elected President of the Senate in 1940, and Rexford Tugwell, appointed Governor in 1941, the island's legislature passed a law to enforce a 500-acre limitation in land ownership. According to Fernós Isern, the previous neglect to enforce this limitation 'was one of the principal reasons' for Puerto Rico's present poverty.⁸⁶ With this law the government had the power to purchase land in excess of 500 acres, mostly from sugar corporations, and redistribute it among landless peasants.⁸⁷ The organisation of the Child Congress and the introduction of this agrarian reform were framed by Muñoz Marín's 'gospel of social justice', delivered throughout the countryside during the 1940 campaign. The words *pan, tierra y libertad*, used as part of the party's emblem, played a critical role in the delivery of its populist discourse and 'harnessed a whole host of values, principles, and ideological commitments' with the poorer classes.⁸⁸

⁸² Children's Bureau, 'Conference of Children in a Democracy called by the President', *The Child*, 3, 8 (1939), 171.

⁸³ Charles Schottland, 'The First Puerto Rican Child Congress: An achievement in Democracy', *The Child*, 6, 8 (1942), 192–4: 192.

⁸⁴ Antonio Fernós Isern, 'Informe Sometido por el Comité de Informe y Resoluciones', *Memoria del Primer Congreso del Niño de Puerto Rico* (San Juan, Puerto Rico: Negociado de Materiales, Imprenta y Transporte, 1943), 59–66:62.

⁸⁵ R. Fernández Marchante, 'La Morbilidad y Mortalidad en la Infancia y la Niñez', *Memoria del Primer Congreso del Niño de Puerto Rico* (San Juan, Puerto Rico: Negociado de Materiales, Imprenta y Transporte, 1943), 252–68: 267–8.

⁸⁶ Antonio Fernós Isern, 'The Mind of Puerto Rico', *Addresses of Antonio Fernós-Isern Resident Commissioner of Puerto Rico to the United States* (Washington, DC: Office of Puerto Rico Imprint, 1947), 30.

⁸⁷ Sol Luis Descartes, 'Land Reform in Puerto Rico', *The Journal of Land and Public Utility Economics*, 4 (1943), 397–417.

⁸⁸ Nathaniel Córdova, *op. cit.* (note 24), 177.

The PPD presented the land reform law as the first step in the fulfilment of these commitments. However, the blockades and shortages provoked by the Second World War threatened to further exacerbate Puerto Rico's food and nutrition problems. In face of this, the Tugwell government created the General Supplies Administration (GSA) to regulate the distribution of foodstuffs, stabilise prices of basic necessities, and control inflation.⁸⁹ This new agency collaborated closely with the US War Food Administration and the Puerto Rico Nutrition Committee (PRNC) which included representatives from the STM, the Departments of Health and Instruction, the Department of Home Economics of the University of Puerto Rico, and the Agricultural Extension Service (AES). Organised in 1940 with 'the object of assisting in the Program for National Defense', the PRNC brought together several of the feeding instructors, nurses and social workers who worked as part of the infant milk stations programme.⁹⁰

Concerns over nutrition issues during the Second World War also increased the importance of USDA's surplus purchase programmes, especially in relation to dairy products. Technological developments, food relief programmes during the Depression, and changing nutritional policy laid the groundwork for introducing skim milk as a human food. In efforts to capitalise on skim milk's newfound reputation, the dairy industry lobbied federal agencies to increase the distribution of this product and other dairy surpluses as relief foods domestically and internationally.⁹¹ In this context, donations of powdered and evaporated milk from the Agricultural Marketing Administration (AMA) of the USDA reached Puerto Ricans through infant and child feeding programmes. As the threat of food shortages and transport problems heightened, the AMA used Section 32 funds to also provide financial assistance directly to schools and child care centres.⁹²

The War Emergency Program (WEP) in Puerto Rico used these donations to establish milk stations and feeding centres for preschool children. This new service was locally administered by the Civilian Defence Corps and officially described as a 'project for the preparation and serving of milk and other foods to preschool children of poor families and children from eight to ten years of age not attending school and not receiving the benefits of any other feeding program'.⁹³ Governor Tugwell served as chairman of the WEP committee in Puerto Rico and his wife Grace as the director of its milk stations programme. From this position, she corresponded regularly with health officials regarding the programme's functioning and co-ordinated fundraising activities for the construction and maintenance of the stations.

