The Double-Edged Sword: Smallpox Vaccination And The Politics Of Public Health In Cuba

Stephanie Haydee Gonzalez
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THE DOUBLE-EDGED SWORD: SMALLPOX VACCINATION AND THE POLITICS OF PUBLIC HEALTH IN CUBA

by

Stephanie Gonzalez

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This manuscript has been read and accepted for the Graduate Faculty in History in satisfaction of
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CITY UNIVERSITY OF NEW YORK
Abstract

THE DOUBLE-EDGED SWORD: SMALLPOX VACCINATION AND THE POLITICS OF PUBLIC HEALTH IN CUBA

by

Stephanie Gonzalez

Adviser: Professor Herman Bennett

This dissertation tracks the introduction and development of smallpox vaccination in colonial Cuba from the early nineteenth century to the American occupation of 1898. Native (creole) medical practitioners utilized smallpox vaccination as an instrument for securing status as professionals and conceptualizing new identities in a colonial slave society. The smallpox vaccination program allowed licensed practitioners to create a medical monopoly, foster scientific standards and cultivate a medical ethic. Creole vaccinators initially identified with a colonial state that protected their professional interests as necessary for the maintenance of Cuba’s slave-based, agro-industrial sugar complex. By the end of the nineteenth century however, professional divestment and ethnic strife convinced fledgling medical professionals to mobilize their creole, scientific identities against Spanish colonial rule.
ACKNOWLEDGEMENTS

This dissertation could not have been completed without the support of numerous institutions and individuals. I thank my first advisor, Alfonso Quiroz for his support and encouragement throughout the early stages of this project. His professionalism and personal courage in the last stages of his illness served as an example to all and he is sorely missed. Herman Bennett, who graciously took on the role of mentor after Alfonso’s passing, has been instrumental in guiding me through the last stages of this dissertation. His generous commentary on the developing manuscript and advice on navigating professional life in academia will always be greatly appreciated. I also thank Mary Roldan, Jerry Markowitz, George Sussman, Megan Vaughn and Gerald Oppenheimer for helpful critique of later drafts. Generous support from the MAGNET fellowship program at the Graduate Center provided critical funds to cover living expenses, tuition and research trips, without which I could not have completed my graduate education.

I thank the staff of the Archivo Nacional de Cuba, the Biblioteca Nacional “José Martí,” and the Archivo Histórico Nacional in Madrid for their guidance during the research stages of this project. Danielle Aloia at the New York Academy of Medicine and Ignacio Díaz-Delgado Peñas at the Biblioteca de la Real Academia Nacional de Medicina in Madrid deserve special mention for their thorough archival searches and advice on particular sources. I am also grateful to Consuelo Naranjo Orovio, Miguel Ángel Puig-Samper and Ricardo Campos Marín from the Consejo Superior de Investigaciones Científicas in Madrid for gifts of books and enlightening conversations which challenged my presumptions and reoriented my investigation in a positive direction.
My family, who taught me the value of hard work and never giving up, was a source of strength during trying periods of research and writing. To Carmita and my many relatives in Cuba, thank you for orienting your bewildered cousin through the initial steps of research in Havana. In Madrid, the Garcia-Mauriño family adopted me as their own, and I thank them for their generosity and affection. This dissertation is dedicated to my mother and father, who continue to serve as examples of resilience and love in action.
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Introduction

My project lies at the intersection of the sociology of professions, the history of science and empire. Few scholars have analyzed the impact of smallpox vaccination on medical professionalization in the colonial periphery. Traditional narratives in the historiography of professionalization privilege Western European and North American models concerning the context and general attributes of medical professionalization. In the 1950s for example, sociologist Talcott Parsons located the origin of sharply contained, medical “communities of the competent” in the late nineteenth-century, industrialized West, where scientific advances in bacteriology required the specialization and organization of expert authority to sustain a growing knowledge base.¹ By the early twentieth century, medical professionals in Europe and North America enjoyed the unique characteristics which defined genuine professionalization, including high educational and scientific standards, professional monopoly on the market and autonomy of medical organizations from state intervention². A number of historians, such as Robert Gidney and Winnifred Miller, propose more flexible and historically contingent definitions of a Western “professional” dating back to the early modern period.³ Scholars Sanjoy Bhattacharya and Steven Palmer, in turn, have utilized more flexible paradigms to identify and understand

manifestations of medical professionalization in colonial India and Latin America. My research on the formation of the medical “professional” in nineteenth-century Cuba offers new perspectives on the history of professionalization in the periphery.

What constituted a medical “professional” in late eighteenth and nineteenth century Cuba? What position did these licensed practitioners occupy in an agro-export economy powered by African slave labor? How numerous and self-conscious were they as a group, both within the general population and amongst the wider healing community? In a racially stratified, colonial society, the concept of a professional had very explicit connotations. Only white men of a certain status or with connections to the elite could aspire to become licensed medical professionals and their exclusive composition as a group guided their understandings of professional entitlement.

Even allowing for the particularities of nineteenth-century Cuba, creole medical professionals shared many attributes with what Gidney and Miller identify in nineteenth-century Ontario, Canada as “professional gentlemen.” Most creole, licensed practitioners in Cuba were part of an elite cohort of graduates of the standard triad of liberal professions (law religion and medicine) offered in the University of Havana. They were well versed in classic languages and literature and this shared foundational knowledge, more than its application to specific expertise in the ancient medical texts of Galen and Avicenna, gave them privileges as “gentlemen.”

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educated minority in a colonial, slave society, Cuban “professional gentlemen” were imbued with notions of their own social relevance and shared the socio-economic expectations that came with genteel recognition and prestige. They were, at least discursively, expected to adhere to gentlemanly codes of professional etiquette and honor with regards to, for example, intra-professional competition and ethical client interaction. The relationship of elite practitioners to the larger population, including the indigenous and African slaves, was also to be marked by expressions of charity and humanitarianism.⁷

In Cuba, furthermore, “professional gentlemen” lived and worked within a unique environment. As historians Steven Palmer and Adrián López Denis have noted, economic growth in the slave-powered plantation sector and some of the highest levels of urbanization and militarization in the Atlantic world spurred medical professionalization. Together, these conditions created a peculiarly “colonial modernity” for medicine, financing the employment of licensed physicians and providing a cache of available bodies for practitioner experimentation, clinical observation and autopsy. Throughout the nineteenth century, slavery, urbanization and militarization encouraged the growth of one the highest ratios of physicians to population in the New World. In the late 1820s for example, there were 777 practitioners per million inhabitants, more than most European countries would have at the close of the century.⁸ Extraordinarily high ratios prevailed throughout the century and were even surpassed in urban environments such as Havana.

( Havana: Editorial de Ciencias Sociales, 1984) also provides a good general review of the university’s history and curriculum.⁷ For example, aspirants to the position of regular vaccinators regularly cited their “humanitarian” contributions to justify their professional inclusion, as demonstrated in “A los Secretarios de las Subalternas de Matanzas,” March 9, 1852, Junta de Sanidad, Cartas de Matanzas, No. 2, File 38, Archivos Nacionales, Havana, Cuba (hereafter AN).⁸ Adrián López-Denis, “Disease and Society in Colonial Cuba, 1790-1840” (Ph.D diss., University of California, Los Angeles, 2007), 66.
<table>
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<th>Country</th>
<th>Doctors and surgeons (per million)</th>
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<tr>
<td>Cuba</td>
<td>777</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>578</td>
</tr>
<tr>
<td>Holland</td>
<td>410</td>
</tr>
<tr>
<td>Belgium</td>
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Table 1: Doctors and surgeons per million inhabitants by country, circa 1890.\(^9\)

Though foreigners comprised a majority of licensed practitioners until the 1840s and 50s, when student enrollment in medicine at the University of Havana rose substantially (see Figure 1 below), creole physicians and surgeons were galvanized by the professional opportunities of a uniquely “colonial modernity,” particularly in the sugar-rich zones of the western provinces of Havana, Matanzas and Las Villas. The abundance of licensed practitioners and opportunities for research on accessible bodies spurred an increasingly self-conscious creole medical community to foster institution-building, with the first petitions for the establishment of a Royal Academy of Medicine drafted as early as 1826.\(^10\) Long-standing, local public health institutions such as the Central Vaccine Board of Havana were also overwhelmingly dominated by creole practitioners graduated from the University of Havana. Throughout the century, creole vaccinators comprised a small percentage of the licensed medical community; in 1868 for example, only 14 officially sanctioned vaccinators operated in a capital city inhabited by over 130 licensed practitioners.\(^11\)

Yet they benefitted from professional dynamism in the medical milieu and played a

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\(^11\) José A. Martínez-Fortún y Foyo, *Cronología médica cubana: Contribución al estudio de la historia de la medicina en Cuba, Fascículo cuarto (1840-1880)* (Havana: [s.n.], 1951).
disproportionate role in the construction of medical monopoly and a medical ethic for the cultivation of the “professional gentleman.”

![Medical students enrolled in the University of Havana, 1800-1873](image)

**Figure 1: Medical students enrolled in the University of Havana, 1800-1873.**

Of the numerous licensed medical practitioners in the capital, not all professed the status of a “professional gentleman.” There was great variation in rank among the licensed medical community, who, in turn, distinguished themselves from diverse healers of varying backgrounds vying for the attention of the ill. Claims to gentlemanly status also clashed with the socio-economic realities of most licensed physicians. Unlike the rising sugar elite, Cuban professional gentlemen did not always base their claims for elevated social status on sugar, land and slaves. Charitable organizations and/or wealthy patrons sponsored the education of many white creoles of the middling and humbler classes who entered the medical field as a vehicle for upward mobility.

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13 The growth of the agro-export sector spurred the creation of a creole aristocracy on the island, as a small number of wealthy, landed creoles bought titles from a monarchy eager to curry favor with local elites. Allan Kuethe, *Cuba, 1753-1815: Crown, Military, and Society* (Knoxville: University of Tennessee Press, 1986).
mobility. Yet the number of licensed practitioners and opportunities for medical research on the island were unique in many respects, and fostered the construction of a distinct professional identity amongst licensed, creole medical practitioners.

The origins of such scientific dynamism in colonial Hispanic America were integrally tied to late eighteenth century scientific activity across the Hispanic territories. During the past three decades, literature on the history of science has moved beyond limited historiographical paradigms which privilege the North Atlantic.\(^{14}\) Inclusive definitions of what constitutes scientific activity and the *contextualized* nature of knowledge production provide new and exciting avenues for research. Historians understand the central contributions of Latin American scientists to what is considered mainstream science, and recognize as scientific practice pragmatic forms of knowledge production that privileged the “useful.” Eurocentric notions of a simple diffusion of ideas from center to periphery ceded to a much richer history of collaboration, reinterpretation and appropriation of science for utilitarian ends.

The historian of science Jorge Cañizares-Esguerra writes that Western scientific ideas and practices played an integral role in colonization throughout the early modern period.\(^{15}\) Fed by indigenous cultural traditions, colonists and their allies used the diverse fields of natural history, astronomy, chemistry, mineralogy and metallurgy to understand and exploit the new environments they confronted. Scientific activity was overwhelmingly pragmatic and conducted

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outside the ideologically orthodox scholasticism of the university in mines, agricultural estates, barracks and cloisters as well as in the comfortable homes of eclectic local scientists.

In the second half of the eighteenth century, a propitious environment emerged for integrating the isolated activity of diverse Latin American “communities of experts” and local scientists through the socialization and institutionalization of scientific activity. Spurred in part by Bourbon economic reform in the colonies, greater opportunities for communication and trade diffused late Enlightenment ideals amongst local elites, who eagerly united the concept of human progress with science. Under local initiative, bourgeois associations called Patriotic Societies, dedicated to promoting education, economic growth and science and technology sprang up across the major capitals of colonial Hispanic America together with a nascent scientific and medical press. Even lay periodicals such as Cuba’s own Papel Periodico expoused the virtues of “useful science,” regularly running articles on science and medicine for a general readership.16

Patriotic Societies, press organs, and local elites forged unprecedented linkages with different social and economic sectors who hoped to benefit from the new science. Miners, merchants, and export agriculturalists welcomed and often financed new institutes for technical and scientific training in the hopes that scientists would be able to apply their knowledge to augment production in the mining sectors of Peru and Mexico or the agro-export economies of New Granada, Guatemala and Cuba.17 For its part, the Spanish crown embarked on its own mission to utilize science to maximize resource extraction and bind the colonies more firmly to the metropolis as colonies rather than autonomous kingdoms. Receptive to local scientific impulses that promised to serve imperial needs, the crown sanctioned many institutional

17 Ibid.
innovations and sent waves of scientific missions to create linkages and foster awareness amongst Hispanic American scientists.  

Colonial Latin American scientists gained a prominent role for themselves as emerging professionals who could play a pivotal role in the construction of the local “patria.” As a group, their influence on regional identity formation and independence from colonial Spanish rule has been the subject of much investigation. Historians working from a paradigm which condemned the old metropolis as hopelessly backward and obscurantist in all matters scientific, relate the process of Latin American scientific modernization to anti-colonial resistance. Historian Thomas Glick argues that colonial scientists in New Spain, New Granada and Peru were part of a class cohort of creoles politicized by their exposure to ideas of political sovereignty and emancipation. Creole scientists acutely felt the burden of defending the Americas from the scientific and cultural slander from Europe (e.g. Buffon, Raynal, Robertson) and harbored resentment towards their dependence on European science. Conflict between creole scientists and metropolitan representatives, whether over discrimination, ideological rigidity or contradictory goals in the application of science, exacerbated feelings of alienation from the metropolis. Creole scientists were thus particularly open to “anti-European” ideas that packaged political independence with scientific renaissance on behalf of the local “patria.”

Historians José Saldaña, Antonio La Fuente and Luis Carlos Arboleya note that creole scientists didn’t automatically harbor revolutionary sympathies as a result of their scientific

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18 An impressive historiography has been constructed around these expeditions. For an overview, see Alejandro R. Diez Torre et al., La ciencia española en ultramar (Madrid: Doce Calles, 1991).

19 Thomas F. Glick, “Science and Independence in Latin America (With Special Reference to New Granada),” Hispanic American Historical Review 71, no. 2 (May 1991): 307-34. See also José Luis Peset’s, Ciencia y libertad: El papel del científico ante la independencia americana (Madrid: Consejo Superior de Investigaciones Científicas, 1987).
activities.\textsuperscript{20} Certainly, creole scientists resented their marginalized position in the scientific realm and tended to reinforce a certain scientific localism that quickly became political. In some areas for example, particularly those with large indigenous populations such as New Spain, scientists developed their own eclectic and autochthonous scientific traditions that drew upon the pre-hispanic past and creole cultural symbology.\textsuperscript{21} Even where this was not the case, many creole scientists favored working towards what historian Luis Carlos Arboleya calls a “patriotic science,” self-sufficient, reform oriented and which directed economic prosperity to the exclusive benefit of the creole “patria.”\textsuperscript{22} Historian José Saldaña points out that this scientific localism and the creation of “a framework in which science could fulfill a social function” forged avenues through which creole scientists justified their struggle for freedom and independence from the metropole.\textsuperscript{23}

In practice however, “patriotic science” did not necessarily conflict with metropolitan objectives or lead scientific enthusiasts to revolt in the name of independence. After all, multiple parties saw experimentation with effective metallurgical techniques, exploration of natural resources in uncharted territories, and the establishment of scientific and technical schools to train future generations as beneficial to what was a fluid concept of “patria.” Collaboration and compromise between Spanish scientific representatives and local scientists were also quite common, and the colonial administration often aided in the construction of institutional channels


\textsuperscript{21} Juan José Saldaña, Los orígenes de la ciencia nacional (Mexico City: Instituto Ibero-Americano de Estudios sobre la Ciencia y la Tecnología, 1992).

\textsuperscript{22} Arboleya, “La ciencia,” 193-225.

for local scientists to articulate professional roles for themselves. The disarticulation of science from revolutionary activity offers new analytical avenues for the study of scientific modernization under colonialism. In terms of cultural identity, historians have also moved beyond simple dichotomies of mutually antagonistic “creoles” and “peninsulars” to carefully uncover the circumstances which politically radicalized creole scientists.

Creole physicians were well represented in the colonial Latin American scientific community. Their relationship to smallpox vaccination, widely considered a “useful” application of science for the prosperity of populations, can reveal much about their professional goals and identities in relation to the public. The historiography related to smallpox vaccination under empire thus offers another prism from which to understand the problem of professionalization, identity and the state. Historians of vaccination have utilized post-colonial theory to move beyond heroic monographs of Western medical initiative and models of simple scientific diffusionism. Some of the first critical scholarly perspectives, such as those of David Arnold and Anil Kumar, invert traditional representations of vaccination as a beneficent Western medical initiative upon grateful colonial populations. They instead portray the procedure as a “tool of empire,” which literally and figuratively marked its resistant subjects with a symbol of invasive state power. The role of a professional cadre of vaccinators in the ideological justification of empire looms large in these histories, where Foucauldian themes of the interconnection between scientific knowledge and state power have found particularly fertile ground. This perspective

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has also facilitated the blurring of lines between metropole and colony as scholars investigate the problem of civilizational discourses and state compulsion amongst the domestic populations of imperial powers.  

More recent revisionists have addressed problems with the use of the post-colonial lens to investigate vaccination under empire, particularly the tendency to reduce complex professional and cultural identities within dualities of European/indigenous, scientific/traditional and colonial imposition/resistance. Sanjoy Bhattacharya, for instance, depicts the colonial state as a multilayered complex of institutions rife with intergovernmental conflict over vaccination strategy, technique and organization. In the process, he reveals a rich multitude of players with different agendas and opinions about the proper definition of and approach to the public good in a colonial setting. Lauren Minsky renewed interest in the technical difficulties of maintaining and transporting fresh lymph over long distances and/or in certain environmental contexts, bringing attention to the process of experimentation and indigenization of vaccines by local practitioners. Historians of vaccination under empire no longer consider colonial subjects who resist vaccination part of a unanimously defiant and culturally-religiously conservative “other,” but instead portray them as rational actors whose receptivity fluctuates with the relative advantages of a painful and sometimes dangerous operation. Together, these studies not only dispel simple dualities and highlight the shifting allegiances of state, professional and popular

Andrews (Manchester: Manchester University Press, 1997), 172-211. For a more recent treatment in the case of Cuba, see Adrián López Denis, Disease and Society, 110-47. Outside a colonial context, more complex interactions between native populations and Western medicine can be found in Ann Bowman Jannetta, The Vaccinators: Smallpox, Medical Knowledge, and the “Opening” of Japan (Stanford: Stanford University Press, 2007).

27 In Germany for example, Claudia Huerkamp has noted that nineteenth century smallpox vaccination initiatives spearheaded by medical professionals touched a large percentage of the population and were thus key ingredients for the “medicalization” of the general population. Claudia Huerkamp, “The History of Smallpox Vaccination in Germany: A First Step in the Medicalization of the General Public,” Journal of Contemporary History 20, no. 4 (October 1985): 617-35.
actors, but present spaces for historians to investigate the process of identity formation in local settings.