As part of these fundraising initiatives, Ms Tugwell requested Fernós Isern, now Commissioner of Health, write a declaration 'emphasizing the importance of milk in children's daily diet'.⁹⁴ In this declaration Fernós Isern described how the programme functioned and highlighted the importance of improving children's nutrition in Puerto

⁸⁹ Cruz M. Ortiz Cuadra, 'Alimentación y Política durante la Administración de Rexford G. Tugwell', in Jorge Rodríguez Beruffand and José L. Bolívar (eds), *Puerto Rico en la Segunda Guerra Mundial: Baluarte del Caribe* (San Juan, Puerto Rico: Ediciones Callejón, 2012).

⁹⁰ M. Coll de Velázquez *et al.*, *History of the Puerto Rico Nutrition Committee* (San Juan, Puerto Rico: Printed pamphlet, 1965).

⁹¹ Kendra Smith-Howard, *Pure and Modern Milk: An Environmental History since 1900* (New York: Oxford University Press, 2013), 77–80.

⁹² Frederick V. Waugh, 'The Food Distribution Programs of the Agricultural Marketing Administration', *Annals of the American Academy of Political and Social Science*, 225 (1943), 169–76.

⁹³ Certificación del Proyecto de Estaciones de Leche, Programa de Emergencia de Guerra, 13 January 1947, caja 1825, folder 215.11.

⁹⁴ G. Tugwell to Fernós Isern, 22 November 1944, caja 1825, folder 215.1.

Rico's struggle to achieve a healthy and productive society. 'The child feeding program', he explained, 'distributes milk and other foods to more than 40 000 children between two and seven years of age.' 'These are 40 000 homes that ensure their children's lives; 40 000 citizens of the future who walk towards adult life strengthening their bodies, structuring them with the ingredients necessary to be strong and healthy.' Fernós Isern also emphasised the importance of the milk stations programme by placing it among the most essential functions of public health in Puerto Rico. Together with the provision of clean water, sanitation and hygienic housing, 'ensuring people's nutrition is essential, fundamental and basic to public health'.⁹⁵

The role of milk stations in these agendas did not diminish once the war ended. As a 'non-profit childcare' service, the programme became a beneficiary of the National School Lunch Act. Although federal regulations limited the utilisation of these benefits to preschool children, the island's government assigned matching funds to include those between eight and ten years of age who did not attend school. The Public Health Division of the Department of Health assumed the sponsorship of the WEP child feeding programme after the Civilian Defence Corps ceased operations on July of 1945.⁹⁶ In order to better administer the Department's nutrition programmes, in October of 1946 Fernós Isern proposed the appointment of a co-ordinator of child feeding and milk station programmes under his immediate supervision.⁹⁷ According to Nereida Rivera Marini, General Supervisor of the child feeding programme, there were at the time 420 milk stations with a daily average attendance of 28 345 children who received 'a complete daily breakfast consisting of evaporated milk, cereal, fruits, crackers, and butter'.⁹⁸

However, with the war emergency over the difficulties of maintaining these services and keeping up with the demand became apparent. Rivera Marini wrote to both the newly appointed governor Jesús T. Piñero and to the Assistant Director of the WEP detailing the financial constrains provoked by a reduction in the AMA contribution from \$300 000 to \$120 000. At the same time, the contract for food distribution to the milk stations between the WEP and the Department of Instruction's Division of School Lunches expired. In these circumstances, the available money only covered the feeding of 20 000 children from two to seven years out of a total enrolment of 40 000. Thus, the programme was left without resources to take care of the remaining two- to seven-year-old children in addition to 6793 children from eight to ten for whom they had to buy additional milk 'at a ratio of eight cans of evaporated milk per month per child'.⁹⁹ An emergency appropriation allowed the programme to purchase this additional milk but, according to estimations from the PRNC, this amount 'was not enough to cover the expenses of a complete breakfast'.¹⁰⁰

Due to this lack of funding, administrators considered the possibility of closing several milk stations and were unable to fulfil the many petitions for new ones. In March of 1947 the programme suspended its breakfast service and provided only eight ounces of milk per child. As a result, many petitions from individuals, civic organisations and nutrition experts reached the offices of the Governor and the President of the Senate emphasising

⁹⁵ Fernós Isern, *op. cit.* (note 1).

⁹⁶ 'Las Estaciones de Leche, por Nereida Rivera Marini'. Archivo Fundación Luis Muñoz Marín, sección IV, serie 2, sub-sección 1, cartapacio 89.

⁹⁷ Memorandum from Pérez to Piñero, 30 October 1946, caja 1825, folder 215.1.

⁹⁸ Rivera Marini to Piñero, 23 October 1946, caja 439, folder 18-2.

⁹⁹ Memorandum from Rivera Marini to Marrero, 27 October 1946, caja 1825, folder 215.11.

¹⁰⁰ Memorandum from the Puerto Rico Nutrition Committee to the Head of the Bureau of Budget, 12 May 1947, caja 439, folder 18-2.

the need for the programme and calling for its continuation. This correspondence reflects the material and political significance that this programme had for poor communities in both rural and urban areas where it was perceived as an essential part of the island's public health system and a symbol of the PPD government.

One such petition came from the mayor of the town of Jayuya who noted that 'the milk stations have been functioning with very good results in our poorest neighbourhoods, attending to the malnutrition rampant among our infant population'. Therefore, he continued, 'it is of the utmost importance' that children continue receiving these services.¹⁰¹ The secretary of the Lions Club in Mayagüez also wrote to Governor Piñero arguing that the elimination of the milk stations programme 'would represent a tough blow to the nutrition of the island's children'.¹⁰² Similarly, the Secretary of the *Sol Naciente* Lodge in Aguadilla asked the Governor to 'alleviate the desperate situation provoked among hundreds of Puerto Rican households' by the elimination of the milk station in that town. This exacerbated 'the situation of misery and hunger that reigns in this zone which, if allowed to persist, could foster the spread of contagious diseases'.¹⁰³

The infant milk stations programme was also facing budgetary constraints. Although these only served infants under two years of age, in November of 1947 the new Commissioner of Health Juan Pons communicated to Governor Piñero that the rising demand required a higher appropriation from the insular budget for the purchase of milk. Otherwise, the Department would be obligated to 'drastically reduce the number of infants in the stations and possibly the number of stations'.¹⁰⁴ Pons emphasised that community leaders and civic groups continued requesting the opening of more milk stations. Supervisor Marini also noted that her office 'constantly received a great number of applications for new child feeding stations in poor neighbourhoods of the island which, if the financial problem is not resolved, it would not be possible to attend to'.¹⁰⁵

Given this situation, members of the PRNC appealed to the Governor and other officials requesting an increase in the government contribution to these programmes. In a letter to the Head of the Budget Bureau, Margarita P. Marchand, President of the PRNC, attached a synopsis of 'convincing experiments showing that the milk stations programme improve the nutritional status of the Puerto Rican child'.¹⁰⁶ Here Esther Seijo Tizol, Assistant Director of Home Demonstration Work of the AES, summarised the findings obtained by the British nutritionist Benjamin Platt after examining children in the towns of Cataño and Comerío. Platt visited the island while investigating the nutritional status of children in the British Caribbean between 1944 and 1945.¹⁰⁷ Apart from Puerto Rico, Platt visited St Kitts, Jamaica, Barbados, Trinidad, British Guiana and Antigua where he focused on the condition of children in hospitals and other institutional settings.

In her summary, Seijo described Platt's experiment in Puerto Rico where he applied the method already practised in the English colonies. This included 'determinations of the

¹⁰¹ De Jesús Soto to Piñero, 26 May 1947, caja 439, folder 18-2.

¹⁰² Zapata to Piñero, 12 June 1947, caja 439, folder 18-2.

¹⁰³ Torres to Piñero, 13 June 1947, caja 439, folder 18-2.

¹⁰⁴ Pons to Piñero, 3 November 1947, caja 439, folder 18-2.

¹⁰⁵ Memorandum from Rivera Marini to Marrero, 27 October 1946, caja 1825, folder 215.11.

¹⁰⁶ Nutrition Committee of Puerto Rico to Head, Bureau of the Budget, 12 May 1947, caja 439, folder 18-2; 'Convincing Experiments Show that the Milk Stations Program Improves the Nutritional Status of the Puerto Rican Child', caja 439, folder 18-2.