Histories of smallpox vaccination in colonial Latin America have advanced revisionist strains in the literature and present an important lens for the study of professionalization. The region hosted one of the world’s first major public health campaigns, the Crown sponsored Balmis expedition, which transported fresh vaccine across Latin America, the Philippines and China between 1803 and 1810.28 While this campaign often lent itself to uncritical, heroic narratives, revisionist scholars such as Angela Thompson, Susana Ramírez Martín and José Rigau Pérez have investigated the nuanced ideological underpinnings of the campaigns and their impact on professionalization and institution-building in Spain’s colonies.29 However, relatively few historical works directly address the relationship between the creation of a professional community of the “learned” and the institutionalization of smallpox vaccination in Latin America beyond the early nineteenth century. The dynamic processes by which communities of licensed practitioner-vaccinators engaged the state and the impact of their shifting alliances on colonial identities over the longue durée also remains very much in the dark.30


30 Rigau Pérez, “Introduction of Smallpox Vaccine,” 393-423 and Adrián López Denis, “Communities of Immunity in the Iberian Atlantic World,” (paper presented at the International Seminar on the History of the Atlantic World, 1500-1825, Cambridge, MA, August 6, 2009) are exceptions in this regard, as they address the relationship between creole identity and smallpox vaccination during the early nineteenth century in Puerto Rico and Cuba, respectively.
Dissertation Outline

My dissertation fills a gap in the literature on the history of medical professionalization by emphasizing the central importance of smallpox vaccination for creole, medical professionalization throughout the nineteenth century. In tandem with revisionist scholarship on science in colonial Latin America and smallpox vaccination under empire, I argue that the creole “professional gentlemen” who protagonized vaccination campaigns maintained a complex relationship and identification with colonial power. The colonial government’s support for vaccination reinforced local pride and contributed to the construction of distinct cultural and professional identities amongst licensed, creole practitioners. Rather than serving as a basis for political dissent and anti-colonialism, these identities dutifully served both empire and a colonial economy built on African slavery during much of the nineteenth century. Late nineteenth century limitations upon professional growth and the termination of a service which granted creole, licensed practitioners a source of prestige and sense of mission in society led vaccinators to marshal these identities against colonial power.

It is precisely the space between medicine as a “tool of empire” and a public good utilized as a weapon against colonialism which lies at the center of this dissertation. The doctor was not only a benevolent figure who defined his mission as a “sacred” service on behalf of the population, he was part of a paternalistic, monopolistic elite bent on inserting itself into mechanisms of social engineering. Professional definitions of the public could be limited to critical economic producers or embrace persons across condition, socio-economic status and race. Such elitism and inclusive ideologies could co-exist and reinforce each other, or be pitted in conflict by professionals in a contest over meaning and position. Processes of professionalization and the notions of professional duty for the public good they reinforced were
conduits for the construction of cultural narratives which had decidedly political character. This
dissertation is not intended to be a prosopography of the medical profession in nineteenth century
Cuba, nor even a detailed biographical sketch of the vaccinating corps itself. Rather, the
emphasis is on the effect of professional modernization upon cultural identities and the
professional circumstances which transformed creole vaccinators’ political loyalties over time.

The format is largely narrative, with analytical interludes embedded within the text.
Chapters One focuses on the close collaboration between elite Cuban creoles and Spanish
colonial reformers in their joint project to domesticate the technology of smallpox vaccination on
the island after its introduction in 1804. Spearheaded by creole medical “high priest” Dr. Tomás
Romay y Chacón, the Central Vaccine Board of Havana was a center for licensed medical
“professional gentlemen” to formulate scientific standards that would justify a monopoly on a
relatively simple surgical procedure. Participation in the Vaccine Board also created
professional platforms and collaborative spaces for aspiring creole public servants to back up
their claims of socio-political and economic relevance with direct intervention upon a significant
percentage of the colonial population. Their social mission, framed as a “sacred obligation” was
in many ways a “tool of empire,” primarily geared towards augmenting productivity amongst
epidemiologically susceptible slave populations and reinforcing dominant socio-cultural and
racial hierarchies.

Chapter Two discusses the problem of professionalization and bureaucratization in a
changing colonial slave society. Vaccination was a symbol of creole initiative long after the
colonial pact between creoles and Spanish administrators began to fray in the 1820s and 30s.
Yet the powerful discourses of imperial paternalism and maintenance of this “preferential”
professional service stymied the articulation of any serious resistance to Spanish policy in spite
of a worsening epidemiological portrait. Over time in fact, public health policy more closely resembled the political economy of a militarized colony, as vaccinators won unprecedented state support for the use of coercive interventions and eventually, compulsory vaccination for the entire population in 1867. The polyvalent and often contradictory discourses of imperial paternalism, professionalism and humanitarianism could, however, be problematic. Vaccinators had to adapt to a changing target demographic and voiced sympathy for and recognition of the underlying socio-economic and technical foundations of low popular turnout. Bureaucratic inefficiencies, low salaries and limited opportunities for advancement tarnished the image of imperial paternalism and stirred intra-professional strife amongst a vaccination corps that saw themselves primarily as public servants rather than genteel benefactors of charitable services. When the central vaccinating corps was suppressed between 1868 and 1871, these colonial servants would not be resigned to the dissolution of their newfound social mission or professional identities.

In Chapter Three, the relationship between a specifically creole medical professional consciousness and colonial smallpox vaccination policy emerges in the context of late nineteenth century conflicts over the technical innovation of using calves as sources of renewable vaccine. Creole vaccinators had experimented with calves as sources of abundant and purified smallpox vaccine before the technique was granted an institutional base by Spanish public health administrator and vaccinator Vicente Ferrer in 1868. But in the midst of war and worsening ethnic strife, Ferrer’s association with destructive colonial public health reform and the professional disenfranchisement of a corps founded by creole patricians over 60 years earlier offended creole medical professional sensibilities. The reaction of the creole scientific establishment, embodied by the Cuban Royal Academy of Science, demonstrates the political
and cultural basis of scientific method and belief systems. The “calf vaccine” became associated with decentralization and privatization, running contrary to a medical ethic built on a discourse of humanitarianism and public service. The “sacred” public obligation which served as a building block of professional identity was now in defiance of colonial policy.

By the 1880s and early 90s, the dismal sanitary and epidemiological legacies of Spanish colonial rule were calling into question the viability of Spanish colonialism as a whole amongst many elite, creole medical professionals. Chapter Four discusses the reformist roles these professionals assumed for themselves in the construction of an autonomous (or in extreme cases, politically independent) “Cuban” nation and their definition of Cuban identity. The idealized and in many ways reinvented history of smallpox vaccination as a largely independent, creole initiative of service for the public good was a vital part of a dynamic narrative of creole cultural assertion. However, the question of how to honor this legacy and participate in the associational flourish of post-Zanjon Cuba pushed medical professionals in different directions, particularly concerning the thorny issue of engagement with the colonial state.

The final resolution of colonial collaboration was of course, preemptively proffered by American intervention and occupation of the island from 1898 to 1901. During these years, the American military contracted Cuban physicians to stamp out epidemic foci and vaccinate, under martial law, the majority of the Cuban population. The occupiers also installed a complex and unprecedentedly invasive system of public health intervention against smallpox and yellow fever, diseases considered epidemiologically dangerous by both North Americans and Cuban physicians on a “civilizational” mission. A dream of social engineering had seemingly come true. However, credit for the early twentieth century successes in public health were not left for
northerners to appropriate, as Cuban interest in the history of smallpox vaccination was reawakened in the context of US colonialism.

**A Note on Sources**

Most information on early nineteenth century smallpox vaccination is based largely on documentation left by Cuban creole medical patrician and Secretary of the Vaccine Board Tomás Romay y Chacón. The documentation Romay left as Secretary of the Vaccine Board is very selective, intended to streamline the messy, evolving project into a coherent and self-aggrandizing narrative for the colonial administration. While these documents can be problematic and are used with caution, Romay’s central role in directing the program for over 40 years ensure that they reveal much about the ideological foundations for institutionalizing vaccination and the progress of medical professionalization within the Board.

With the bureaucratic transition from the Sociedad Patriótica to the auspices of the Junta de Sanidad in the early 1840’s, different secretaries dominated administrative oversight of the service and produced somewhat more diverse documentation and correspondence in terms of professional and bureaucratic perspective. These sources are a critical lens for determining Romay’s administrative and ideological legacy upon creole vaccinators. Histories of the vaccine, which appear throughout the nineteenth century, are also extensively utilized for their revelation of an evolving professional and cultural narrative. The voices become even more pluralistic after termination of the service from 1868 to 1871, with growing associationalism and its attendant press organs. The growth in the diversity of public voices illuminates the larger creole medical community’s attitudes towards the procedure and vaccination’s reception amongst the general population.
This study is not intended to map the linkages between smallpox vaccination and medical professional identities on the island as a whole. The great majority of sources are limited to the sugar-rich provinces of Havana and Matanzas, where the confluence of plantation slavery, militarization and urbanization provided uniquely fertile ground for medical professionalization. For reasons of time and space, the far western province of Pinar del Rio, and the eastern regions of Las Villas, Camaguey and Oriente are largely excluded from analysis, though vaccination services extended into these areas.
Figure 2: Provinces and their corresponding capitals on the island of Cuba after colonial reorganization in 1879. This study focuses on the major sugar producing provinces of Havana and Matanzas.

Provincial Capitals:
1. Pinar del Rio
2. Havana
3. Matanzas
4. Santa Clara
5. Puerto Príncipe (Camaguey)
6. Santiago de Cuba
Chapter One: Medical Professionalization and the Lancet

Introduction

Secretary Tomás Romay’s summary of the activities of the Central Vaccine Board for the members of colonial Cuba’s prestigious Economic Society in December of 1835 was bittersweet. Since the introduction of smallpox vaccination in 1804, officials boasted a total of 311,342 vaccinated persons over the last 31 years. Yet overall tallies obscured more troubling fluctuations over time; the fact that since the early 1820s, the number of persons vaccinated had dwindled to a mere thousand or so per year was probably a most glaring omission for those few vaccinators present.

These alarming downturns in activity on the part of the vaccination board and the high percentage of the population subsequently left vulnerable to smallpox were only tangentially addressed. Instead, the secretary emphasized the positive. Romay insisted that in the long term, vaccination had not only “preserved the inhabitants of this island from the most deadly and generalized of diseases [smallpox]”; it had also “augmented the population, fomented agriculture, increased commerce, industry and the arts, and in this land privileged by nature, the level of prosperity and opulence that is its destiny.”31 The faculty present was to be especially praised for their professional contribution to this achievement in public health. Even if “[our] hopes have not been fulfilled, if the number of vaccinated persons progressively diminishes when it should increase, this has not been a result of any defect of zeal or constancy on the part of vaccinators.”32

32 Ibid., 319.
members distinguished by their experience, understanding and practice”, more than capable of taking charge of the organization upon his departure.\(^{33}\)

Romay’s closing address to his medical colleagues in December of 1835 is testimony to both the opportunity and daunting challenge that the introduction of smallpox vaccination offered to a growing medical elite in colonial Cuba. Acquired through a chance visit to Havana by vaccinated children from Puerto Rico in February of 1804, the vaccine arrived at a propitious time in the island’s history. During the late 18\(^{\text{th}}\) and early 19\(^{\text{th}}\) centuries, a core group of creole and peninsular intellectuals witnessed an economic and social transformation of unprecedented proportions. From the fairly diversified agricultural economy and low population characteristic of colonial peripheries, the island’s economy and social structure was converted into a brutal and cosmopolitan slave society. In densely packed port cities such as Havana, the resulting population growth from immigration, natural increase and the slave trade facilitated the spread of disease.

It was the danger that disease posed to the island’s economy and the rise of a trend in preventive medicine based on scientific precepts in Europe that allowed a growing number of elite creole physicians new professional and public functions in colonial Cuba. As “one of the first milestones in the advancement of preventative medicine,” vaccination inspired some of the first attempts to combat disease at the national level in many countries.\(^{34}\) It also opened doors to the early exercise of expert authority for revalued concepts of popular health. Using the Spanish colony of Cuba as a case study, this chapter uncovers the processes by which an interest group emerged in the wake of the vaccine’s introduction to engage the state in a struggle for privilege and status as bearers of the public good. What role did an autocratic state imbued with

\(^{33}\) Ibid., 320. This was to be his last address as Secretary of the Vaccine Board.

Enlightened Absolutist ideals play in medical professionalization and the construction of institutional platforms for licensed practitioners? How was the new technology assimilated to local ideologies and praxis and how did physicians use its introduction as an opportunity to garner support for new social roles in the public sphere?

**Early Forms of Professionalization under Spanish Administration**

Prior to the introduction of vaccination on the Spanish colony of Cuba in 1804, a few important public institutions existed to offer licensed physicians the opportunity to regulate the profession and/or intervene on behalf of public health. Spanish legislation regarding medical matters dated from Roman times and was based on the principle that it was the State/Crown’s obligation to intervene in the medical marketplace in order to assure that licensed medical practitioners were available to the population. According to historian of medicine John Lanning, “[for the Spaniards] nothing was more relevant to public health than the proper education, examination and licensing of doctors, the inspection of apothecary shops, the prevention of false or dangerous medical publications, the enforcement of medical laws, and the suppression of quackery.”

Since at least the days of Alfonso the Learned (1252-84), a small tribunal of Crown physicians composed what became known as the *proto-medicato*, which regulated the medical sphere and served as the highest court in cases involving the art and science of healing on the peninsula. Through successive reorganizations in the fifteenth and sixteenth centuries, the *proto-medicato*’s power and jurisdiction over medical practice and practitioners increased in volume and vitality. As Spaniards across the Americas sought to reproduce those regulatory

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36 Ibid., 15.
institutions which set the framework for “civilized,” urban life, over a half dozen proto-
medicatos were eventually established throughout the major cities of the Spanish empire, including Havana.\textsuperscript{37}

Even in major towns and/or cities where tribunals did not exist, proto-medicos or “public” physicians could be hired as consultants to municipal authorities seeking to curb illegal medical practice. Contracts between municipalities and individual physicians could also require physicians to attend to the needy populations of growing urban centers, make rounds in hospitals or, in port cities, inspect quarantined ships.\textsuperscript{38} By the eighteenth century, the (sometimes forced) retention of such physicians in growing cities such as Quito, Bogotá, Buenos Aires, Santiago de Cuba became commonplace. In cases of epidemic emergency, pre-eminent practitioners could also be called upon to serve on city health councils, institutionalized as \textit{Juntas de Sanidad} in early eighteenth century Spain. Together with agricultural, commercial and political leaders, physicians on these mixed councils offered advice on quarantine and sanitary controls until the specter of disease had passed over the population.\textsuperscript{39} Satisfactory service in hospitals, the retention of elite clientele or even the simple advantage of licensure in an environment where such personnel were scarce offered physicians professional step-ladders and subsequent leverage in their approach to these opportunities in the civil bureaucracy.

In Cuba, as elsewhere in the Atlantic world, cycles of trade, war and disease stirred the formation of a professional medical infrastructure. Even as Spanish attention turned from the demographically and mineral-poor island to the riches of the great indigenous empires of the

\textsuperscript{37} Pilar Gardeta Sabater, “El nuevo modelo del Real Tribunal del Protomedicato en la América española: Transformaciones sufridas ante las Leyes de Indias y el cuerpo legislativo posterior,” \textit{DYNAMIS} 16 (1996): 237-259. Spain’s relatively stringent requirements of licensure and university training for the practice of medicine were well known throughout Europe. High educational standards contributed much to the scarcity of physicians in the Indies.

\textsuperscript{38} Lanning, \textit{The Royal Protomedicato}, 36-45. The obligations, salary, and any particular concessions for such posts varied widely from city to city.

\textsuperscript{39} José Javier Viñes, \textit{La sanidad española en el siglo XIX a través de la Junta Provincial de Sanidad de Navarra, 1870-1902} (Navarra: Departamento de Salud, 2006).
mainland, the town of Havana quickly became an important transit point and commercial depot for fleet ships.\textsuperscript{40} By the middle of the sixteenth century, recognition of Havana’s strategic position with respect to Atlantic trade and imperial defense led to its designation as a central port of call for a regularized fleet system. Shipyards, armaments industries, garrisons and fortifications brought capital, slaves and more frequent communication with the Atlantic world.\textsuperscript{41} Commerce blossomed to serve military needs, Circum-Caribbean inter-colonial networks and insular circuits of exchange.

The city’s subsequent growth resulted in a worsening epidemiological portrait even as local administration worried about the lack of licensed practitioners at port.\textsuperscript{42} Institutionalizing some minimal form of regulation in the spheres of medicine and public health became an urgent matter for local authorities. Various legislative acts not only authorized the establishment of public institutions for the ill, but appointed licensed physicians to attend them. As early as 1634, Spanish physician Manuel Muñoz de Rojas went further, successfully petitioning the Crown to accept the establishment of a \textit{proto-medicato} in Havana with himself at its head.\textsuperscript{43} While prestigious and potentially lucrative for Muñoz de Rojas, there were few licensed practitioners to govern and persistent jurisdictional disputes tended to breed stagnation in these early attempts at institutional reform and what many elite contemporaries considered a critical component of cultural uplift.

\textsuperscript{40} Alejandro de la Fuente, \textit{Havana and the Atlantic in the Sixteenth Century} (Chapel Hill: University of North Carolina Press, 2008).


\textsuperscript{42} José López Sánchez, \textit{Cuba, medicina y civilización: Siglos XVII y XVIII} (Havana: Editorial Científico Técnica, 1995), 163-170. While smallpox was almost certainly introduced to Cuba in the first few voyage of conquest, yellow fever only made its appearance during the mid 17\textsuperscript{th} century (as maritime traffic increased in the region), and largely affected foreign residents who had not had the advantage of gaining immunity through the contraction of yellow fever as a child.

\textsuperscript{43} Emeterio Santovenia, \textit{El Protomedicato de La Habana} (Havana: Imprenta Editorial Neptuno, 1952), 15.
However, by the turn of the eighteenth century, the influx of capital associated with Havana’s role as one of central nodes of imperial defense and commercial exchange had irrevocably transformed the social fabric; a new, largely creole mercantile and agricultural elite emerged to reap the benefits of a trade boom in what had become a multi-national, colonial enterprise across the Caribbean. This emerging and increasingly self-conscious class pushed against the limitations of their local milieu and “could no longer be satisfied that their city was dirty and pestilent, without grace or diversion.”

Foreshadowing events almost a century afterwards, a select group of reformers lobbied on behalf of their economic and cultural aspirations not only for urban beautification but for institutional changes in the administration of public health and access to higher education. Not only was the protomedicato reinvigorated in 1711, but the Royal Pontifical University of Saint Geronimo was founded under Dominican auspices 17 years later. The university in particular served as a cultural symbol for the nascent elite and assured a steady (if meager) stream of medical graduates for the population at port.

The emergence of “public” physicians and the creation of institutions to educate and regulate medical practice offered some level of professional opportunity in the public sphere for a small number of licensed practitioners resident in Havana. The university, for example, held full faculty of medicine on par with the faculties of theology, philosophy, and civil and canon law. Assuming they fit the racial and religious dictates for “purity of blood,” had references for “good character” and were able to afford the schooling and requisite field experience, aspiring practitioners could obtain an education for licensure as barbers, surgeons or full-fledged physicians. For much of the eighteenth and early nineteenth centuries, the medical education

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44 López Sánchez, Cuba, medicina y civilización, 189.
46 Gregorio Delgado García, Historia de la enseñanza, 11.
available at the university was antiquated at best, with little recourse to practical clinical and surgical courses to balance the outdated anatomical and physiological lectures on Hippocrates and Avicenna. Despite its reputation as a bulwark for scholasticism, the existence of a prominent academic center for the dissemination of medical degrees contributed much to the creation of a local nucleus of licensed “professional gentlemen” with a shared corpus of knowledge and a sense of social and professional entitlement.