¹⁰⁷ Benjamin S. Platt, *Nutrition in the British West Indies: Colonial Report No. 195* (London: His Majesty's Stationery Office, 1946).

symptoms of malnutrition in the tissues, in the skin, in the corners of the mouth, bleeding gums, diseases of the eyes and symptoms related to vitamin deficiencies'. Accompanied by the home economist Lydia Roberts, Seijo took Platt to Cataño where there was a milk and child feeding station that had been active for more than a year. The results of Platt's inquiry 'showed definitely that the children examined had suffered from nutritional deficiencies, but not a single latent symptom could be found' at the time of their visit. Those children 'had been receiving the invaluable benefits of the milk station for about one year'. Seijo and Roberts also took Platt to a barrio between Comerío and Bayamón where there was no milk station. There, he 'found all the nutritional symptoms pointed out before'. As a result of these findings, a milk station was organised in this barrio and 'many children from Comerío and Bayamón are now receiving its benefits'.¹⁰⁸

Marchand, Seijo, and Roberts offered these results as evidence of the effectiveness of milk and child feeding stations in alleviating malnutrition, improving children's health and cultivating a healthy population. Community leaders and concerned citizens also used public health arguments in their calls for the continuation and expansion of the milk stations and the child feeding programme. These multiple demands reflected the material and political importance that milk stations had acquired during the previous years. In face of this activism, the legislature assigned the programme an even higher budget appropriation during its 1947 special session.¹⁰⁹ This designation effectively transformed it from a war emergency measure into a formal part of the island's growing health and welfare system. As the following discussion shows, the particular significance of milk stations within this system was poignantly articulated in the voices of the people who worked in them or benefited from their services.

'Because You are Our Governor to Whom We Give Our Vote': Milk Stations and Child Welfare in a New Puerto Rico

By the end of 1947 the child feeding programme of the WEP was a permanent part of the government's nutrition services, together with the infant milk stations of the Department of Health and the School Lunch Program of the Department of Instruction. The election of Muñoz Marín as Governor the following year led to the final institutionalisation of his party's project to regenerate Puerto Rican society and increase its productive capacity. In this context, milk stations emerged as spaces where child welfare ideas interacted with politics on a daily basis. While attempting to improve the nutrition of Puerto Rico's future citizen-labourers, the stations served as places where supervisors, workers, children and parents lived, negotiated and practised the PPD political and economic agendas.

As part of this project for the construction of Puerto Rico's future, Rivera Marini presented her office's plans to turn the milk stations into Child Care Centres. Here she emphasised that 'the children that are fed in the milk stations belong to the most indigent class on the island'. 'Generally', she elaborated, 'they are members of big families who do not receive necessary attention in their households. They walk the streets alone exposed to accidents, do not receive appropriate education and orientation and, above all, do not receive physical care and security.' In order 'to guide them toward the development of

¹⁰⁸ 'Convincing Experiments Show that the Milk Stations Program Improves the Nutritional Status of the Puerto Rican Child' *op. cit.* (note 106).

¹⁰⁹ Lacot and Marchand to Piñero, 3 July 1947, caja 1823, folder 215.

better habits and manners, the Milk Stations Program is interested in turning stations, wherever the facilities allow, into Child Care Centres to ensure children's well-being'.¹¹⁰

In 1948, the Department of Health put these plans into practice on a trial basis in the towns of Santurce, Humacao, Bayamón, Salinas, Isabela, and Coamo. The specific objectives of these Child Care Centres were 'to provide the children that attend the milk stations not only with breakfast but also security during the day while their parents are away working'; 'to provide recreation, basic orientation in health, education and good manners'; 'to make available the means to train mothers in matters related to child care'; 'to foster good relations among neighbours of rural or urban areas where the centres are located; and to help improve children's health by employing the resources available in each community'. The centres also referred cases of sick children to the public health unit where they received 'chest, blood, excreta and urine examinations as well as the appropriate follow-up treatment'.¹¹¹

Apart from the new political environment on the island, the role of USDA donations in marketing strategies and post-war politics influenced the functioning of Puerto Rico's child nutrition programmes. The international opportunities opened by post-war relief efforts gave the USDA another channel to open new markets for dairy surpluses directly or through international institutions. For example, in the late 1940s the importation of powdered milk from the US appeared 'as a viable practical solution to the decline in milk production in Mexico' while UNICEF became the largest purchaser of US surplus dried milk.¹¹² This new international context also consolidated the political role of relief feeding. In the emerging Cold War international landscape, officials at the USDA 'agreed that using the milk surplus for relief made political and economic sense'.¹¹³ Thus, the history of milk distribution programmes in Puerto Rico is another example of the island's role as a testing ground for the practices and technologies that became central to US international politics during the post-war decades.

The effects of these broader dynamics on the island were channelled by the PPD. As Child Care Centres, milk stations assumed a new significance in the context of the government's industrial development model named Operation Bootstrap. This model was based on offering tax incentives, land and utilities subsidies, and a low-cost labour force to US industries opening plants on the island. Many of the industries established during these initial years were garment factories employing a mostly female labour force.¹¹⁴ Meanwhile, the inauguration of the ELA in 1952 finalised the legalization and consolidation of Puerto Rico's colonial status.¹¹⁵ Thus, Puerto Ricans were simultaneously transformed into citizens of a modern colony and subjects of an emerging development regime facilitated by the island's position as 'the best of both worlds for those fractions of US capital looking to expand internationally after World War II'.¹¹⁶

¹¹⁰ 'Programa de Alimentación Infantil (Estaciones de leche)', caja 1825, folder 215.11.

¹¹¹ *Ibid.*

¹¹² Enrique Ochoa, *Feeding Mexico: The Political Uses of Food Since 1910* (Wilmington, DE: Scholarly Resources, 2000), 117; James Gillespie, 'International Organizations and the Problem of Child Health, 1945–1960', *Dynamis*, 23 (2003), 115–42, 135.

¹¹³ Smith-Howard, *op. cit.* (note 91), 80.

¹¹⁴ Carmen Teresa Whalen, 'Sweatshops Here and There: The Garment Industry, Latinas, and Labor Migrations', *International Labor and Working Class History*, 61 (2002), 45–68.

¹¹⁵ Córdova, *op. cit.* (note 17), 11.

¹¹⁶ Pantojas-García, *op. cit.* (note 5), 5.

The development strategy instituted by Operation Bootstrap necessitated the cultivation of healthy and productive labourers. As Child Care Centres, milk stations served the dual purpose of ensuring the fitness of future workers and attending to the child care needs of mothers who were increasingly working outside the home. In 1948 the programme was integrated with the Department of Instruction's district system which administered it jointly with the Department of Health. Supervisors reported that these new stations were popular among children, parents and neighbours. This is not surprising given that, apart from the help they apparently provided to working mothers, the foods offered such as milk, cereal, crackers, butter, dehydrated eggs, dried or canned fruits and honey introduced considerable variety to children's daily diet. According to one administrator:

Once breakfast is finished, the children stay in the premises of the stations. The majority of them do not return to their homes until the station is closed. If during the afternoon hours one of the supervisors visits the station, the children immediately surround her. This attitude from their part demonstrates that the children enjoy their stay at the station and that they feel happy there.¹¹⁷

However, supervisors also reported that parents, children and local workers often ignored many of the stations' rules. For example, officials found it difficult to enforce the age eligibility rule which stated that children over ten years old were not eligible to be served at the stations nor were those from eight to ten who were enrolled at school. The feeding of these children was the responsibility of the Department of Instruction's School Lunch Program. The integration of the milk stations programme with this Department's district system led to a stricter implementation of this age limit. Nevertheless, many district supervisors reported finding school children eating and drinking at the milk stations.

The rule that 'all foods shall be consumed within the premises of the station and that no food item shall be taken to the home' was also often ignored by local workers and parents. Rivera Marini was quick to take action when notice of these infringements reached her in San Juan. In one occasion, after many documented infractions, she decided to terminate the services offered at the Barrio Ceiba Sur station in the Juncos municipality. When the mayor of this town wrote to the Governor demanding that the station be reopened, Rivera Marini prepared a lengthy report detailing the reasons motivating her decision. According to this report, 'seventy of the eighty-nine children receiving services at this station' did not meet the age eligibility requirements and 'parents constantly asked workers to provide them with food to take to their homes'.¹¹⁸