For its part, the proto-medicato was one of the first medical regulatory institutions to be founded and led by licensed practitioners. For medical professionals, this institution’s most important success is that it provided some (albeit very limited) forum for debate, local initiative and opportunity for upward mobility in the medical world. With the graduation of the university’s first set of medical students in 1730, the proto-medicato’s charge to grant licenses to competent medical practitioners began in earnest. And as a truly local nucleus of medical activity began to coalesce in the port city, expansion of the proto-medicato became imperative, creating a small but significant career step-ladder for Havana’s most renowned and well-connected medical practitioners. From making rounds in hospitals to inspecting quarantined ships at port, Havana’s proto-medicos and affiliated physicians formed a small interest group which, though largely advisory, played some role in broadening physicians’ public space and

47 López Sánchez, Cuba, medicina y civilización, 190. Unfortunately for the advancement of the sciences, the school was established under the tutelage of the Dominican order and remained a conservative bastion in the medical and natural sciences until its secularization during the 1840s. However, its presence constituted an important symbol of cultural advancement, before and after secularization.
48 Gidney and Miller, Professional Gentlemen, 3-14.
49 López Sánchez, Cuba, medicina y civilización, 228. By the late eighteenth century, the members of the regulatory body had expanded to include 3 protomedicos and an auditor. Its prestige was such that the most important physicians struggled to be named members of the Tribunal. This professional mobility had the added benefit of furthering local control of public institutions; by the 1740s, all of the Tribunal’s sitting members were creoles.
making their presence felt in hospitals (then under almost exclusive jurisdiction of the clergy) and municipal sanitary services.\textsuperscript{50}

In the long term however, this administrative organization did not much benefit the extension of medical jurisdiction in the civil sphere. Although the title granted to the second \textit{proto-medico} Francisco Teneza y Rubira in 1711 was explicit in its assurance that the prerogatives of the \textit{proto-medicato} in Havana were equal to those of its sister institutions in the Indies, the \textit{proto-medicato}’s jurisdiction over medical licensing and questions of competency was constantly infringed upon by colonial officials and a Spanish Crown loath to give up traditional regulatory powers.\textsuperscript{51} Energetic \textit{proto-medicos} who sought to expand the institution’s authority beyond that of a merely consultory body earned the enmity of important governmental authorities and could expect lengthy litigation, public calumny, risk of personal injury and even exile.\textsuperscript{52} A persistent dearth of licensed medical practitioners at port only exacerbated problems of poor administrative authority. Havana’s central position in the Spanish fleet system as a transit-stop and port of call resulted in a constant traffic of medical military personnel through the city. Yet Havana “was all but without [licensed] medical care” for nearly a century after its occupation and in the centuries that followed suffered “frequent periods of medical scarcity” as medical practitioners moved on to more lucrative prospects on the American mainland. \textsuperscript{53}

\textsuperscript{50} López Sánchez, \textit{Cuba, medicina y civilización}, 211-220. Although hospital care remained notoriously poor throughout the century, aggressive interventions by Teneza and subsequent sitting members of the tribunal led not only to the construction of the Hospital Saint Lazarus for lepers in 1717 but also to the documentation of abuse at existing institutions. As both royal officials and local authorities clamored for improvements, professional spaces subsequently opened up for licensed physicians at public hospitals and at many “ad-hoc” military facilities.

\textsuperscript{51} Santovenia, \textit{El Protomedicato}, 41-42, 46-47. Several high profile cases regarding the prosecution of medical men without legitimate licenses were overturned by the local town councils, the captain-general and even a king who reserved the supreme right of sanctioning medical practice throughout the Americas. Teneza’s energetic attempts to expand the autonomy and power of the protomedicato earned him the enmity of many key figures in the colonial bureaucracy.

\textsuperscript{52} Santovenia, \textit{El Protomedicato}, 46. Some of the first local publications to appear in the colony were inflammatory declarations by injured medical practitioners against Teneza.

\textsuperscript{53} Lanning, \textit{The Royal Protomedicato}, 137. Even during the latter half of the eighteenth century, well after the creation of important medical institutions such as the protomedicato/university and as economic growth began to
In times of epidemic, licensed practitioners approached the civil realm as consultants, without the ability to either organize or execute action. Indeed, the prevailing philosophy of public health intervention, in Spain and across Western Europe, ran contrary to such a role. As Lanning has pointed out, “public health [in the eighteenth century Spanish Empire] was somewhat different from the contemporary American perception of that same enterprise; enforcement of sanitation and drug standards, detection of disease and preventive medicine generally (usually at no cost to the individual)” was not considered within the jurisdiction of public health institutions as they pertained to the active medical community.⁵⁴ Even the protomedicato, as the only centralized medical authority in the colonial realm, was essentially powerless in the face of an epidemic, lacking the effective authority and resources to execute preventive measures and/or interventions. Instead, viceregal or local officials were the main protagonists during times of crisis, leaving the protomedicato on the “fringes of efforts to remedy public health problems.”⁵⁵

The public welfare was not necessarily prejudiced by the medical community’s lack of civil control over public health administration and private medical practice. Aside from ancient and well-known prescriptions for various types of quarantine, street cleaning, and purification rituals involving fire and cannon, university-trained practitioners didn’t have much to offer in the way of public interventions against epidemic disease. The religious orders, curanderos, military empirics and healers of all backgrounds tended to the everyday needs of the population alongside licensed personnel. Their outcomes were certainly no worse than those of the licensed elite.⁵⁶

create propitious conditions for licensed practice on the western side of the island, captain-general Conde de Ricla (1765-1767) could assert that many cities and towns did not have a single practitioner.
⁵² Lanning, The Royal Protomedicato, 11.
⁵⁵ Lanning, The Royal Protomedicato, 351.
⁵⁶ Roswell Danielson, Cuban Medicine (New Brunswick: Transaction Books, 1979), 72-73. Often, the licensed practitioner was more dangerous than the folk healer; before the introduction of antiseptic and sterilization techniques for example, the chance of survival from even the simplest surgical procedure was only forty percent.


Indeed, it is a wonder so many private clients and public patients survived the heroic strategies of heavy bleeding, purging, and blistering commonly used by educated galenists to restore balance to the body. Of course, officials and lay people alike believed in the efficacy of educated practice and regularly expressed concern about the “many persons who with little fear of God and in contempt of royal justice,” undermined the public good by “freely practice[ing] the art of medicine.”

But the ingenuity and ample experience of many unlicensed practitioners, some of whom experimented freely with the best that popular and elite healing strategies had to offer, often earned them a better reputation than the most learned of physicians.

Professionally however, the effect of a subordinate role on the outlook of the licensed medical community could be profound. Relegated to recommending solutions to problems of inoculation and quarantine during times of crises, there was little incentive for practicing physicians to publicly take charge of combating an epidemic. After all, “this was the moment when their private practice was most needed and their income at its peak.”

Throughout the Americas, and even in times of relative health, proto-physicians and their disciples were notorious for moving on to better financial prospects without a glance towards what royal officials identified as the public interest. The persistently curative bent of medicine, a lack of scientific knowledge, and the small number of licensed practitioners available (to those elite sectors of the population who could afford to submit to their generally dangerous treatments) aggravated the professional legitimacy of the medical profession in the eyes of both the state and wider public.

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57 Lanning, *The Royal Protomedicato*, 58. In the Caribbean, many of the *curanderos* or traditional healers were indigenous or mixed-race empirics. Quackery, or the deliberate falsification of credentials and medical ability for profit, was more common amongst Spanish infantrymen who were stationed on the island or docking at port.


60 Lanning, *The Royal Protomedicato*, 36-41.
Alternative frameworks that would allow for monetary interest to be channeled towards a “shared professional mission for social prestige and/or the public articulation of ethical and scientific standards” were also stymied by the general, systemic neglect common to overseas empire. Budgets were low, facilities few and institutions such as hospitals and isolation houses for the poor were dependent on charity. New conceptualizations of state responsibility for the “public good,” and fresh paradigms for understanding disease prevention would be required to gain enough leverage for an effective foray into the public sphere. By the turn of the nineteenth century, both of these developments would ripen and coincide with the emergence of another influential wave of creole reformers eager to test the boundaries of local autonomy and imperial responsibility in the midst of great political and social-economic transformation.

Smallpox Vaccination: A case study in professionalization

On the advent of the introduction of smallpox vaccination to the Spanish Americas, smallpox was a well-known and little controlled scourge of the Caribbean. Arriving to the Americas with the ships of Spanish conquest in the early 16th century, the disease decimated native populations. As trade and communications increased and more importantly, as African slaves were imported to meet labor needs, the re-introduction of smallpox to ports across the Caribbean became intimately associated with the slave trade that sustained commodity production on the plantation model. Though variola inoculation was widely practiced

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62 José G. Rigau Pérez, “Smallpox Epidemics in Puerto Rico during the Prevaccine Era, 1518-1803,” *Journal of the History of Medicine and Allied Sciences* 37 (October 1982): 424. The first outbreak in both Cuba and Puerto Rico can be traced to 1518, to which it had spread from neighboring Hispaniola. The epidemic’s toll on indigenous populations was dramatic by all accounts, taking from one to two thirds of the indigenous inhabitants from neighboring islands.
63 For a review of the literature concerning the introduction of smallpox to the ports of the Greater Antilles and the sugar plantations of Brazil, see Dauril Alden and Joseph Miller, “Out of Africa: The Slave Trade and the
throughout Western and Central Africa, the social displacement, malnutrition, and overcrowding which accompanied the trade facilitated the spread of disease. Intensification of the trade was felt in the frequency of epidemics, particularly after the mid-seventeenth century development of slave-based plantation systems in the new British and French Caribbean. In Cuba, where the disease had not been seen for decades, smallpox caused great mortality amongst the African slave population in a flurry of epidemics from 1677 to 1684 and again in 1693.64

The advent of Cuba’s own export revolution almost a century afterwards added urgency for solutions to the increasingly frequent epidemics ravaging the major port cities of Cuba. Precipitated by enlightened Bourbon trade policies and the fall of Saint-Domingue as a competitor in the sugar market, Cuban exports in primary goods boomed during the last three decades of the eighteenth century.65 Meeting the demand for sugar, coffee and tobacco production, as well as the growing urban industries thriving on the trade, required labor. In 1763, a brief occupation of the city by the English prompted Spanish authorities to reverse previous restrictions on large-scale importation of enslaved Africans. Between 1774 and 1792 the slave population increased from 44,000 to 85,000 persons, representing a jump from 26 to 31 percent of the total population. Over the next forty years, particularly as the labor-intensive sugar economy expanded, hundreds of thousands more were imported so that by 1827, the


island’s 287,000 slaves constituted an unprecedented 41 percent of the total population. On the eve of the introduction of smallpox vaccination in February of 1804, Cuba (particularly its western region) was incorporated into a global network as an importer of slaves to produce commodity agricultural goods for export.

Figure 3: Growth of the sugar industry, 1790 to 1894.

Figure 4: Slave imports to Cuba, 1790-1867.

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These transformations had a profound impact on the major port city of Havana.\(^69\) Dramatic demographic growth linked to the export sector was augmented by subsequent militarization of the colony, which brought tens of thousands of Spanish soldiers and administrators to Havana’s shores in order to maintain order and defend colonial claims in the new economy. The city expanded beyond the old walls and its center pulsed with the movement of people, animals and goods of all kinds, including massive quantities of bulky exports.\(^70\) As Prussian scientist Alexander von Humboldt noted during his travels to the island at the dawn of the nineteenth century, the circulatory systems of increasingly congested streets and thoroughfares were generally muddy, foul-smelling and insalubrious.\(^71\) It was in this context that epidemic disease made its most dramatic appearance. Regular bouts of measles, influenza, and yellow fever periodically spread panic amongst the population and directly interfered with economic growth. Smallpox, that “ancient scourge of the colony,” precipitated epidemic emergencies at least once every seven to nine years, burning on the combustible fuel of non-immune children and newly arrived adult slaves to carry it through city and countryside.\(^72\)

Such a situation worked to the advantage of licensed practitioners, which by the 1820s already formed a disproportionate percentage of the population in relative terms. Particularly during the early nineteenth century, the dynamism of the slave-driven economy and the influx of

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\(^69\) From 1792 to 1817, the population of Havana grew from just over 51,000 residents to over 84,000. The population would subsequently triple during the next 10 years, reaching a total of 237,828 persons in 1827. Jacobo de la Pezuela y Lobo, *Diccionario geográfico, estadístico e histórico de la isla de Cuba* (Madrid: Imprenta del Establecimiento de Mellado, 1863), 1:231.


epidemiologically vulnerable populations in a city infamous for its unhealthy conditions opened opportunities for healers in the private sphere. In rural outskirts, the insatiable demand for African slaves and the abysmal working conditions associated with the export sector created employment for iterant and regular surgeons and physicians on plantations.\(^73\) In the city, disease etiologies emphasizing local conditions and personal habits made local experts the ultimate reference for those stricken with diseases like yellow fever, which preyed almost exclusively upon the non-immune European population. Across both city and countryside, the bodies of soldiers, the urban poor, and slaves provided doctors with fodder for clinical experience, experimentation and autopsy.\(^74\) However, as intense urbanization, militarization and commodity production spurred medical professionalization on the island, the influence of “professional gentlemen” in the public realm remained slight, especially in the struggle against regular scourges such as smallpox.

Prior to the introduction of vaccination on the island in 1804, various preventive measures existed to halt the advance of a smallpox epidemic. Because re-introductions of smallpox very often accompanied incoming slave ships, maritime quarantine was considered the easiest means of preserving populations against possible epidemics and was the technique most frequently utilized.\(^75\) In theory, if the epidemic was severe enough, other more cumbersome and controversial measures were available to authorities. Land quarantine could separate contagious persons from the larger population. Royal promulgations throughout the eighteenth century

\(^73\) At least during the early nineteenth century, many if not most of these surgeons and physicians were of foreign origin, drawn by opportunities for work and clinical experience on expanding slave plantations. See Adrián López Denis, “Disease and Society in Colonial Cuba, 1790-1840” (PhD diss., University of California, Los Angeles, 2007), 66-70.


\(^75\) Ramírez, *La mayor hazaña médica*, 88-89. Together with vaccination, quarantine continued to be a primary intervention for public authorities throughout the colonial period. The small group of elite physicians which performed “public” services in Havana, including Romay, made quarantine inspection a part of their rounds.
advocated the construction of isolation houses (*degredos*) in which “[individual] smallpox victims [could be] maintained with utmost care and gentleness, assuring that all the precautions to avoid contagion are met”.76 If larger numbers of people were affected, *cordones de sanidad* (or forced quarantine) also had the potential to restrict the possibilities of disease transmission between communities. However, the expense and inconvenience of these latter options made them of little recourse and indeed, with few exceptions, land quarantine was rarely implemented against the pox during the colonial period.

In April of 1785, a royal promulgation concerning smallpox control reached Cuba which advocated inoculation with smallpox virus, a procedure only recently sanctioned by the Spanish Crown.77 The procedure consisted of taking matter from the pustule of a person infected with a relatively mild form of the disease and transferring it to the punctured skin of a healthy person. Supporters across the Atlantic world hoped that in this way the relatively benign case that resulted could be treated with ease and by a licensed practitioner. Disseminated throughout Latin America during the second half of the eighteenth century, inoculation was successfully adopted amongst elite sectors in the colony and a small group of specialists quickly sprang up in the major port cities of Havana and Santiago to meet demand.78 By the turn of the nineteenth century, the relative merits of inoculation were being publicly debated in the recently inaugurated *Papel Periodico*, leading the Cuban medical patrician of the period to judge the

77 Well-known amongst elite circles throughout Europe since its introduction to England from Turkey by Mary Wortley Montagu in 1718, inoculation did not enjoy official sanction amongst the aristocracy in Spain for much of the eighteenth century. Charles IV, a steadfast reformer who very much believed in the benefits of inoculation, was the first in the Spanish royal house to energetically promote it, having his own children inoculated in 1798. Donald Hopkins, *Princes and Peasants: Smallpox in History* (Chicago: University of Chicago Press, 1983), 224.
procedure “so generally good, that even its most acerbic detractors could not but admit its usefulness.”\textsuperscript{79}

Despite the abundance of royal and municipal statutes proscribing rigorous quarantine measures and the growing acceptance of inoculation by leading patricians, authorities were generally less than successful in preventing or containing smallpox epidemics during the seventeenth and eighteenth centuries. Hundreds of miles of shoreline and a widespread and lively contraband trade made maritime quarantine logistically difficult for an island colony such as Cuba.\textsuperscript{80} Inoculation with smallpox virus, while it lay a promising foundation for the understanding and practice of preventive medicine, was controversial and unpopular. The risk of suffering a severe bout with inoculation and the need for isolation of contagious individuals terrified people enough to prevent utilization of the preservative on a large scale.\textsuperscript{81} Combined with the myriad deficiencies of an unresponsive colonial administration and the general hostility towards strict adherence to any preventive measures that could negatively impact trade, the possibilities for effectively curbing the increasingly frequent epidemics were few.

Vaccination however, offered much potential for effective prevention and for a different conceptualization of professional medical authority at the turn of the nineteenth century. In 1796, the English physician Edward Jenner (re)-discovered that inoculation with material from cattle infected with cowpox (the more benign bovine virus related to smallpox) provided an

\textsuperscript{79} Tomás Romay Chacón, “Satisfacción a la duda que se propuso sobre viruelas,” in Obras Completas, 152.

\textsuperscript{80} For the implications of this reality on the illegal slave trade see Hugh Thomas, Cuba: The Pursuit of Freedom (New York: Harper & Row, 1971), 164-165.

\textsuperscript{81} Ramírez, La mayor hazaña médica, 108-111. Mortality rates for inoculated persons varied from one to three percent. This figure, in comparison to twenty to thirty percent mortality in naturally occurring smallpox, led several medical authorities in both Spain and Cuba to lobby for its widespread adoption. Yet the dangers it posed and the dislocation it caused within communities made the procedure unenforceable as a preventive measure.
effective protection against smallpox and could be used as a preventive.\textsuperscript{82} The procedure had several important advantages over rival methods. It was targeted, relatively simple and cheap to administer to large populations in short time and it was not contagious, making controversial measures of quarantine unnecessary. This “first great social application of medicine” could serve not merely as a weapon to combat smallpox epidemics, but was also the “basis for prevention of disease and thus an antidote for the profit incentive that had traditionally motivated doctors.”\textsuperscript{83} As a preventive measure that necessitated medical intervention of populations on an individual level, vaccination offered the possibility of expanding the reach of “medical gentlemen” and other licensed practitioners amongst the public and creating a more active dialogue between these and state and ecclesiastical authorities.