Apart from these violations, Rivera Marini reported that the 'physical condition of the station was *malísima* (very bad) because when it rains the station floods and the food products cannot be protected'. The district supervisor reported that this situation had not been addressed properly by the station workers whose general performance she judged 'inefficient'. Although they were given another opportunity to correct these problems and to find eligible children to justify the station's operation, upon returning a month later the district supervisor found that 'the worker in charge of opening the facility was late and there were twenty-five children waiting for her'. When she asked them if they were enrolled in school 'they all answered in the affirmative which demonstrated that the station workers continued to attend ineligible children'. This compelled the district supervisor to close the station definitively. Rivera Marini finished her report emphasising that these requirements were in place because 'the objective of this program is to help improve

¹¹⁷ *Op. cit.* (note 110).

¹¹⁸ Memo from Rivera Marini to Muñoz Marín, 28 January 1948, caja 439, folder 18-2.

the feeding of our island's indigent children and avoid having in the future a weak and physically ill population'.¹¹⁹

This explanation reflects the extent to which regeneration ideas and notions about Puerto Ricans' low labour productivity continued to motivate the organisation of child nutrition programmes. At the same time, the message of the PPD shaped the ways people made sense of the services provided at milk stations. While supervisors considered that enforcing the programme's rules was necessary to ensure its effectiveness, people saw it as a symbol of the party's commitment to the poor and as part of the materialisation of its social justice agenda. Therefore, local workers and parents also communicated directly with Muñoz Marín regarding the conditions at particular stations and requesting his assistance to access services.

Letter writing became an important way for Puerto Rico's working poor to communicate grievances and request help from the party's leaders. Letters addressed to the Governor demonstrate the ways in which they understood and made sense of the relationship between them and the new representatives of the colonial state. As Del Moral notes in her study about public education during this period, 'parents and students had been listening to the promises made by the PPD during the 1940s political campaigns'.¹²⁰ Like education, nutrition and health care were part of those promises. Milk station workers and beneficiaries also wrote to Muñoz Marín appealing for attention to their concerns and making requests for services. These letters demonstrate how poor Puerto Ricans deployed the political discourse of citizenship and justice promoted by the PPD to make themselves part of or call attention to the limitations of programmes like the milk stations.

On 13 February 1952, Sonia Lara wrote the first of two letters informing the Governor of the situation at the milk station where she worked in the barrio Espanta Sueño of Fajardo. In the first letter, she explained how she 'saw one of the other workers at the station, Gloria Fernández, taking half-full cracker containers and all kinds of foods to her house'. 'One day I asked her', Lara continued, 'how could she do that, and she answered that if 20 children come to the station to be fed, she wrote 40 in the record and the supervisors do not notice that food is missing.' In her second letter, dated 20 March, Lara informed Muñoz Marín that Fernández was now in charge of the station, and that 'she has a lover that stays with her the whole day in the station's kitchen eating from everything and taking food home as well'. In her opinion, Fernández 'had a lot of nerve walking in front of the children *con el querido* (with her lover) and stealing their food'. Lara finished her letter noting that 'we are community leaders who are here to watch over everything and because you are our governor to whom we give our vote, we need to let you know the truth so that the children can receive their food'.¹²¹

While for Lara her work at Fajardo's milk station gave her ownership of Muñoz Marín's government project, others appealed to its ideological commitment to the poor to communicate grievances. Among these, Juan Gómez wrote to complain to the Governor about the problem his family was having at the infant milk station located in Maunabo's public health unit. In a letter dated 20 May 1953, Gómez reported that 'Miss Preto norza [*sic*] (nurse) of the [public health] unit in Maunabo refuses to give milk to my wife and child and encourages other station workers to do the same.' 'Why is it that you send this

¹¹⁹ *Ibid.*

¹²⁰ Solsiree Del Moral, *op. cit.* (note 19), 150.