**The Vaccine Arrives**

Jenner published his findings in 1798; by 1801 they had been translated into several languages.\textsuperscript{84} Physicians and many sectors of the public, already familiar with inoculation, eagerly accepted the promising new method and as a result, applied it all over Europe. In comparison with the rest of Western Europe, Spain received the preventative relatively late. Although, printed information regarding vaccination appears in the Spanish journal *El Semanario de Agricultura y Artes* in the spring of 1799, the first vaccination was not performed until 1801, with the arrival of live vaccine from Paris.\textsuperscript{85} After its introduction, the technology

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  \item \textsuperscript{82} Carl J. Pfeiffer, *Art and Practice*, 80-81. That cowpox (or some similar bovine eruption) conferred some immunity to working people in the dairies had been noted by observers prior to Jenner’s work, but he was the first to experimentally investigate, technically develop and publicize the information for the wider public.
  \item \textsuperscript{83} José López Sánchez, *Tomás Romay and the Origin of Science in Cuba* (Havana: Centro de Estudios Marxistas, 1967), 85.
  \item \textsuperscript{84} Hopkins, *Princes and Peasants*, 81. Pedro Hernández’ *Orígen y descubrimiento de la vacuna*, an early version of Jenner’s work published in 1801, was especially influential in Cuba as over 500 copies were distributed for general use by the *Sociedad Económica*.
  \item \textsuperscript{85} Ramírez, *La mayor hazaña médica*, 116.
\end{itemize}
spread rapidly throughout the peninsula and by 1803, Crown officials finalized preparations to share the benefits of vaccination with her colonies. In what became the first global health initiative, Doctor Francisco Xavier de Balmis, the ambitious and energetic Honorary Physician of the Royal Consul, set sail in November of that year to “introduce the coveted preservative” into parts of the Spanish empire and “establish institutions so that its benefits may be enjoyed for generations to come”.86

By the time of Balmis’ arrival to the Americas however, most major cities in the Spanish colonial empire had already acquired the vaccine through the ingenuity of a handful of impatient medical elites who utilized trans-Atlantic networks of travel and trade.87 Beginning with its introduction into Puerto Rico from the Danish colony of St. Thomas in February of 1803, the vaccine quickly circulated through the major ports of the Caribbean Gulf, reaching Caracas, the port of Veracruz and Mexico City in short order.88 Through this circuit, the vaccine enjoyed a briefly successful round in the far eastern city of Santiago de Cuba under the direction of French physician Dr. Vignaud and Cuban practitioner Miguel Rollan. This success, however, was short-lived. In February of 1804, a creole from Santo Domingo and her two servants informally

86 Much has been written concerning the Balmis expedition and its impact in the institutionalization of the vaccine through the Spanish colonies, though the literature tends to overemphasize its effect in regions such as Havana, which was already successfully constructing a vaccine center upon arrival of the expedition. See Sherburne F. Cook, “Francisco Xavier de Balmis and the Introduction of Vaccination to Latin America,” Bulletin of the History of Medicine 11 (1942): 543-560, Belkys María Galindo Santana et al., “Balmis y su humanitaria contribución para la eliminación de la viruela,” Revista Cubana Salud Pública 31, no. 3 (July-September 2005): 257-259 and José Rigau Pérez, “La Real Expedición Filantrópica de la Vacuna de viruela: Monarquía y modernidad en 1803,” Puerto Rican Health Sciences Journal 23, no. 3 (2004): 223-231. For an amusing psychological portrait of Balmis as a man with an inflated sense of self and a severe underestimation of the abilities of colonial physicians, see José Rigau Pérez, “The Introduction of Smallpox Vaccine in 1803 and the Adoption of Immunization as a Government Function in Puerto Rico,” Hispanic American Historical Review 69, no.3 (August 1989): 393-423.

87 Ramírez, La mayor hazaña médica, 118. Balmis was dismayed to find that his legacy would be diminished by the initiative of the likes of, for example, Drs. Oller in Puerto Rico and Arboleya in New Spain, two of many eager practitioners whose early achievements precipitated strife with peninsular vaccinators.

88 A detailed description of the expedition’s trajectory can be found in José Rigau Pérez, “La Real Expedición Filantrópica,” 223-231.
introduced the vaccine to Havana, and it was anxiously received by creole medical “high priest” and future national icon Dr. Tomás Romay Chacón (1764-1849).  

Thereafter, the progress of the vaccine was to become intimately intertwined with the history of medical professionalization and creole cultural assertion on the island. A physician of relatively humble origins with close ties to the sugar sector, Romay was an active member of the Sociedad Económica de Amigos del País, an institution established in 1792 by a small clique of wealthy creole reformers who sought to stimulate economic growth and cultural development on the island. The Economic Society, which according to one scholar “most exemplified the craving for progress experienced by the new [creole elite],” enjoyed a privileged relationship

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with the imperial state at the turn of the nineteenth century. Reforms associated with the “enlightened despotism” of Charles III favored the placement of royal and ecclesiastical authorities on the island that were receptive to the moderate (and very selective) liberal reformism of privileged creoles tied to a rising sugar economy. During the tenures of liberal Captain-General de las Casas (1790-1796), the Marques de Someruelos (1799-1812), and Bishop José Díaz Espada y Landa (1802-1832) elite, creole initiatives in the formation of local societies and a regular press enjoyed much success and provided a springboard for reform initiatives in matters of medicine and public health. While contemporaneous imperial overtures towards and impositions upon powerful local interests across Spanish America often sparked feelings of alienation and resentment, in Cuba the partnership and sense of shared mission between a certain subsection of the elite and imperial reformers crystallized into what historians would later term a “colonial pact.”

Whatever their effect upon Spanish American sensibilities, the renegotiation of relationships with creole elites was an integral component of late eighteenth century Bourbon political programs of which the island was a centerpiece. Humiliated by Spain’s defeat in the Seven Years War (1754-1763), Spanish reformers sought to reverse Spanish geopolitical and economic decline and stave off further European threats through a rationalization of the old imperial framework. The semi-autonomous “kingdoms” of Spanish America were to become modern colonies. Systematic intensification of social and political connections between metropolis and colonies and enhanced policies of economic extraction included a prominent role

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91 Cuba was a key field of experimentation with reforms intended to strengthen the military foundation of its colonial possessions, buoy crown revenue structures and lead the colonial elite to see the colonial pact as a mutually beneficial relationship in whose preservation they had an interest. Following the withdrawal of the British from Havana in 1763, the initial reform program built a militia that relied on the active recruitment and funding by the “flower of Cuban society” in exchange for a tacit agreement to expand the social and commercial privileges of the Cuban elite. See Allan Kuethe, *Cuba, 1753-1815: Crown, Military and Society* (Knoxville: University of Tennessee Press, 1986).
for science. Royal scientific expeditions, the foundation of botanical gardens, natural history collections and mining seminars served to survey, quantify and ideally, maximally exploit the natural resources of the New World. Subject “populations” were also considered vital resources whose health (and education) reflected the presence of a wise government and the basis for industry, agriculture, and trade. Medicine and public health, as emerging “scientific” tools for assuring abundant populations, thus served not only a humanitarian function but were useful vehicles for economic growth and a vital justification for state interventionism in the public sphere.

Heightened concern with the health of “populations”, magnified on an island that had become a centerpiece to the introduction of continent-wide reforms, could have profound repercussions for those “professional gentlemen” who claimed the mantle of expert. Romay and other creole medical elites demonstrated eagerness to capitalize professionally on a political climate that might favor the creation of a public role for licensed medical practitioners under state auspices. If, as Romay argued, disease had impeded progress on the island since conquest, the doctor’s patriotic mission is to reduce its ravages, “conserving useful citizens for the nation and humanity” to the benefit of agriculture, industry and trade. The call to save lives was also an opportunity for licensed professionals to elevate the prestige of an under-rated profession and solidify its ties to the larger scientific community. Only through a consistent demonstration of

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the benefits of scientific method would professors finally “put aside the disdainful sneers with which [they] view medicine, that science so useful to humanity”\textsuperscript{95}

As across Latin America and within other scientific initiatives in botany, natural history, astronomy and mechanics, late eighteenth and early nineteenth century scientists and/or licensed experts were politicized by the experience of working towards colonial regeneration. They had become agents of empire, endowed with the responsibility of fulfilling, at least in rhetoric, “enlightened” objectives on behalf of the same. As historians of science and medicine in Latin America have demonstrated, the results were often as unexpected and contradictory as the Spanish American reaction to the Bourbon political project more generally. Some rejected reform altogether on behalf of older, more prestigious and/or more culturally relevant dogmatisms.\textsuperscript{96} More often, scientists and/or experts associated with the imperial project were energized by the fight against old scholasticisms but disappointed by administrative frugality, ideological inflexibility, and cultural and professional prejudice. These creoles usually turned to challenge the state by assimilating foreign ideas and agendas on their own terms, remaking them in the process. The most radicalized, drawing from different registers on the definition of “enlightened” objectives and management, could identify science with republicanism itself!\textsuperscript{97}

Such diversity is not surprising considering the vastly diverse colonial contexts, cultural practices, local scientific traditions and political agendas of the Ibero-American world.

\textsuperscript{95} Ibid., 10. Moreover, this would benefit a growing number of licensed practitioners. At the end of the eighteenth century, only 100 licensed physicians resided in all of Cuba; by 1827, there were 504 and in 1860, 230 doctors or oculists lived and worked exclusively in Havana. Even as the population grew in tandem, this represented a ratio of licensed physicians to population that was higher than that of most European capital cities! The majority of this gain came through immigration from the Spanish Americas and Europe, although after the 1840s, increased numbers of graduates from the University of Havana contributed their portion. See Hugh Thomas, \textit{Cuba: The Pursuit of Freedom}, 285 and Adrián López Denis, “Disease and Society,” 68-71.


\textsuperscript{97} Glick, “Science and Independence,” 301-334.
In the political, economic and scientific realm however, Cuba is a case of successful cooperation and cooptation by Bourbon reformers. Even prior to the introduction of vaccination, the creole patrician’s effective initiatives demonstrate the extent to which authorities were willing to entertain a new medical protagonist in service of the colony. Proposals on educational reform in medical instruction on the European model, the burial of the dead in cemeteries (instead of churches or sepulchers), and experimentation with new treatments for scourges such as yellow fever were introduced and in their majority enacted, despite sometimes considerable controversy and resistance, as the necessary ingredients for modernization of society and the medical community. In the context of widespread imperial reform, or more importantly, of a reform which sought to incorporate emerging forums for scientific debate and investigation across Latin America into the imperial project, such a political and public role for a licensed physician had the potential to expand the concept of medical professional responsibility. Nowhere was this more certain than with smallpox vaccination.

The Course of Vaccination

The vaccine arrived in Romay’s hands on February 12, 1804, in the midst of an especially severe smallpox epidemic. The urgency and excitement upon receiving news of a relatively harmless preventive for the disease was palpable. Just two weeks after its introduction, “the extraordinarily long vaccination sessions and the insistence with which many

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98 As founder and regular contributor to the Papel Periodico, a bi-weekly founded in the same year, Romay was in a unique position to propagate the latest scientific advances in the field and earn the political clout necessary for pushing through his reforms.


100 Tomás Romay Chacón, “Reprimenda a quienes no creen en la virtud de la vacuna,” in Obras Completas, 215. According to Romay, the smallpox epidemic led to the burial of 800 children in one cemetery alone during the year of 1804.
wanted to be treated at the same time prevented the four vaccinators from working in the light…
and with the calm necessary to perform a delicate, albeit simple, operation.”

By the second week of its introduction, more than 200 persons had been vaccinated in Havana. The vaccine spread rapidly outside the city walls, as lay and ecclesiastical officials were as eager as many leading physicians to acquire the coveted preservative.

Dr. Romay, who led the publicity campaign for vaccination using the Economic Society and the Papel Periodico (one of Cuba’s first newspapers) as initial forums, predictably argued that the procedure would ensure against another “season of terror” precipitated by smallpox in his public pronouncements. However, Romay understood the potentially important role this medical intervention could have on productivity in the colony and echoed the language of political and economic utility in his struggle over the years to promote the procedure and conserve the vaccine. As Romay put it, in preventing another disaster, vaccination would not only free the public from fear but stimulate the growth of population and the development of that “marvelous soil which Nature has provided, [so that it] reach[es] the high degree of prosperity and well-being its destiny has decreed.”

Any discussion of productivity and “prosperity” in the colony had to take African slaves, who were both valuable property and the labor force powering the island’s dramatic economic growth, into account. Indeed, as historian of medicine Adrián López Denis argues, the administration of early nineteenth century vaccination reflected and reinforced the racial and class stratification and economic priorities of Cuban slave society. The very first vaccinations in the major cities and towns of the island largely benefited various luminaries of the elite, their

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101 Tomás Romay Chacón, “Artículo en que da cuenta de que pasan de 200 los vacunados,” in Obras Completas, 167.
102 López Sánchez, The Origin of Science, 318.
servants and/or slaves. When the service was codified and institutionalized, slaves at port or on agricultural estates received priority in the administration of preventative (see below) and served as a critical fount of vaccine propagation and production. Slave bodies going through the course of both smallpox and vaccination were also subject to clinical observation and experimentation, inviting commentary on supposed racial differences that caused variation in the way a similar procedure would “take” across race.

Figure 6: Correlation between slave imports and numbers of vaccinated persons. Note the divergence in trends after the end of the legal slave trade in 1821 made rigorous vaccination at port impracticable.

103 Tomás Romay Chacón, “Artículo en que da cuenta de la introducción de la vacuna,” in Obras Completas. 163. Upon recognizing the pustule on the 12th of February, Romay’s 5 children and 31 servants and children of the elite were immediately vaccinated. This included the famous sugar magnates of the family O’Farrill and the families of Montalvo, Zayas, Jáuregui y Aróstegui.
104 Adrián López Denis, “Communities of Immunity,” 8-9. As late as 1827, the slave population of the port city and adjacent rural areas still comprised roughly half of the total in Western Cuba. See Bergad, Comparative Histories, 125.
105 See for example Tomás Romay Chacón’s, “Historia del establecimiento de la Junta Central de Vacuna,” in Obras Completas, 258.
Even as Africans were targeted for a preventative that would increase their productive value, slaves were publicly inculpated for bringing the terror of epidemic to Cuban shores. Early nineteenth century creole elites such as Romay understood smallpox to be a fundamentally “African” disease intimately tied to slavery, both in its mode of introduction on slave ships and its propagation to the rest of the population via the plantation and domestic service. In popular legend, incoming African slaves were even inculpated for initiating the demographic disaster of the Columbian Exchange with infectious smallpox. Harbingers of illness, later victims of the trade were indirectly punished for their epidemiological sins with a tax of two pesos per head at port in Havana, thereby providing the necessary funds for maintenance of the vaccination program.

As historian Angela Thompson asserts, children, the other population most vulnerable to smallpox, also took precedence in the propaganda and administration of the vaccine. Children were central to reformist ideological preoccupations with preserving “populations,” and they constituted the rhetorical centerpiece of Balmis’ state-sponsored philanthropy. A certain brand of humanitarianism, informed by aristocratic paternalism and religious obligation, is most discernible Romay’s repeated petitions for families with children to voluntarily congregate at public vaccination sessions. Even here, however, the racial and class priorities of Cuban slave society wove their way into the fabric of vaccination outreach and tested the limits of the service’s “humanitarian” rhetoric.

Children were only a secondary priority in Cuban statutes drafted for the service, and despite guarantees of free vaccine provision to all who sought prevention, their inclusion was framed in exclusive terms. Romay spent decades beseeching “good fathers to bring their children and domestics” in the name of “self-interest and that of humanity and nation,” prioritizing lives for protection to the invariably white youth of sufficient status to have African servants and/or slaves.\textsuperscript{110} In truth, attempts to integrate vaccination into churches and later (to a much lesser extent) in the relatively few schools available in the city were often successful, particularly in the early years of vaccine propagation.\textsuperscript{111} But a paternalistic and elitist rhetoric of persuasion aimed against the “ignorance” and “fanaticism” of the uneducated majority tended only to reinforce class, gender and racial divides even as it failed to dissipate popular rumors against the vaccine.

Initially however, spurred by epidemic terror and the widespread enthusiasm that greeted the arrival of the potentially life-saving preventative, many free Cuban subjects across race and class proved receptive to the new procedure. Those few persons with the education and status to have been somehow involved in procuring the vaccine or convinced by literature regarding its significance were, as a matter of course, usually receptive to the vaccinator’s zeal and readily submitted to the operation. However, as vaccinators spread south, east and west from the port of Havana, they encountered populations of all classes whose trust needed to be won. Some vaccinators succeeded in persuading the wider public of their scientific authority. According to Romay’s monthly reports, in Santiago de Cuba the physician Don Pedro Simanca was greeted

\textsuperscript{110} Tomás Romay Chacón, “Notificación de la partida de la Expedición de Balmis,” in \textit{Obras Completas}, 192. 
\textsuperscript{111} Historian Hugh Thomas estimates that until the 1880s, when under a widespread educational reform program expanded opportunities for public schooling, roughly only a tenth of free children attended schools, and the majority of these institutions charged for their services. Despite these statistics, literacy tended to be more widespread amongst urban populations, though with profound disparities across race. According to Havana’s census of 1887, over 70% of whites in the city knew how to read, compared to 28% of the black and mestizo population. See Thomas, \textit{Cuba: The Pursuit of Freedom}, 285-286 and Vicente de la Guardia, “Estadistica,” \textit{Anales de la Real Academia} 31 (September 1894): 202.
with “the most docility and confidence” by the larger population, making that town “impenetrable to contagion.” Don Juan de Castellanos, in the company of the sympathetic Bishop Estrada, managed to successfully vaccinate “thousands of townspeople” in the cities of Santa Clara, San Juan de los Remedios and Sancti Spiritus to the east.

Others experienced less success. Doctor José Bernal’s attempts to propagate vaccine in the city of Jaruco were energetic but “ignorance and fanaticism were opposed such to his endeavors that by the end of April he was only able to vaccinate 209 subjects.” Making matters worse, during the initial weeks of its introduction into Havana some physicians began propagating a “false” vaccine using material from the desiccated pustules of María Bustamante’s children a full day after they had been extracted by Romay. Bad “takes,” and what was probably a multiplicity of vaccines of varied effectiveness in use, sowed distrust amongst the public. Cases of vaccinated persons who contracted the disease after undergoing the procedure began cropping up.

In Santiago de Cuba, pioneer vaccinator Manuel Rollan lamented the “mistrust and vulgar preoccupations that obstructed his progress in a town that so much needed his help.” According to the doctor, “the public is so terrified that the vaccine does not preserve against smallpox that they do not want to expose their children to a fruitless operation.”

After the first few years of its installation in cities and major towns across the island, the smallpox vaccination service eventually dwindled in scope and outreach. As was common with smallpox vaccination campaigns across the globe, the initial spike in public interest waned after

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112 Romay Chacón, “Memoria sobre la introducción,” 205.
113 Ibid., 205-206.
114 Ibid., 204-205.
115 Ibid., 203. See also Tomás Romay Chacón, “Artículo en que da cuenta de que pasan de 200 los vacunados,” in Obras Completas, 168.
116 Tomás Romay Chacón, “Refutación a los que tratan de desacreditar la vacuna,” in Obras Completas, 169-172.
117 Manuel Rollan, “Informe al Gobernador de Santiago de Cuba,” July 1804, Section: Cuba, Doc. 1691, AGI.
118 Ibid.
the threat of epidemic had passed.\textsuperscript{119} As early as 1804, Romay lamented that “in spite of such an incontestable proof [of vaccination’s benefits], the vaccine is not solicited with the ardor that such an advantageous and simple preservative deserves, one which can be acquired with such facility.”\textsuperscript{120} Vaccinators failed to attain their stated goal of reaching parity between the numbers of baptized infants born in Havana and children vaccinated; never more than roughly half of the city’s baptized children received the vaccine in any given year.\textsuperscript{121} Particularly after 1808, subsequent spikes in vaccination numbers were correlated with the fluctuations of the slave trade, as vaccinators focused their activity away from a generally recalcitrant public to the accessible and coerced bodies at port (see Figure 6). With the end of the legal slave trade in 1821, a dearth of income combined with the health priorities of a militarized, colonial society and slave-powered export economy to suppress ambitious and/or transformational notions of medical responsibility and intervention amongst the majority of the island’s population.

**Professionals and the State**

Professionally however, the first fifteen years of the vaccination program were a great success in the development of a self-conscious, licensed and largely creole medical community. Physicians in support of vaccination had the two most powerful imperial institutions in the colony, crown and clergy, firmly in their favor. The Catholic Church at the time of the arrival of the vaccine was led by liberal Bishop Espada y Landa, a Spanish-born director of the Economic Society who was a fervent sympathizer of creole reformism and held particularly close ties to Romay. Upon the vaccine’s introduction, Bishop Espada enthusiastically embraced the

\textsuperscript{119} The longevity and robust growth of the Cuban case was in fact exceptional, and Balmis considered the program a great success. Xavier Balmis, “Informe,” February 20, 1807, Section: Miscellaneous, Doc. 1558B, AGI.
\textsuperscript{120} Tomás Romay Chacón, “Reprimenda a quienes no creen en la virtud de la vacunación,” in *Obras Completas*, 215.
\textsuperscript{121} Tomás Romay Chacón, “Artículo escrito por encargo de la Junta Central de Vacuna,” in *Obras Completas*, 283.
procedure and was “everywhere accompanied by a practitioner who vaccinated at his expense.”
Parish circulars sent throughout the island instructed priests to encourage vaccination at all baptisms and make public announcements of vaccination schedules. The clergy, both on the island and in the wider Spanish empire, for the most part responded favorably to the charge.

Even had this particular bishop been lukewarm to the introduction of vaccination, State Consul members and ministers of Carlos IV firmly supported the procedure. The Royal Expedition for the Propagation of the Vaccine was the most dramatic illustration of state initiative for a larger role in public health in the service of empire and laid the groundwork for medical professionals to assume leadership in the new programs. Landing in the port of Havana on the 26th of May, 1804 (several months after the introduction of the vaccine) the Expedition’s Director Xavier Balmis was happily surprised to find not only a successful vaccination program in Havana but also a serious proposal for its institutionalization. The accomplishments of the Balmis expedition in places with an already thriving vaccination program (such as San Juan and Havana) have at times been overestimated; yet the mission did have significant practical effects. Prior to his departure for Campeche only 20 days later, Balmis’ public vaccination spectacles, carefully orchestrated to demonstrate the power of state authority and imperial paternalism, had exposed thousands to the procedure. He also left dozens of physicians well-versed in the

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122 Danielson, *Cuban medicine*, 55.
123 In an era in which the social services provided by the Catholic church were beginning to be challenged by reformers both on the peninsula and throughout the empire, many clergy members found consolation in the new outreach campaign. Not only did parishes across Latin America participate in the dissemination of vaccination via propaganda from the pulpit, many clergy participated directly in this appealingly simple operation. Ramírez, *La mayor hazaña médica*, 174-181.
125 Tomás Romay Chacón, “Notificación de la partida,” 191. According to Romay, Balmis personally vaccinated at least 500 people on these occasions.
technique and a strong foundation for the creation of a new institution in charge of organizing the program.

Most importantly for early nineteenth century “professional gentlemen” looking to bolster the repute of the profession as a whole under the banner of a new medical technology, the royal expedition quieted resistance to vaccination amongst licensed practitioners. Intra-professional conflict had begun just a few days after the vaccine had arrived. Some physicians saw patients contract smallpox after having been vaccinated with false or badly applied vaccine; others appear to have confused the skin eruptions of measles with smallpox on vaccinated persons. As Romay bitterly complained, “instead of assuring the people that the [illness] was measles or a minor skin eruption [these physicians] foster fear and cause great alarm amongst parents with two motives; the first to discredit the vaccine and the second, to make a profit by repeated visits to the patient.” The resistance seems to have been fueled by a combination of legitimate alarm at vaccination’s malfunctions and professional intrigue, as some practitioners and especially inoculators saw their livelihood dissipated by vaccination. Romay, as the most prominent vaccinator and an active disseminator of the latest European literature concerning the subject, was a leading target. The reformer was charged with playing a slave to foreign opinion. Dr. Pachón, a prominent physician in Havana, took a different tack. Acknowledging the legitimacy of foreign scientific publications on the efficacy of vaccination in general, Pachón declared that the vaccine on the island had degenerated in transit from arm to arm and thus lost its “preservative virtue.”

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126 Tomás Romay Chacón, “Refutación a los anti-vacunadores,” in Obras Completas, 180.
127 Ibid.
128 López Sánchez, The Origin of Science, 95.
129 Tomás Romay Chacón, “Nueva refutación al Dr. Pachón,” in Obras Completas, 185.
Whatever their motivations, inoculators in Cuba were fighting a losing battle. Along with the legitimacy granted by “the premier physicians of Europe, the enormous evidence in its favor and its acceptance by the United States and our sister colonies”, vaccination was supported by a “benevolent Monarch who consulted with his most enlightened ministers and professors prior to remitting the vaccine”\(^\text{130}\). According to Romay, who developed a close working relationship with Balmis during his short stay, “the [Balmis’ mission] settled the vacillating opinions of some professors…confounded the impostures and manipulations of anti-vaccinators and dissipated the mistrust with which the procedure was viewed by the population at large.”\(^\text{131}\)

Indeed, with such a powerful display of state support, rejection by either licensed practitioners or the general public could be considered a sign of disloyalty. Addressing common parental fears over the lives and health of their children under the lancet, Romay angrily posited the question, “should paternal love take precedence over that of humanity and Nation?”\(^\text{132}\)

**Setting Norms and ‘Scientific’ Standards**

Besides ideologically laying the groundwork for the acceptance of vaccination by most licensed, medical practitioners, the Royal Expedition helped consolidate the formation of a professional “corps” of vaccinators by reinforcing the implicit educational requirements in the selection of potential vaccinators. One of the initial attractions of Jenner’s method, particularly amongst ecclesiastical circles, was its simplicity. Vaccination was considered such a simple operation that anyone could execute it without the slightest danger.\(^\text{133}\) However, Balmis and leading Cuban medical authorities strove to emphasize that although vaccination did not

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\(^{130}\) Romay Chacón, “Refutación,” 177.

\(^{131}\) Romay Chacón, “Notificación de la partida,” 191.

\(^{132}\) Romay Chacón, “Refutación,” 178.

\(^{133}\) Ramírez, *La mayor hazaña médica*, 153.
necessarily have to be performed by licensed physicians, the official medical sphere was to closely supervise its practice and dissemination. Recruitment campaigns stressed that vaccination required not merely delicacy but education for proper execution. Fully licensed practitioners were most encouraged to adopt vaccination as they could “use the lancet with skill, properly detect the best time for vaccination, discern the good from the false vaccine, and aid the patient in whatever illness could overtake him during this time.”\footnote{Prominent Cuban physicians}

As a result, the public vaccinations held by Balmis almost immediately upon his arrival in the ports of the New World were attended by dozens of physicians interested in becoming potential vaccinators. In Havana, advertisements for the event encouraged attendance by “professors of medicine and surgery in and around this city” along with the general public.\footnote{Tomás Romay Chacón, “Anuncio de la llegada de la Expedición de Balmis,” in Obras Completas, 190.} Through close observation of Balmis’ technique, these professors could learn “not only recent advances that have simplified the operation, but also to perfectly discern the quality of the vaccine, its varieties, the precautions one must take to assure effect, and all the other details conducive to its best use.”\footnote{Ibid.} In well-traveled port cities such as Havana, where the number of licensed physicians was relatively high, requirements of medical licensure effectively closed the door to potential unlicensed vaccinators.

Adherence to professional norms and “scientific” standards was considered crucial for ensuring a positive reception amongst the greater public. According to the Director of the Expedition, the disfavor for vaccination evident amongst certain sectors of the population was due to “the ignorance of those vaccinators that did not know how to avoid using false vaccine, utilize deficient matter, or poorly perform [the operation].”\footnote{Francisco Xavier de Balmis, “Informe,” Febrero 1807, Section Miscellaneous, Doc. 1558-B, AGI.}
agreed that the ultimate responsibility for promoting a favorable image of vaccination in the eyes of the public lay with the licensed medical community and their adoption of rigorous scientific standards. In Santiago de Cuba, the vaccinator Manuel Rollan argued that “the fear towards vaccination originated from faulty methods of vaccination that are continually implemented, without moderation, by some physicians.”\textsuperscript{138} As a group of mothers complained to Rollan only a few days prior, “they did not want their children to suffer through an operation that would not ultimately benefit them” and although he at last succeeded in convincing them of its efficacy, “only with difficulty were their worried spirits relieved [of this negative judgement]”.\textsuperscript{139}

The new preventive measure thus provided avenues for licensed medical practitioners to assert their scientific credentials and perhaps convince a larger segment of the public that these were to be respected. Physicians were charged with using their scientific knowledge to “dissipate those rumors spread by ignorance and antiquated thought” so that general populations could recognize “the good that [vaccination] has accomplished, saving many lives and redeeming our generation of so many deformities.”\textsuperscript{140} Through a technique whose relative simplicity (as compared to inoculation) was often lauded, licensed practitioners ensured some limited professional protection as vaccinators and/or supervisors of the vaccination project.

**The Central Vaccine Board**

Secondly, imperial support for the establishment of a central vaccine board institutionalized a new service around which standards of professionalism could be set. Any initiative of scale would require the management of the emerging corps, maintenance of fresh

\textsuperscript{138} Manuel Rollan, “Informe al Gobernador de Santiago de Cuba D Sebastian de Kindelan,” July 26, 1804, Section: Cuba, Doc. 1691, AGI.
\textsuperscript{139} Ibid.
\textsuperscript{140} Romay Chacón, “Historia del establecimiento,” 256.
vaccine and provision of an authoritative reference for those vaccinators seeking to corroborate their observations with others working in the field. Both the Crown and local creole elite chose not to elevate the Protomedicato to this position. Seen as a largely defunct institution, the Protomedicato was without the necessary clout to effect a large-scale operation as required by vaccination. Instead, in what can be considered part of a current of late enlightenment institution-building, central vaccine boards were erected to manage the new preventive project in the peninsula and major colonial cities.¹⁴¹

The “most important center for the development of sanitation services in the Caribbean”, the Central Vaccine Board of Havana, was inaugurated on the 13th of June 1804.¹⁴² According to the plan established by Balmis, the Central Vaccine Board was responsible for ensuring the production and preservation of quality vaccine.¹⁴³ It also had important obligations to the larger public. Board members were to strive their upmost for widespread dissemination of the procedure and the maintenance of favorable public opinion towards vaccination.¹⁴⁴ Rather than standing as an independent body, the board was placed under the auspices of the Economic Society, and this institution greatly facilitated the incorporation of influential or prominent persons into the program. The archbishop, captain-general and president of the royal audiencia were all invited to participate in summary meetings, along with numerous other decorated social luminaries distinguished by their “beneficence, patriotism and support for the vaccine.”¹⁴⁵

¹⁴¹ The Protomedicato didn’t disappear from the scene; indeed, Romay’s most notorious public demonstration of the “incontestable proof” of the vaccine’s virtue, his inoculation of his own vaccinated children with live smallpox virus, was practiced in the presence of the Protomedicato and verified by the institution prior to its report to Captain-General Someruelos one month later. Romay Chacón, “Refutación,” 178.
¹⁴² Ramírez, La mayor hazaña médica, 447.
¹⁴³ Ramírez, La mayor hazaña médica, 436.
¹⁴⁴ Balmis in particular paid much attention to the asthetics of the vaccination headquarters, suggesting that they carry golden placards outside their doors and that they be “clean and decent” inside. Xavier Balmis, “Reglamento para perpetuar en las Indias la vacuna,” February 12, 1807, Section: Miscellaneous, Doc. 1558-A, AGI.
¹⁴⁵ Romay Chacón, “Historia del establecimiento,” 256-257.
Romay, as the chief protagonist of the vaccine and the author of his own plan for the institutionalization of the vaccination project, was named Secretary.

The Central Vaccine Board created a new center of authority for the professional development of an emerging group of vaccinators. For one, the new public health structure rewarded those physicians willing and able to demonstrate enthusiasm in disseminating the procedure throughout the island. Exemplary behavior or performance was often made public in the Secretary’s annual report to the Economic Society. Doctor Esteban Gonezara, for example, stood out during the initial training sessions in Havana by “the rapt attention with which he observed my [Romay’s] operations, his close listening and the questions he asked.”146 Physicians such as Havana vaccinator Marcos Sanchez Rubio who Romay praised for “selflessly volunteering to vaccinate in the [slave] barracks” and other public places, “taking care to visit the recently vaccinated at their homes in order to see the[ir] progress”, were presented as role models worthy of emulation.147

Several of these vaccinators went on to play direct supervisory roles in the new infrastructure being formed for vaccination throughout the country. The bachiller José Govin for example, having distinguished himself in his “disinterest and zeal” during his rounds in the areas of Calvario, Xiaraco and Managua in 1805, proposed the creation of a sub-alternate vaccination board in Santa Maria del Rosario to assure preservation of the vaccine. Seeing the possible benefits in delegating some authority out to the most active vaccinators throughout the island, the Central Junta named him secretary of the new sub-alternate board in “remuneration for his distinguished achievements,” establishing separate boards in Sancti Spiritus and Santiago shortly

146 Romay Chacón, “Memoria sobre la introducción,” 204.
147 Ibid., 207.
thereafter. Subsequent petitions for the secretariat of sub-alternate boards, or just official recognition as vaccinator (which could include a modest stipend), were overwhelmingly preceded by an exposition of the candidate’s professional history and “humanitarian zeal” as a pioneer of vaccination in the region.

The Central Vaccine Board also provided a limited forum for the discussion of technique and the distribution of empirical observation related to vaccination. Several physicians wrote to the Board upon encountering anomalies in the vaccine material or their subjects. In 1809, Joaquín Navarro published a long inquiry into the possible degeneration of the vaccine through continuous arm-to-arm transmission, noting that several patients took ill with suspicious “eruptive fevers” after having been vaccinated. Though the secretary of dismissed his argument, appealing to the inalterability of the vaccine, the author was lauded for his “intelligence, dedication and the interest with which he serves the public good [through open inquiry]” and calls were made for an intensified program of cattle inoculation from which to draw vaccine. Others, such as Pedro Nolasco Almanza working from the province of Guines in 1815, published local propaganda pieces in order to persuade the larger public of the benefits of vaccination.

Indeed, on August of 1804, in one of the earliest (and rare) instances of genuine popular health

148 Tomás Romay Chacón, “Informe a la Junta General,” in Obras Completas, 218. By 1834, 10 subalternate boards had been created including Cuba, Trinidad, San Felipe y Santiago, Santa Maria del Rosario, Sancti Spiritus, Santa Clara, Puerto-Príncipe, San Juan de los Remedios, and Santiago, with numerous minor faculty members voluntarily vaccinating in smaller towns and villages. However, not every physician recognized by the Central Board as deserving of a supervisory post succeeded in attaining one. Some, such as Juan Nepomuceno Rodriguez waited in vain for years to get approval.

149 Tomás Romay Chacón, “Sobre la inalterabilidad del virus vacuno” and “Vacuna: Extracto del informe rendido en 1810,” in Obras Completas, 235-238 and 241-242, respectively. He was one of several early vaccinators, including Romay, that took an interest in using calves as vaccinifiers or as “regenerators” of a vaccine weakened by arm-to-arm transmission.

education on the island, Romay published an informational pamphlet designed for mothers to learn the skills necessary to vaccinate their own children.\textsuperscript{151}

There were definite limitations to the formation of a professional “esprit de corps” amongst vaccinators under the umbrella of the Central Vaccine Board. Upward mobility within the institution was restricted as only a handful were able to secure official positions or salaries for their troubles, much less publish works for collegial review and the general public.\textsuperscript{152} Many vaccinators quickly lost contact with the Central Junta, leaving its Secretary to lament that despite the apparent dedication amongst these “apostles of Jenner”, active sub-alternate board secretaries routinely neglected to “remit either the minutes of their annual sessions or the number of persons vaccinated” for evaluation.\textsuperscript{153} Nor was their adherence to a shared professional mission through the articulation of ethical and scientific standards one inclusive of the wider healing community. Licensed or unlicensed, the Central Junta exhibited very little tolerance for empirically-based criticism by healing practitioners outside the organization. Despite Romay’s calls for anti-vaccinators to “execute experimentations and publish the results [in order to engage in a dialogue with the community of vaccinators and better serve the public]”, the observations and scientific ability of outside physicians were publicly derided.\textsuperscript{154}

Yet the Central Junta was unique in that it offered a semi-official forum with opportunities quite unlike that of the existing medical hierarchies. Built up alongside the

\textsuperscript{151} Tomás Romay Chacón, “Instrucción a las madres de familia para que puedan vacunar por sí mismas a sus hijos,” in \textit{Obras Completas}, 196-198. Considering the low levels of literacy amongst the general population and women in particular, this piece could not have been so useful to the majority of families; however its concise and clear explanation of the procedure was potentially valuable for those practitioners unable to acquire direct training.


\textsuperscript{153} Tomás Romay Chacón, “Informe a la Junta General de la Real Sociedad Económica de la Habana, sobre la vacunación” and “Vacuna: Informe presentado el 13 de Diciembre de 1815,” in \textit{Obras Completas}, 220 and 268. Many deserted the project completely. As early as 1805, Romay complained about professors who had deserted the project in the hinterlands west of Havana, adding that this could not entirely be due to local resistance, as the public allowed it to be administered with confidence in his presence.

\textsuperscript{154} Romay Chacón, “Refutación,” 179.
Protomedicato, the Ayuntamiento and the executive institutions which traditionally dealt with public health issues, participation in the Board offered some upward mobility, peer review and a set of professional standards for vaccinators. Institutions such as the Central Vaccine Board, its subsidiaries and sister organizations across the Americas created new centers of authority from which vaccinators could negotiate their position with state and ecclesiastical structures and dictate some professional space for themselves. These centers were effectively utilized by physicians to augment both their own authority and legitimacy in the public sphere and that of the licensed medical profession. Through subsequent reorganizations in sphere of public health, (e.g. the creation of Sanitation Boards in 1807, the centralization of charity health institutions a year later, and the eventual elimination of the Protomedicato in the 1840s) the new public roles gained by physicians in the implementation of the smallpox vaccination program remained an important precedent for those looking to expand the authority and reach of licensed medical practitioners in Cuba.

Conclusion

The successful reception and assimilation of vaccination as a scientific practice under creole auspices involved, in Cuba and across the world, a domestication of foreign practices. Creoles such as Romay adapted the new technology to meet very specific local agendas and social, cultural and political needs. Vaccination was associated with the moderate (and very selective) liberal reformism of the creoles tied to a rising sugar economy. Intimately interlaced with the goals of Bourbon reformism in the New World, the service paired the rhetoric of “humanitarianism” with utilitarianism in furtherance of local economic growth and professional development in a militaristic, slave society. Neither the disease nor its prevention conformed to
neat immunological identities based on culture and race. However, vaccination was most certainly a mark of culture for elite, white Cuban creoles and a painful imposition for African populations deemed epidemiologically dangerous.

Even as ever-shifting nineteenth-century epidemiological realities challenged traditional assumptions and corresponding discourses of both smallpox and vaccination, the service’s professional triumphs remained a symbol of creole achievement for the rest of nineteenth century. Unlike the case with many reform era scientists and intellectuals in the Spanish colonies, the scientific “republic of letters” never clashed with a sense of responsibility in the civic realm. Official sanction and active cooperation between state, ecclesiastical and medical authorities facilitated the articulation of new scientific and professional standards amongst licensed physicians and granted legitimacy to emerging public health institutions coordinating the vaccination project. Vaccinators basked in many years of support for both their scientific and civil missions and pursued the program set out by paternalist, Bourbon reformers.

Existing documentation sheds little light on whether early nineteenth century popular perceptions of licensed medical responsibility in Cuba were significantly affected by the extension of vaccination services. Clearly however, and on a scale never before seen, religious authorities and officials at the highest levels of government recognized the role of the licensed physicians as a fundamentally “public” one. Led and maintained largely by creoles, vaccinators were expected to maintain strong links with both a supportive colonial administration and the wider Cuban population. But the synergy between the state and this important sub-section of the licensed, medical population would be relatively short-lived. As the linkages begin to break, disillusionment and doubt would become widespread amongst a medical community in deep socio-economic and political flux.