¹²¹ S. L. to Muñoz Marín, 13 February and 20 March 1952, caja 1825, folder 215.11. To maintain anonymity, names of workers and parents are pseudonyms.

milk?’ Gómez asked the Governor. ‘Is it to store it here or to give it to the children?’ He reassured Muñoz Marín that he worked, but ‘I am poor and my earnings are not enough to cover my family’s needs. In any case, I prefer not to eat myself to be able to buy my son’s milk.’ Even when he tried to convince the workers to serve his wife ‘they still refused to give her milk for my son’. He closed his letter telling Muñoz Marín that ‘I know that you care about the poor, could you see if there is something you can do?’¹²² After receiving Gómez’s letter at the Governor’s office, his assistant replied him that ‘according to the Governor’s instructions, your communication was directed to the Secretary of Health who will contact you once the case is investigated’.¹²³

It is not clear from the records what the results of this investigation were or if Gómez’s problem was ever resolved. However, Lara and Gómez’s letters exemplify how people appropriated the government’s rhetoric to both claim membership in its projects and to point to their limitations. Their voices demonstrate how these nutrition programmes became for the people an intrinsic part of a populist agenda presented as the cure for the historical neglect and misery afflicting rural Puerto Rico.

Conclusion: Nutrition and Political Publicity

As this article has shown, milk stations were much more than a public health strategy to fight malnutrition and diseases among infants and children. They served as sites of both biomedical and political practices and their day-to-day functioning reflects the importance of these services for the legitimisation of the PPD government, its political project and its economic policies. As part of efforts to regenerate society and increase labourers’ productivity, child nutrition programmes were instrumental in the transformation of Puerto Ricans into citizens of a modern colony and subjects of the industrial development model instituted by the PPD. On the other hand, for the people, services like milk stations represented the materialisation of the party’s agenda of social justice for the poor. The voices of workers, parents and local residents clearly transmit how this programme’s resonance in rural communities was the result of that discourse which they promptly deployed in efforts to call the attention of authorities to their needs and priorities.

This historical study of milk stations in Puerto Rico demonstrates how eugenic discourses rooted in late nineteenth-century modernisation efforts framed the application of child nutrition ideas during the Depression and the Second World War. In the socio-political context of the 1930s these eugenic ideologies were reworked in the language of public health experts who argued that the physical and moral regeneration of the rural poor was contingent on changes to Puerto Rico’s economic structures. High infant and child mortality was presented as the result of the ignorance and indigence bred by the island’s declining monocrops economy. This articulation of child welfare expertise in Puerto Rico was part of an inter-American exchange of medical knowledge, public health strategies and eugenic ideas as well as international concerns with children’s malnutrition and poverty. In this context, the nourishment of children’s bodies emerged as a vital component of efforts to reform rural Puerto Rico and cultivate healthy and productive labourers.

Milk stations programmes were part of the strategies deployed in the pursuit of these agendas. Devised as relief feeding services and facilitated by USDA surplus programmes and New Deal legislation, milk stations served as spaces where Puerto Rican public

¹²² J. G. to Muñoz Marín, 20 March 1953, caja 1825, folder 215.11.

¹²³ Acevedo Quintana to J.G., 5 June 1953, caja 1825, folder 215.11.

health and medical professionals interacted with poor populations during the 1930s. This interaction was crucial for the emergence of the PPD and its success in the following decades. Under this party's leadership, child nutrition services after the Second World War became part of the re-articulations of colonial and developmental governance spearheaded by the inauguration of the ELA and the implementation of Operation Bootstrap.

As the letters by Sonia Lara and Juan Gómez show, health and nutrition programmes like milk stations were for the people tangible proof of their new government's commitment to the rural poor. In the words of the mayor of Arecibo, milk stations are 'one of the most popular programs of our current government'.¹²⁴ Echoing the mayor's comments, anthropologist Julian Steward and colleagues Eric Wolfe and Sidney Mintz observed in 1956 that 'health services are one of the major benefits provided to the Puerto Rican people by the government, and they consequently have a political as well as therapeutic significance'; they are 'in a sense a form of political publicity'.¹²⁵ The success of this publicity in the case of milk stations was the outcome of this programme's historical trajectory in the singular context of Puerto Rico. The organisation of milk stations as part of Depression-era relief and reconstruction efforts fostered a particular encounter between health professionals and rural populations, assumed rhetorical significance in the PPD's populist discourse of the 1940s, and served as instruments of its political and economic agendas in the years after the Second World War.

¹²⁴ Telegram from Goitía to Muñoz Marín, 3 July 1951, caja 439, folder 18-2.

¹²⁵ Julian Steward *et al.*, *The People of Puerto Rico: A Study in Social Anthropology* (Champaign, IL: University of Illinois Press, 1956), 482.