Chapter Two: The Tower Falls

Introduction

For Rafael Hondares, the extinction of the Central Vaccine Commission in 1868 was “without a doubt, the most terrible pain he had ever felt in his life.”\(^{156}\) Born of relatively humble means in larger Havana Province in 1807, Hondares’ medical career was inextricably linked with the history of vaccination in the capital. Entering into service as a meritorious vaccinator in 1841, he spent almost 20 years advancing his position within the vaccine service to become the Commission’s Dean by 1859, a post equivalent to the Secretariat as held by Romay under the old Vaccine Board.\(^{157}\)

Coming to see the services he offered there as his “most important obligation,” Hondares scrambled to pick up the pieces of both his career and the vaccination corps upon decentralization of the service from 1868-1871.\(^{158}\) Without an official post or salary and in despair for an institutional umbrella under which the vaccine could be protected, he turned to the Royal Academy of Science, a creole symbol of cultural achievement and civilization from its foundation in 1861. The Academy not only incorporated Hondares into weekly public vaccination sessions, but gladly acceded to his petition to create a Vaccine Subcommission “with the goal of sustaining this important branch of public health” in 1871.\(^{159}\) According to the many words of praise and sorrow published upon his death five years later, Hondares’ “perserverance and continued zeal” made it possible for this vaccination center to acquire “such great public and

\(^{156}\) “Hondares, Ldo. D. Rafael,” Anales de la Real Academia 14 (June 1877): 363.

\(^{157}\) Ibid.

\(^{158}\) Ibid.

\(^{159}\) “Correspondencia,” Anales de la Real Academia 7 (June 1872): 173.
official confidence” that its services were solicited by both eager locals and administrators across the colony.  

By the time of its effective extinction between 1868 and 1871, Romay’s old Central Vaccine Board had undergone extensive permutations. This chapter will trace the transformation and eventual disintegration of the original Central Vaccine Board within the context of a changing colonial politic that viewed creole participation in the public realm with suspicion. 

During the 1830s, as the liberal state consolidated its gains on the Spanish peninsula, colonial policy towards Cuba hardened. Successful Latin American wars for independence promoted an influx of tens of thousands of peninsulares from the American mainland. Resentful of their displacement and suspicious of creole initiative, what would eventually become known as the “Spanish party” emerged to defend and reassert Spanish privilege under colonialism. Like-minded administrators in Madrid closed the door to creole reformism, sending hardline captain-generals to govern the island under “special laws”. Until a relatively brief respite in the late 1850s and again after the conclusion of the first war of independence in 1878, a repressive and exclusionary policy was enforced against creoles in both the public and private spheres. Creoles were excluded from positions in public administration, commerce and the military. Associational culture protagonized by white and afro-cuban creoles suffered greatly as accusations of conspiracy and treason were successfully wielded by anxious administrators. The colonial pact was broken.

However, as the old symbiotic relationship between creole elites and peninsular administrators began to fray, vaccinators’ professional pact with a “paternal” and “vigilant”

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160 “Hondares,” 364.
162 Casanovas, Bread or Bullets!, 46.
Crown remained secure. In fact, colonial administrators favored the assumption of state responsibility for provision of public health services, including vaccination. The petty indignities suffered by vaccinators legislatively converted to “civil servants” were more than compensated by a greatly increased power to enforce medical will over a changing demographic. But early after the incorporation of the service under colonial state auspices, internal contradictions, corruption and inefficiencies led to convulsive episodes of reform that signaled the final demise of the service in favor of alternative approaches. With it was extinguished a symbol of creole professional development that had survived decades of intermittent repression, leaving open the doors to a reinterpretation of imperial legacies and creole historical achievements in public health.

**The New Order and Public Health**

The captaincy general of Miguel Tacón from 1834 to 1838 in many ways embodied the new order and set a precedent for future colonial administrators. A Spanish veteran of wars for independence in Colombia and Peru, Tacón deeply distrusted the creole oligarchy. To the ire of elite creole reformers, the Captain General surrounded himself almost exclusively with other peninsulares at court, including those of humble origin, and granted commercial and administrative privileges to his compatriots in order to counter the wealth and power of the creole elite. Eager to establish law and order on what he perceived as an unruly populace, Tacón’s expansion of police forces and the penal system was extended to political repression and the exile of one of Cuba’s literary lights, José Antonio Saco. Indeed, the legendary Captain-General’s obsession with political security inspired him to initiate one of Havana’s greatest urban transformations. Tacón inaugurated a system of nocturnal watchmen and street lighting

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163 Casanovas, *Bread or Bullets!*, 44.
throughout certain parts of the city and, decades before Haussmann made such urban development iconic of modernity, introduced visual clarity and a sense of control through rational planning of streets, avenues and public spaces.\textsuperscript{164}

But creole upstarts were only one of Tacón’s myriad enemies. Fastidious with his own personal hygiene and contemptuous of the filth in an overcrowded city, Tacón found another enemy in hygienic disorder, whose “cleanup” in both the public and private realm dovetailed nicely with the imposition of a new political and social regime. City beautification projects included the pavement of muddy and narrow streets, construction of drainage pipes and more rigorous enforcement of public sanitation laws (such as that of street cleaning and garbage disposal) long fallen to neglect.\textsuperscript{165} Of course, Tacón was largely riding a wave of initiative set into motion by predecessors years prior to his mandate. The most recent occurred in 1833, just five years after a serious outbreak of dengue had triggered sanitary reorganization, when the first great wave of cholera swept through the island and laid bare painful deficiencies in the sanitary administrative apparatus. Quarantine and the tepid sanitary measures failed and those without the resources to flee the cities and towns shuttered themselves in their homes, “their days eternal nights interrupted only by the tolling of funeral bells and the monotonous clatter of carts carrying away the dead.”\textsuperscript{166} By the epidemic’s end, ten percent of Havana’s population was decimated, with poor and slave populations suffering twenty percent mortality rates.\textsuperscript{167}

As with emerging public health administrations across the Americas and Europe, the first great wave of cholera on the island provided the pretext and foundation for the establishment and

\textsuperscript{165} López Denis, “Cólera, limpieza y poder,” 8.
\textsuperscript{166} López Sánchez, \textit{The Origin of Science}, 119.
reinforcement of sanitation. In the scramble to effectively respond to present and future threats, colonial authorities modernized, secularized and centralized the administrative architecture of disease control. The Junta de Sanidad, an eighteenth century institution reorganized on the peninsula to meet modern needs, had been established on the island since at least 1807. But its authority on the colonial, provincial and municipal level were greatly expanded as cholera approached the colony. The Junta became responsible not only for the surveillance and control of epidemic disease, but also oversight and management of information from the myriad institutions charged with sanitary matters in times of relative health. Since “the law of public health was supreme”, the Superior Junta de Sanidad had “absolute jurisdiction over all classes without exception” and could count on executive authorities on its board to enforce legislation.

Control of dirt and disease was intimately linked to that of poverty. The tumult of socio-economic and political change in the early nineteenth century reawakened age-old prejudice against the poor amongst lay and professional sanitary administrators, who considered them a dangerous segment of the population in terms of public health preservation. Whether as foci for epidemic outbreaks in overcrowded slums or bearers of the filth and immorality thought to generate disease, the culpable poor seemed to necessitate aggressive management and oversight. After the first great wave of cholera, whose disproportionate devastation of the impoverished had sparked riots in various cities throughout Europe, administrators set their eyes more firmly upon the problem of ameliorating the destitution of, and in turn increasing state surveillance over the poor. Contemporary liberals in Spain pushed for expansive programs of state intervention on the peninsula, including the linkage of home medical care for the poor with

169 Reglamento formado por la Junta Superior de Sanidad de la Isla; para la conservación y propagación de la vacuna en esta isla (Habana: Imprenta del Gobierno y Capitanía General Por S.M. 1843), 208.
the charitable relief they required to adhere to complex nutritional, moral and hygienic regimes deemed necessary for good health.\textsuperscript{171} In 1833, at the height of the cholera epidemic in Cuba, concern over the epidemiological (and socio-political) consequences of poverty was translated into a new administrative apparatus for the administration of charity, the Junta Central de Caridad y Beneficiencia, which was to provide food, clothing and limited access to medical assistance in hospitals and on the municipal level, particularly during epidemic crises.\textsuperscript{172}

For the first time in the island’s history, secular colonial authorities could assert a more pervasive presence in the sphere of hygiene, as dirt, disorder and disagreement with public interventions in the private realm acquired even more explicitly political connotations. Of course, the actual power and impact of the reorganized Junta de Sanidad and that of Caridad was limited. Spanish legislation in both the peninsula and the colonies tended to be lofty and impressive on paper but without the administrative rigor to fully implement its dictates.\textsuperscript{173} The non-medical managerial elite that dominated said Juntas were often less than enthusiastic about assigning funds for any intensive public project or sanitary intervention.\textsuperscript{174} But centralization and secularization on this scale did affect the way Cubans felt state intervention in the public sphere and, at least in the case of smallpox vaccination, their perceptions of state responsibility for safeguarding the public good.

Vaccination was soon caught up in the fervor of sanitary reform. The conflict started during Tacón’s tenure in 1835, in the midst of heightening ethnic tensions and intermittent strife between many elite, creole-dominated institutions and the new administration. An administrative

\begin{footnotes}
\footnotetext{172} López Denis, “Disease and Society,” 205-206. For early nineteenth century precedents on the peninsula see Ramón Navarro, Historia de la sanidad en España (Madrid: Instituto de Salud, Carlos III, 2002).
\footnotetext{174} López Denis, “Disease and Society,” 173.
\end{footnotes}
censor appointed to investigate the Economic Society denounced the Society’s patronage of vaccination as an “inappropriate attribution” of this institution in light of legal precedent on both the island and in the peninsula, which assigned “the police of public health” to local authorities in the Ayuntamiento. The issue was deferred to the city councilman Don Manuel Ramírez Gallo, who agreed with the censor that Spanish physician and Director of the Royal Philanthropic Expedition Xavier Balmis’ original plan had been inappropriately altered and put forward a tentative plan for reorganizing the service under local auspices. Tomás Romay, on the verge of retiring as Secretary of the Central Vaccine Board due to bad health, responded with some agitation against these accusations and challenged the proposed changes, citing both royal precedent and the poor record amongst Ayuntamientos across the island in fulfilling their obligations for remuneration of the service. Change however, was imminent as a special commission was formed to investigate the issue.

What may have started out as a spiteful gesture in a charged environment turned into a transatlantic case study of the old regime’s befuddled delegation of authority in matters of public health. The island’s Superior Junta de Sanidad, “distressed that such an important service was inadequately funded” and that oversight and financing of vaccination was “divided between [multiple] corporations” eventually proposed the incorporation of smallpox vaccination under its auspices to royal officials. Sanitary authorities in Madrid, in the midst of their own reform program to rationalize and secularize public health services throughout the peninsula, took a lively interest in the jurisdictional conflict over what remained, after several decades, the most important Vaccine distribution center of the Caribbean, and were receptive to the proposal. By

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175 Tomás Romay Chacón, “Comunicación oponiéndose a que sean los Ayuntamientos los encargados de propagar la vacuna,” in Obras Completas, 322.
176 Ibid., 324-325.
177 “Secretario Cowley al Sr. Director de la Sociedad Económica de Amigos del País,” March 23, 1843, Junta de Sanidad, Havana, No. 11, File 38, AN.
Royal Order of August 3rd, 1841, smallpox vaccination under the Central Junta and its subaltern branches were assimilated into the Superior Junta. The main organizational framework, including personnel, was largely retained, with the exception that vaccinators had to report their activities directly to Junta authorities. A contribution of 2,000 pesos from the Ayuntamiento sustained the service so that the Economic Society, “free of this strange commitment,” could redirect funds to “another application more appropriate to its attributions.”

Vaccinators and the New Order

Some nationalist historians of the vaccine have depicted this transition as a watershed moment in socio-cultural and political understandings of responsibility for public health on the island. After all, the state took over a service associated with specifically creole initiative in the midst of surging inter-cultural strife and according to most accounts, did not perform very well at the task. Indeed, vaccinators griped against changes in salary allocations and near his death in 1849, Tomás Romay, the creole patrician who led the service for decades, felt he had been marginalized from the service and opined that the Junta had disregarded his suggestions for reform. However, most vaccinators and their contemporaries saw the transition as favorable (or at the very least benign) to their interests. Romay was a staunchly loyal Spanish colonial sympathizer until the end of his life and played a pivotal role in writing the Reglamento for the new service. With few exceptions, vaccinating corps that could have been alienated or

178 Reelamento formedo por la Junta, 5.
179 Ibid. See also “Sesión de la Junta Superior de Sanidad,” March 6, 1843, Junta de Sanidad, Havana, No. 11, File 38, AN.
181 “Dr. Diego Manuel Govantes al Capitán General” March 31, 1843 and “Tomás Romay al Capitán General” September 4, 1848 in Junta de Sanidad, Havana, No. 11, File 38, AN.
182 “Sesión de la Junta Superior de Sanidad” March 6, 1843, Junta de Sanidad, Havana, No. 11, File 38, AN and Reelamento formedo por la Junta, 11-14.
disgruntled by institutional changes gave thanks for preserving their positions and enjoyed more regular salaries.

Most importantly, from the early 1840s until the late 1860s, vaccination remained a “preferential service” for the Spanish colonial administration to showcase its paternalist concern for the population via the official retention of, and investment in, an “exemplary” vaccination corps across the island, including 14 licensed practitioners in Havana itself by 1866.\textsuperscript{183} Its umbrella organization, the Junta de Sanidad, was also a predominantly creole institution and the elevation of the vaccine service to government administrative authority was not only “a recognition of [the service’s] importance,” but gave creoles a chance to govern in administrative positions that were elsewhere being restricted.\textsuperscript{184} The Junta’s Secretary Angel José Cowley was, like Romay, a creole medical elite from somewhat disadvantaged origins that embodied social mobility through education and professionalization. Although reorganization of the service placed a decentralized corps only indirectly under his supervision, professional vaccinators were (for the most part) content to be absorbed under the auspices of an institution which “seizing the opportunities of the favorable position of its funds and the happy circumstance of having Secretary Cowley,” was ready to revitalize the branch and realize “not a few improvements, achieved with general applause and great success.”\textsuperscript{185}

Twenty years of intermittent readjustment and reform concluded with an even more favorable arrangement for any who looked with nostalgia toward the past. In 1856, proposals were put forth for a new (re)centralization of the service as the Central Vaccine C"omission.

\textsuperscript{183} In 1866, total costs for maintaining Havana’s vaccinators ran to almost 17, 500 escudos, a comparatively hefty investment within the domain of sanitation and public health. “Cuadro comparativo,” October 12, 1866, Junta de Sanidad, Havana, No. 19, File 52, AN.
\textsuperscript{184} A.G.C., “Historia,” 386. See also López Denis, “Cólera, limpieza y poder,” 7. The Juntas de Sanidad were composed of the administrative and economic elite of the colony. Licensed practitioners comprised only a minority within the board.
\textsuperscript{185} A.G.C., “Historia,” 386.
complete with a deanship which, like the Secretariat under the auspices of the Economic Society decades prior, was responsible for personnel supervision as well as the management of statistics and vaccine deposits. Creole practitioner D. Rafael Hondares eventually came to occupy the post. Along with his predecessors Romay and Cowley, Hondares had been orphaned at a young age and rose from humble origins to prominence under the auspices of creole society’s leading institutions and intellectuals. Although he never became a leading patrician of creole medicine (he in fact attempted to conceal the fact that he had only received a surgeon’s licensure from the University of Havana), Hondares enjoyed a distinguished record and a few decorations for his extensive medical military and civil service. His exalted language, eager interventionism and stalwart regional pride must have shocked vaccinators, by then settled into their more mundane roles as “civil servants,” to attention. Far from resenting the Junta de Sanidad, Hondares considered its Central Vaccine Commission just the latest permutation of Romay’s original Junta Central, his vaccinators debtors of a legacy that stretched back generations. As he put it:

“This sense of satisfaction was strained and subject to definite limits as obstacles (re)emerged to highlight the glaring problems of professionalization in the vaccine service. For one, defects in the original constitution of the corps, including radically unequal pay scales, few pathways to upward mobility, and the poor incentive to achieve and advance that these

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186 “Sesión de la Junta Superior de Sanidad,” April 7, 1856, Junta de Sanidad, Havana, No. 11, File 38, AN.
188 “El Decano Rafael Hondares al Presidente de la Junta de Sanidad,” October 21, 1863, Junta de Sanidad, Havana, No. 19, File 52, AN.
precipitated in staff, were preserved in the transition. Well after the demographic impact of the continental wars for independence joined with those of the sugar boom to raise the epidemiological and economic stakes for official vaccine provision, the service continued to provide lucrative opportunities for just a handful of physicians with the advantage of luck and seniority. Dr. Juan Angel Perez Carrillo for example, a contemporary of Romay, was the highest paid vaccinator in Havana until reorganization in the late 1850s, enjoying a salary of 1200 pesos a year. Combined with other stipends and private clientele, Carrillo could be considered an exceptionally wealthy and well-placed physician, so much so that he gave up his income from other public service positions when a royal ordinance forbade the practice.¹⁸⁹

Yet for every highly paid vaccinator in Havana and across the provinces of Cuba, there were dozens who received little or no salary. In the early 1850s, amongst the 15 vaccinators responsible for Havana’s 130,000 souls, only 5 were remunerated. Following Carrillo’s exorbitant salary, the remaining four individuals could boast a pittance of only 300-360 pesos a year.¹⁹⁰ Since such positions were often held for life, only upon the death of a lead vaccinator could others aspire to obtain the post, and then usually according to strict rules of seniority. Such disparities might not have been so egregious in the heady days after the introduction of vaccine, when the novelty of the technique and humanitarian rhetoric inspired dozens of physicians to take up the practice pro bono. But with the official incorporation of vaccination as a “civil” service, the language of self-sacrifice and moral incentive began to collide with the idea of remuneration in the name of efficacy, stimulation and discipline. Sanitary administrators, eager to praise the virtues of any personnel that did not impose financial burden, had to admit as early as 1855 that the incentive for unsalaried work “would never be as efficacious and pressing” as

¹⁸⁹ “Al Capitán General,” February 20, 1856, Junta de Sanidad, Havana, No. 11, File 38, AN.
¹⁹⁰ “Sesión de la Junta Superior de Sanidad,” December 18, 1855, Junta de Sanidad, Havana, No. 11, File 38, AN.
for the remunerated, and that the mere hope of obtaining a post with salary “was a very weak stimulus” for such an important service.\textsuperscript{191} There was little leeway for the state to demand rigorous compliance with professional obligations. The system also left much room for corruption, as unscrupulous individuals took advantage of titles without stipend to claim free professional credits without ever wielding the lancet.\textsuperscript{192}

The institutionalized lack of incentive and resource-scarce environment prompted sometimes vicious intra-professional conflict. One of the most notorious occurred in the adjacent, sugar-rich province of Matanzas. In 1847 Dr. Joaquín Valentin Riera, recently promoted to second vaccinator in the city of Matanzas, demanded a salary from the Junta de Sanidad despite his original contract to perform the function \textit{gratis}.\textsuperscript{193} The problem stemmed from a simple comparison with his partner, head vaccinator Dr. D. Tomás Pintado, who was receiving 600 pesos a year for his work, a relative pittance which, when combined with income from his other multiple institutional obligations and private clientele, totaled a small fortune. If, as Riera understood, the second vaccinator was not a mere assistant, but “shared the same attributions and authority” as the head vaccinator, then “inevitably that equality should be reflected in an equal salary.”\textsuperscript{194}

When Riera’s request was ignored by the administration and resisted by Pintado, the basis for his petition transformed into a virulent denunciation of his colleague. Pintado quickly became an “enemy” who refused to see Riera with a salary out of pride and greed, “abusing his power and prestige in an attempt to steamroll justice and social considerations.”\textsuperscript{195} Nor was it

\textsuperscript{191} Ibid.
\textsuperscript{192} “Sesión de la Junta Superior de Sanidad,” March 16, 1847, Junta de Sanidad, Havana, No. 11, File 38, AN.
\textsuperscript{193} “Dr. Joaquín Riera al Excmo. Sr. Presidente,” February 1849, Junta de Sanidad, Cartas de Matanzas, No. 2, File 38, AN.
\textsuperscript{194} Ibid.
\textsuperscript{195} “Dr. Joaquín Reira al Excmo. Sor Gobernador Superior Civil,” July 13 de 1849, Junta de Sanidad, Cartas de Matanzas, No. 2, File 38, AN.
just a private inter-professional matter. Content to “meekly perceive his salary without
compromising the comfort of his home to administer vaccine,” Pintado’s complacent indolence
and multiple posts made him “intolerably neglectful” of his professional duties to the branch,
dishonoring the medical profession and endangering the public interest.\textsuperscript{196} These damning
charges were responded in kind by Pintado, leading to a decade of investigative commissions,
vindicative accusations, and administrative bickering over purview. The conflict was finally
resolved with the death of head vaccinator Joaquín Pintado, but administrators never addressed
the root of the problem. In the winter of 1864, vaccinators in Matanzas again forced the issue of
“just” recompense by petitioning for a general raise in salaries in an unprecedented instance of
professional unity, only to have their request deferred and officially denied three years later.\textsuperscript{197}

As demonstrated above, vaccinators could take positive steps as a corps to alleviate the
situation. In Havana, high-ranking vaccinators looking to spark the ambition of their assistants
and augment their personal prestige even created their own merit system of titles and awards,
prompting authorities to clamp down on the practice in 1856.\textsuperscript{198} Vaccination, moreover,
continued to provide professional perks of considerable importance. Many vaccinators utilized
their service history as a valuable reference and could claim preferential consideration for other
positions in the Junta de Sanidad upon leaving the service.\textsuperscript{199} The vaccination corps offered
opportunities and pathways to upward mobility for “the young and well-applied” and limited
avenues for research and experimentation (see below).\textsuperscript{200}

\textsuperscript{196} Ibid.
\textsuperscript{197} “Excmo Señor,” April 10, 1864, and “Al Excmo Sr. Gobernador Superior Civil,” July 16, 1867, Junta de
Sanidad, Cartas de Matanzas, No. 2, File 38, AN.
\textsuperscript{198} “Junta al Dr. D. Juan Angel Pérez Carrillo,” March 10, 1856, Junta de Sanidad, Havana, No. 11, File 38, AN.
\textsuperscript{199} See for example, “Sesión de la Junta Superior de Sanidad.” March 6, 1843 and “Sesión de la Junta de Sanidad,”
January 13, 1845, Junta de Sanidad, Havana, No. 11, File 38, AN.
\textsuperscript{200} “Sesión de la Junta Superior de Sanidad,” October 10, 1861 and “Del Secretario de la Junta al Capitán General,”
December 30, 1861, Junta de Sanidad, Havana, No. 19, File 52, AN.
However, intra-professional strife between atomized individuals too often sullied the reputation of the service, particularly upon the death of a vaccinator in a coveted post. Frequent, intense struggles between the Junta de Sanidad, the city council and the executive over financial responsibility and occasional bouts of insolvency in the branch exacerbated a sense of apathy, disillusionment and overwork amongst many in the corps, sentiments which played a significant role in several documented instances of ill-performance and resignation.\textsuperscript{201} Far from a technocratic monolith with the power to impose its authority upon the intimate recesses of the body politic, the Junta de Sanidad’s vaccine branch shook unsteadily upon an antiquated infrastructure and administrative inertia in the realm of public health.

**Public Resistance and the Changing Face of Vaccination**

Vaccinators’ intra-professional squabbles over salary and insufficient “stimulus” came at a time of great struggles in the service’s relationship to a dire epidemiological portrait and a changing public. Despite the extension of vaccination sites and augmentation of official vaccinators following the transition, epidemic incidents actually increased in frequency, particularly during the 1850s and early 1860s, when “almost without interruption, smallpox wreaked havoc amongst us.”\textsuperscript{202} Although the extant documentation provides little epidemiological information regarding smallpox’s points of entry, a good part of the increase was in all probability the result of a boom in the clandestine slave trade, which between 1851 and 1860 brought an average of 12,000 slaves to Cuban shores, more than double what it had been a

\textsuperscript{201} For an example of troubles with solvency, see “Sesión de la Junta Superior de Sanidad,” July 4, 1844, Junta de Sanidad, Havana, No. 11, File 38, AN. Early instances of overwork, ill performance and/or resignations include “Sesión de la Junta Superior de Sanidad,” July 19, 1848, “José Guillermo Díaz a la Junta,” August 28, 1854 and “El Ldo Lorenzo Bento a la Junta,” January 27, 1855, Junta de Sanidad, Havana, No. 11, File 38, AN.

\textsuperscript{202} “Del Secretario de la Junta al Capitán General,” December 30, 1861, Junta de Sanidad, Havana, No. 19, File 52, AN.
decade prior.\textsuperscript{203} The boom, part of a cyclical trend that responded more to economic stimulus than to the dead-letter legislation and international treaties assembled against the trade, fed an expanded trade volume and intercommunication with the Atlantic world, particularly in sugar. Only during the 1860s, when the conclusion of the American civil war, effective Spanish legislation and the outbreak of the first war of independence converged to make slavery untenable, did the trade finally come to an end, with the last known slave ship arriving on Cuban shores in 1867.\textsuperscript{204}

Although the end of the legal trade in 1817 terminated the compulsory vaccination of slaves at port, the vaccination project continued to maintain powerful linkages to the institution of slavery. Romay and the colonial establishment’s intense preoccupation with cutting the productivity losses wrought by “a malignant disease which fed especially upon unhappy [African] slaves” merged into legislative debates over the reconstruction and reform of the service.\textsuperscript{205} Well into the 1860s, with the institution of slavery clearly on its deathbed, vaccinators were admonished to visit rural haciendas without resident doctors because they were “foci of infection” as well as a service of “special recommendation of the Crown.”\textsuperscript{206} Questions of improving compliance, the quantity of lymph and even the quality of vaccination on haciendas and amongst slaves more generally dogged administrators even as the “peculiarities” of the African body and its reception of vaccine continued to stimulate interest.\textsuperscript{207}

\textsuperscript{203} Bergad, Iglesias García and Barcia, \textit{The Cuban Slave Market}, 31.
\textsuperscript{204} Bergad, Iglesias García and Barcia, \textit{The Cuban Slave Market}, 33-34.
\textsuperscript{205} “Vicente Molina, Tomás Romay y Francisco Álvarez: Comisión de vacuna,” May 17, 1843, Junta de Sanidad, Havana, No. 11, File 38, AN.
\textsuperscript{206} “Proyecto de adición al reglamento general de vacuna,” December 23, 1861, Junta de Sanidad, Havana, No. 19, File 52, AN.
\textsuperscript{207} “Diego Govantes a la Junta de Sanidad,” March 26, 1855, Junta de Sanidad, Havana, No. 11, File 38, AN, “Notas,” November 29, 1863, Junta de Sanidad, Havana, No. 19, File 52, AN, and Dr. Luis de la Calle “Informe Acerca de la Memoria del Dr. D. Juan G. Hava,” \textit{Anales de la Real Academia} 3 (November 1866): 215.
The concern to maintain a disease-free workforce also extended to other forms of coerced labor. As early as 1847, colonial officials mandated the vaccination of Chinese bonded laborers imported to diversify the labor pool as international pressure and successive treaty agreements put the institution of slavery on shaky ground. With increased enforcement of anti-slave trade laws during the 1860s, thousands of slaves “emancipated” from slavers at sea or port became state-owned indentured servants and thus subject to compulsory vaccination, “calming the fears and anxieties of government and public” and serving as official examples of vaccination’s effectiveness.208

Yet rhetoric and practice had changed perceptibly towards the incorporation of new, often economically vital “public(s)” as the service regained its footing under the Junta de Sanidad. Without the legal slave trade at port to buttress vaccination numbers, sustain human chain transmission and serve as fodder for propaganda, public establishments such as hospitals, asylums, charitable institutions, prisons and military barracks became easy targets to promote the service and reach broader swaths of society.209 Executive resolutions on vaccination in 1844 and 1846 ordered vaccinators to conduct obligatory visits to workshops as well as primary and secondary schools.210 Subsequent legislation even required door-to-door sweeps through neighborhoods under their jurisdiction, often with local authorities and law enforcement, especially but not exclusively during epidemics. With the coverage that resulted, vaccinators could “form a protective web [of herd immunity] in which any and all unvaccinated individuals,

208 “Notas,” November 29, 1863, Junta de Sanidad, Havana, No. 19, File 52, AN.
209 See for example, Hondares’ defense of vaccination work during the great epidemic of 1867 in “Rafael Hondares al Inspector,” March 28, 1867, Junta de Sanidad, Havana, No. 19, File 52, AN. Some vaccinators were able to augment their incomes by working as public physicians for these same institutions. See “Dr. D Joaquin Reira al Excmo Sor Gobernador Superior Civil,” July 13, 1849, Junta de Sanidad, Cartas de Matanzas, No. 2, File 38, AN.
210 “Sesión de la Junta Superior de Sanidad,” October 30, 1848, Junta de Sanidad, Cartas de Matanzas, No. 2, File 38, AN.
whatever their age, race, sex or condition, could be cloaked.”

By the late 1850s, sanitary authorities had assimilated and even surpassed creole medical patrician Tomás Romay’s early proposals to expand professional authority amongst the majority of the population.

As a changing concept of the “public” broadened the scope of medical responsibility, so too did concern over those segments of the population that eluded medical outreach and intervention. For nearly forty years, Romay’s deep ideological sympathies with the mission of economic growth, “civilizational” development and political order under the yoke of slavery and colonialism facilitated the construction of an unyielding official discourse. “Good fathers and masters” of a patriarchal slave society who accepted vaccination were offset by a recalcitrant, ignorant (and primarily poor) plebe. But from the 1840s to the late 1860s, a changing and often self-reflective vaccine administration, set in the midst of a dynamic domestic situation, seemed to inspire (or at the very least reveal) alternative formulations of the public and their concerns.

The predicament of low vaccination rates amongst the impoverished, for example, developed into an increasingly thorny issue amongst administrators and vaccinators after the 1840’s. Concern rose in tandem with the dramatic increase of the poor and working class within the burgeoning population of the capital, with the majority of urban workers employed in tobacco manufacture. Tens of thousands of African slave, free black, Chinese indentured, poor white creole and peninsular laborers manufactured cigars and cigarettes in hundreds of factories as part of an export industry whose total worth in certain years approached that of sugar.

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211 “Proyecto de adición al reglamento general de vacuna,” December 23, 1861, Junta de Sanidad, Havana, No. 19, File 52, AN.
212 See for example, Romay’s portrayal of individuals who did not seek vaccination for their families and servants in Tomás Romay Chacón, “Reprimenda a quienes no creen en la virtud de la vacuna,” and “Nuevo informe a la Junta General de la Real Sociedad Económica, sobre la vacunación,” in Obras Completas, 215, 232.
213 Casanovas, Bread and Bullets!, 18, 29. Between a third and a half of the city’s population contributing to making millions of cigars in homes, shops and large factories by 1859.
Growing numbers could also be found laboring in transport, domestic service, and construction amongst innumerable other industries.\textsuperscript{214} A great many of the new working class migrated to settlements such as San Lazaro, Guadalupe and Jesus Maria, constructed with wood, thatch, stucco and tile on former estates of the wealthy as the latter relocated to neighboring suburbs.\textsuperscript{215} During smallpox epidemics, these primarily free black and mixed race neighborhoods were considered dangerous foci of disease, with vaccination and revaccination the only plausible line of defense.

A number of clergymen, sanitary administrators and vaccinators expressed sympathy for the plight of the poor and working class in accessing vaccine, asserting that “misery, more than ignorance or prejudice” discouraged public attendance.\textsuperscript{216} In a typical complaint from neighboring province of Matanzas, one vaccinator opined that the “proletariat classes,” particularly those from less centrally located neighborhoods and rural areas, had “limited means of transport, and no ability to suffer the cost of getting [themselves or their children] vaccinated in this city.”\textsuperscript{217} Another considered the pitiable destitution of growing populations “that had nothing to cover their bare skins” a sufficiently compelling reason for their remaining unvaccinated.\textsuperscript{218} Lay administrators joined the chorus regarding the legislated compulsion to produce certificates of vaccination for school admittance, asserting that in the absence of local vaccination center, parents “erred in favor of paternal love” in refusing to expose their children to disease and hardship on long marches to designated vaccination sites.\textsuperscript{219} The result was not

\textsuperscript{214} Casanovas, \textit{Bread and Bullets!}, 27.
\textsuperscript{215} Cluster and Hernández, \textit{History of Havana}, 41.
\textsuperscript{216} “Rafael Hondares,” January 13, 1866, Junta de Sanidad, Havana, No. 11, File 38, AN.
\textsuperscript{217} “Respuesta de Ángel Cowley,” July 24, 1846, Junta de Sanidad, Cartas de Matanzas, No. 2, File 38, AN.
\textsuperscript{218} “Pedro Esteban al Secretario de la Junta Superior de Sanidad,” December 24, 1866, Junta de Sanidad, Cartas de Matanzas, No. 2, File 38, AN.
\textsuperscript{219} “Dr. Joaquín Riera a los vocales de la Junta Superior,” December 20, 1839, Junta de Sanidad, Cartas de Matanzas, No. 2, File 38, AN and “D. Pascual al Excmo. Sor Capitán General,” June 19, 1848, Junta de Sanidad, Havana, No. 11, File 38, AN.
only privation of educational and even work opportunities for the poor in districts with overzealous surveillance, but the closure of schools unable to maintain enrollment under the new regulations.

Such sensitive social commentary was usually accompanied by much more traditional, self-interested petitions for the appointment of new vaccinators in poor neighborhoods, vaccination on work holidays and by domicile, and even police presence during rounds. However, the challenges inherent in reaching marginalized and uncooperative “publics” also provoked a great deal of soul-searching and discussion as many looked beyond administrative infrastructure to professional norms for a culprit. Professional negligence and accountability, particularly the failure to appear on designated days to perform the operation on those willing to undergo the operation, became a much more heated source of debate during these decades and the origin of several official inquiries, resignations and dismissals.

In the spring of 1854, for example, authorities condemnation of vaccinators D. Manuel Roig y Bravo and D. José Guillermo Diaz, who had absented themselves from their weekly assignment in the neighborhood of Monserrate, suggested that their “pernicious example of apathy and poor zeal” made the people’s “own indifference understandable.” A few months later an angry parish priest from Salvador del Cerro called upon local authorities to replace the lax local vaccinator, whose abandonment prejudiced his congregation and “provoked much discussion amongst those who have come from afar with their children and been disappointed.” Although most such incidents were successfully concluded with an excuse, apology, and/or a resignation, exasperated authorities eventually sought to make examples of

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220 See for example, the prescriptions for ameliorating the problem in “Rafael Hondares” and “Pedro Esteban al Secretario,” cited above.
221 “Al Ldo D. Simeon de los Rios,” August 16, 1854, Junta de Sanidad, Havana, No. 11, File 38, AN.
222 “Francisco Borveno a la Junta,” October 16, 1854, Junta de Sanidad, Havana, No. 11, File 38, AN.
those who demonstrated sub-standard performance. In 1864, a small fury enveloped Havana vaccinators Antonio Aragon and Miguel Gordillo, who “acted against their sacred obligations, medical morality, society, government and their own interests” in neglecting their duties for months at a time.\textsuperscript{223} Not only were they terminated after a year of litigation, but charges of neglecting to remit vaccine matter to authorities, acting brusque or ill-mannered with the people and more generally placing private over public interests were aggregated to their records.

Much more than professional discipline was at stake. If smallpox vaccination was, as was often stated by colonial administrators, a preferred service of a paternal and concerned Spanish Crown, cases of infraction or omission of duties and/or legislative ordinances could to some extent be considered a political grievance that endangered the very existence of the service. As one angry inspector put it:\textsuperscript{224}

“if the public, careless and guarded against the vaccine, does not see us solicitous, employed and efficacious in all parts, if we don’t produce abundant practical results and statistics, sure evidence that its sacrifices have not been in vain for a government that has entrusted this most important and delicate branch of sanitation to us, in a word, if we do not able to prove our worthiness then we renounce the future because it does not belong to us.”

Entrusted with a “sacred obligation,” licensed practitioners chosen for this “venerable priesthood” should thus be exemplars of their kind, “punctual, experienced, humanitarian and full of fervor.”\textsuperscript{225} Under pressure to ensure the highest standards of medical morality, inspection and administrative surveillance of vaccinators became a key component of successive reorganizations following the transition.

Unprofessional behavior was especially egregious when vaccinators had to compete with other healers of the island’s variegated medical marketplace for the hearts and minds of the

\textsuperscript{223} “Sesión de la Comisión Central de Vacuna,” May 9, 1864, Junta de Sanidad, Havana, No. 19, File 52, AN.
\textsuperscript{224} “El Inspector al Decano de Vacuna,” December 22, 1864, Junta de Sanidad, Havana, No. 19, File 52, AN.
\textsuperscript{225} “Sesión de la Junta Superior de Sanidad,” April 7, 1856, Junta de Sanidad, Havana, No. 11, File 38, AN.
people. Though inoculators had presented little resistance to the establishment of vaccination as compared with countries such as Great Britain, in which the older procedure had been well established for decades prior, defects in vaccine technology and administration spurred dissention about the benefits of vaccination amongst the wider healing community. One official circular published in the midst of a terrifying smallpox epidemic in Matanzas province in 1866, accused “professors of little medical faith and instruction” of actively discrediting the vaccine. These mostly unlicensed competitors “sowed the poison of doubt amongst simple peoples,” attesting that the prevention of a necessary developmental disease such as smallpox facilitated racial degeneration and that vaccination contributed to the extraordinary spread of other dangerous illnesses such as tuberculosis, scrofula and typhoid fever.226

Evidence that this resistance to the vaccine was founded on a more popular, alternate moral imagination emerged a few months afterwards, when Secretary of the Junta de Sanidad and port physician Francisco Casales’ administrative summary of the obstacles facing vaccination in the province indicted “a number of curanderos” for spreading rumors that undergoing the procedure in times of epidemic led to the development of grave cases of smallpox.227 The physician claimed to have personally witnessed one such curandero’s “most scandalous exercise of the medical profession” upon smallpox victims and called upon the authorities to prosecute him and four other “publicly notorious” healers for the same crime.228 Whether stoked by dissent within the healing community or popular disillusionment and rumor, prejudice against the vaccine was widespread and persistent. Well into the 1890s, medical

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226 “Junta Superior de Sanidad de la isla de Cuba (Circular),” May 12, 1866, Junta de Sanidad, Havana, No. 19, File 52, AN.
227 “Sub Inspección de vacuna,” November 30, 1866, Junta de Sanidad, Cartas de Matanzas, No. 2, File 38, AN.
authorities felt the need to respond to public suspicions against vaccination’s ineffectiveness, interference with dentition, revolution of the humors, communication of other diseases and even its ability to attract smallpox (see chapter three).

Considering the technology of arm-to-arm vaccine transmission, people had a right to be wary. The use of human vaccinifiers had a number of disadvantages that stoked popular anger, including the transmission of potentially deadly diseases such as syphilis, erysipelas, and leprosy. The invasive and painful procedure often didn’t “take,” leaving people with a false sense of security when not subjected to another operation. Human vaccinifiers also tended to produce low levels of vaccine quickly expended in times of high demand.\textsuperscript{229} To a degree, vaccinating authorities acknowledged and gave credence to popular concerns over the quality and quantity of vaccine lymph and its role in disease transmission. Particularly during epidemics, vaccinators complained of the “very little public confidence” in the vaccine’s preservative virtue and agreed with the object of their frustration that the vaccine had “degenerated” and was “everywhere so scarce it absolutely could not satisfy the needs of the people.”\textsuperscript{230}

Petitions by local and sanitary officials for fresh material from England provided a relatively easy stop-gap measure. However, as in other parts of the world, popular disillusionment with the vaccine set into motion long-term changes in vaccine technology and administration.\textsuperscript{231} The creation of a reliable system of submission and storage was a principal reason for the inauguration of a Central Commission after the reforms of 1857. Indeed, every principal reform following the transition included measures to improve the supply and quality of vaccine material, with much emphasis on locating and utilizing domestic cows and calves as

\textsuperscript{229} Hopkins, \textit{Princes and Peasants}, 84-85, 88.  
\textsuperscript{230} “Vice-presidente y Secretario al Capitán General,” August 6, 1866, Junta de Sanidad, Havana, No. 19, File 52, AN.  
\textsuperscript{231} Bhattacharya, \textit{Fractured States}, 34-51.
vaccinifiers “as in Gloucestershire, [England],” where Jenner had first experimented with the cowpox (see chapter 3).\textsuperscript{232} Local town councils, which since the times of Romay had been reserving monetary awards for anyone who could find naturally occurring cowpox in Cuban countryside, were called upon to fund ever more eager vaccinators in their investigations.\textsuperscript{233} During the Matanzas epidemic, petitions for information on best practices and calls for experimentation circulated amongst anxious vaccinators and administrators.

Publicly of course, challenges to the integrity of the procedure and the vaccine were continually met with scorn and derision. As in cases of professional negligence, any public attack against vaccination besmirched the paternalism and benevolence of the Crown. Echoing Romay’s own insinuations decades prior, one administrator considered incredulity towards the preservative a manifestation of nineteenth century rebellion against established regimes, conforming to a “certain spirit of the age, disposed to convert the most sane doctrines into problems.”\textsuperscript{234} Public acknowledgement of vaccination’s systemic and technological disadvantages also undermined the professional medical ethic which made vaccinators exemplars of their kind, stripping them of their pedagogical role as social engineers charged with the grand project of public enlightenment.

Officially, individuals within a larger, “apathetic” general population were to blame for poor coverage and repeated epidemics. In fact, Romay’s early nineteenth century assignment of responsibility for smallpox incidence to the “ignorance” and “immorality” of the particular was echoed in larger medical stage as French physician Francois Joseph-Victor Broussias’ (1772-

\textsuperscript{232} “Prevenciones generales,” January 20, 1862, “Sesión de la Junta Superior de Sanidad,” October 10, 1861, and “Proyecto de adición al reglamento,” December 23, 1861, Junta de Sanidad, Havana, No. 19, File 52, AN.
\textsuperscript{233} “José Anastasio Hidalgo al Excmo Sor Gobernador Superior Político,” January 12, 1853, Junta de Sanidad, Havana, No. 11, File 38, AN.
\textsuperscript{234} “Junta Superior de Sanidad de la isla de Cuba (Circular),” May 12, 1866, Junta de Sanidad, Havana, No. 19, File 52, AN.
1838) “physiologic” medicine became intellectually fashionable amongst Cuba’s medical elite.²³⁵ Disease, according to Broussais, was merely a localized form of irritation, attributable to personal violation of appropriate dietary, sexual, moral and/or ideological behavior. The theory, reinforced during the devastating cholera epidemics of the 1830s and 1850s, dovetailed nicely with an official reaction which, despite an almost constant and sometimes intense investigation of the systemic problems confronting vaccination, would accept no fault for popular recalcitrance. As Secretary Angel Cowley lamented self-interestedly to the Captain-General in 1850:²³⁶

“If the vaccine is lost in this capital, although temporarily, it is not the Government, nor the Junta de Sanidad, nor the licensed vaccinators who should be blamed for this fault; it is the public, the public which receives this good at no cost, which should be inculpated for such a disgrace.”

Recourse to laws requiring obligatory vaccination of the entire population, if need be by force (rather than its indirect variant, targeting select groups which happen to fall through state auspices), would seem a natural solution to the problem of popular resistance in a highly militarized, colonial slave society. According to historian of public health Erwin Ackerknecht, absolutist or conservative regimes tended to place heavy emphasis on disease etiologies and public health practices that impinge on individual autonomy in favor of community and state.²³⁷ These governments tended to rely on quarantines, cordones and by extension, obligatory vaccination to combat disease within a contagionist framework. Liberal regimes, in contrast, favored less intrusive practices, such environmental approaches, in both disease etiology and control. Although subsequent historians have greatly qualified Ackerknechtian generalizations

²³⁶ “Ángel Cowley al Excmo Capitán General,” June 12, 1850, Junta de Sanidad, Havana, No. 11, File 38, AN. This was later republished in the official press.
and drawn upon a more varied set of parameters for understanding the evolution of public health practices, the vicissitudes of nineteenth century smallpox vaccination seem to have followed political and economic proclivities of individual states more closely than prophylaxis against other diseases.\textsuperscript{238}

However, apart from an obscure mandate to vaccinate all children under 2 years of age in 1815, none for general compulsion existed in Spain under either royalist or liberal regimes until its health legislation was revamped in 1904.\textsuperscript{239} The idea did not lack enthusiasts on either the peninsula or the island colony. Despite the lack of effective precedence on the peninsula, Romay himself had warmed to the idea of obligatory vaccination of all newborns on the island as early as 1818, and threats of compulsion were quite common in the general press and amongst sanitary administrators well past the transition in the 1840s.\textsuperscript{240} When officials in Havana’s Superior Junta de Sanidad became more systematic in their efforts to pass laws of general compulsion in the mid-1850s, Sweden, a number of German states and even the liberal bastion of Great Britain had already done the same, serving as effective models for new legislation.\textsuperscript{241} For vaccinators, the promise of extending obligatory vaccination to the entire population fed into a much broader technocratic dream. Besides the “slow methods of enlightened instruction” that undergird the pedagogical functions of a new professional medical corps, compulsion permitted medical authorities to assert their “police” authority, and their notions of moral, intellectual and social

\textsuperscript{238} Baldwin, \textit{Contagion and the State}, 328.
\textsuperscript{239} Carlos María Cortezo and Ramón Lobo y Regidor, \textit{Datos históricos acerca de la vacuna en España} (Madrid: Imprenta Católica, 1903) and Ramón Navarro, \textit{Historia de la sanidad en España} (Madrid: Instituto de Salud, Carlos III, 2002).
\textsuperscript{240} Tomás Romay Chacón, “Vacuna: Resumen de las operaciones de la Junta Central de Vacuna en el año 1819,” in \textit{Obras Completas}, 292.
superiority, over the bodies of the general public. If the public would not submit “with docility to the voice of science and authority,” then they would have to be saved from themselves by the effective union of administrative power and medical prerogative.

As the core became professionalized, their expectations for the fulfillment of this ideal increased. Vaccinators were more than happy to expound upon on strategies for enforcing their authority when a unique inquiry was made for this purpose in 1855, and their responses reveal much about the mentality of the corps. Although a few voiced concern for maintaining traditional methods of persuasion and outreach, all emphatically agreed that in the face of persistent “indolence, abandon and worry, all government dispositions were in vain” without the application of the more pressing measure of obligatory vaccination. Suggestions for vigorously enforcing and strengthening existing laws of compulsion, such as mandatory vaccination certification in schools and workshops, constituted a common thread. But dangerous segments of the public who eluded vaccinator’s efforts necessitated much more direct coercion. Vaccinator (and for a short time, Decano of the Vaccine Commission) Diego Govantes, for example, combined a limited sensitivity for the structural factors affecting with disease incidence with stern calls for compulsion. Not only should all slaves and emancipados be required to get vaccinated, with fines for negligence, but as for the “abject poor,”

“which inhabit those humid, unhealthy areas in the outskirts of the population in which epidemics primarily emerge, and amongst which, because of their ignorance, are often found worry and abandon [towards the vaccine]...it will be necessary to obligate them forcibly to receive the benefit of the preservative, not only for their own good, but also against the ills occasioned against other classes when they serve (due to their surrounding circumstances) as propagators for the disgusting and mortal smallpox”

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242 “Secretario de la Junta al Capitán General,” December 30, 1861, Junta de Sanidad, Havana, No. 19, File 52, AN.
243 “Junta Superior de Sanidad de La Isla de Cuba (Circular),” May 12, 1866, Junta de Sanidad, Havana, No. 19, File 52, AN.
244 “Diego Govantes a la Junta de Sanidad,” March 26, 1855, Junta de Sanidad, Havana, No. 11, File 38, AN.
245 Ibid.
Ackerknetcht’s correlation of political conservative regimes with the adoption of preventive technologies invasive of individual autonomy cannot explain the enthusiasm that greeted vaccination as a smallpox preventive on the island. As discussed in Chapter One, geography, epidemiological realities of smallpox introduction, and the penury of the colonial administration in matters of sanitation dictated a preference for a comparatively cheap, easy and targeted approach to prevention. Much, moreover, worked against the administration’s adoption of coercive measures upon the free population. There was no effective precedent on the peninsula, and whatever mandates did exist were strongly worded and poorly enforced. The infrastructure required to sustain compulsion was insufficient and investment in health matters comparatively miniscule. Aside from a few enthusiasts, in the colonies administrators initially expressed timidity about stirring “public” sensibilities and crossing the line into the most private of realms, painful invasion of individual bodies.246

However, early recourse to compulsion on the island, as compared to administrative developments on the peninsula, was closely correlated with the political economy of a highly militarized, colonial slave society. The initiative began, as in much of Europe and the world, with fines. Even prior to the transition, in July of 1834, a fine of 25 pesos was placed upon those who neglected to bring in their recently vaccinated children and slaves in for collection of virus, a penalty eventually extended to all resisters.247 By the late 1840s, not only had this legislation been republished several times, but the fines were being more systematically enforced and years

246 Overcoming that timidity became imperative for many administrators by the 1860s, as successive reorganizations of the service did not prevent frequent and violent outbreaks from occurring almost every year. See for example, “Secretario de la Junta al Capitán General” December 30, 1861, Junta de Sanidad, Havana, No. 19, File 52, AN. Decades later, costly and frequent outbreaks continued to emerge, such that in 1886, the executive consulted with administrative authorities about the possibility of labeling smallpox an endemic disease, “Comunicación del Gobierno General,” January 5, 1886, Junta de Sanidad, Havana, No. 114, File 5, AN.
247 “Sr. Presidente de la Junta Superior,” August 12, 1836, Junta de Sanidad, Havana, No. 11, File 38, AN.
later, raised for special cases, though the system seems to have been flexible enough to allow for several instances of appeal and revocation.\textsuperscript{248}

More regular enforcement of fines dovetailed with direct police intervention in enforcing compulsion in individual homes and, increasingly, entire neighborhoods in the late 1850s and early 1860s. The black, mixed race and infamously poor neighborhoods of Regla and Jesus del Monte received the brunt of the new initiative, with vaccinators sending multiple petitions to the executive for door-to-door vaccination with police presence during epidemic outbreaks in 1864 and 1865. The use of police “to remind persons that could incur such a reparable, if pernicious, omission” and punish default was augmented in 1861 by mixed commissions which included the local priest and town council members who together with vaccinators, scoured areas in times of epidemic.\textsuperscript{249} Such commissions were intended not only to form a mobile corps that could reach the invalid and destitute ill, but to exert a pressure that very much approximated force upon those who might resist. After its successful implementation against the devastating smallpox outbreak in Matanzas in 1866, the system of tamping down epidemic foci through the police participation and mixed commissions became standard procedure.\textsuperscript{250} By the time obligatory vaccination was passed a year later, the new system that would dominate late nineteenth century Cuban approaches to epidemic smallpox was complete.

\textbf{Reform and Disintegration}

\textsuperscript{248} See for example “Junta Superior al Capitán General,” August 11, 1851, and “Sesión de la Junta Superior de Sanidad,” September 1851, Junta de Sanidad, Havana, No. 11, File 38, AN.
\textsuperscript{249} “José Ignacio Echeverría,” January 15, 1857, Junta de Sanidad, Havana, No. 11, File 38, AN.
\textsuperscript{250} Manuel Zambrana, \textit{Memoria de los trabajos de la comisión sanitaria de Pueblo Nuevo} (Matanzas: Imprenta El Ferrocarril, 1867) and “Junta Superior de Sanidad al Capitán General,” January 18, 1867, Junta de Sanidad, Havana, No. 19, File 52, AN.
The final triumph of obligatory vaccination and with it, the consolidation of professional medical authority under a variation of sanitary “police” in 1867 proved a bittersweet victory for vaccinators. From the late 1850s and throughout the 1860s, as royal officials via the Minister of Ultramar expressed concern about the rising number of deaths on the island, the legislation strengthening compulsion ran in tandem with three significant reforms (and a few minor proposals) intended to address systemic problems in the service.\(^{251}\) Successful reforms had included an expansion of salaried (and non-remunerated) personnel, some rationalization of professional hierarchies and division of labor, and opportunities for young university students to enter the field. They also, in an ever more intense manner, increased the responsibility of civil authorities for management and outreach of what was intended to be just another civil service. While it set precedent that would bode ill for vaccinators in the long term, such reforms had the immediate effect of augmenting the coercive power of the service amongst the larger population.

Constant appeals for reform betrayed the rickety structure of the service, as the professional priorities of vaccinators clashed with the hard realities of disease control. Frustration became particularly pronounced during the epidemic of Matanzas (1866-1868), whose fury upon the sugar and slave-rich province seemed to unleash the frustration of administrators and vaccinators tired of poor performance and eager to embrace new initiatives. Monopoly of the procedure by a relative handful of licensed professionals, for one, was cited by members of the creole medical elite and administration alike as an impediment to dissemination of the vaccine; allowing all regular licensed practitioners to perform the operation promised

\(^{251}\) A reform initiative in 1855-57 was followed by another in 1861 and again in 1867. See “Sesión de la Junta Superior de Sanidad,” April 7, 1856, Junta de Sanidad, Havana, No. 11, File 38, AN, “Secretaría de Gobierno (Circular),” September 22, 1861 and “Junta Superior de Sanidad al Capitán General,” January 18, 1867, Junta de Sanidad, Havana, No. 19, File 52, AN.
wider and less disruptive modes of access to vaccination for the population.\textsuperscript{252} Interest in utilizing other traditional preventives, such as the construction of lazarettos, piqued as did a growing curiosity about alternative international developments in vaccine production and disease control.\textsuperscript{253} When Spanish physician and Inspector of the Vaccine Vicente Ferrer proposed an investigation of vaccination services, particularly animal vaccine, throughout Europe in 1866, administrators and staff alike applauded and approved the mission. Alongside hopeful predictions for a popular embrace and the institutional success of the cowpox, one enthusiastic endorsement of Ferrer’s plan to the Captain-General stressed that public hygiene on the island necessitated profound changes. After all:\textsuperscript{254}

“in Europe there has been great progress during the last cholera invasions, with respect to the treatment of Asiatic cholera, the organization of small provisional hospitals, Casas de Socorro, sanitary service at home, etc,...such that it would be useful for us that [Ferrer] study the order, legislation and implementation of modern lazarettos, general sanitary services and whatever else could be of utility here.”

These investigations would not have been so dangerous to the integrity of the vaccination service if not for their inextricable connection to a whirlwind of criticism against a vaccination corps perceived by many administrators as decrepit. Despite myriad suggestions, proposal drafts and effective reforms emerging from successive administrations after the transition (including one by Romay himself) issues with professional organization and remuneration continued to dog the corps for decades. As Inspector Ferrer, determined to streamline and rationalize vaccination

\textsuperscript{252} Luis de la Calle “Informe acerca de la Memoria del Dr. D. Juan G. Hava,” \textit{Anales de la Real Academia} 3 (November 1866): 215 and José de la Luz y Caballero, “Importancia de la vacunación y revacunación demostrada por hechos experimentales,” \textit{Anales de la Real Academia} 3 (March 1867): 383-396.
\textsuperscript{254} “Al Capitán General” (cited above).
service, railed in what had become a familiar condemnation before his departure to Europe in 1866: 255

“In what is today called the Central Commission all is anomalous, irregular and dysfunctional with respect to the service, such as the distribution of personnel and their income scales…a personnel organized thus and reimbursed capriciously, without equity or reason in regards to others of their class across the island, cannot demonstrate the enthusiasm and zeal which the vaccine service, because of its peculiar nature, requires, nor have the desired incentive.”

Ferrer submitted an angry reform proposal to Havana’s Superior Junta in 1866 to address these issues through a thorough rationalization of the service, distribution of equitable salaries for a simplified two-tier professional hierarchy, and the creation of professional step-ladders based solely on merit. 256 Whereas similar initiatives had been shunted aside years prior, administrators were especially receptive to the Inspector’s ideas in a time of crisis. Instrumental in revamping the administrative address of epidemic in Matanzas, Ferrer was also interested in promoting a generalized transformation of the island’s epidemic response system and in 1867, many of his general recommendations were codified into law. Heretofore, vaccination was declared obligatory, all licensed practitioners could perform the operation, and a slightly reduced corps of vaccinators were mandated by law to work intimately alongside civil authorities to vaccinate entire populations.

Almost forty years before the metropole would adopt similar legislation, the island in effect, had become field for experimentation with an organized and effective coercion, at least during epidemic emergencies, when authorities and vaccinators often applied an early variation of the celebrated “ring vaccination” technique used to extinguish the last epidemic foci of the

255 “Del Secretario a la Excmo Junta Superior de Sanidad,” December 18, 1866, Junta de Sanidad, Havana, No. 19, File 52, AN.
256 Ibid.
disease more than a century afterwards.\textsuperscript{257} Despite the end of a monopoly on the practice, an era of professional consolidation had been consummated with direct and unprecedented control over the reluctant bodies of the public.

But vaccinators’ professional victory was short-lived, as deeper reforms shook their foundation. The overhaul of 1867 in some ways intimated at future transformations. Besides the newfound ability to vaccinate, all licensed practitioners in an epidemic district were called upon to serve the sick-poor gratis and write prescriptions for both medication and local charitable institutions “in case of need for clothing, food or money.”\textsuperscript{258} Established practices, such as the use of mixed-commissions to enforce vaccination and traditional quarantinist restrictions on the movement of people and goods were combined with new compulsions to recruit municipal physicians, pharmacists, and lay-people to alleviating material conditions of the destitute.\textsuperscript{259}

\textbf{The Onset of War and a New Order}

The close integration of public charity and medical attention reflected a heightened interest in reaching (and controlling) the poor population, and the menace they represented to the higher classes, at the local level. According to the Spanish Sanitation Law of 1855, which represented only the latest codification of earlier nineteenth century liberal preoccupations with the issue, Spanish town councils were required to provide free medical assistance to poor residents. Across the peninsula, municipalities were to contract municipal licensed practitioners to treat the destitute, conduct forensic analyses, collect statistical and epidemiological data,


\textsuperscript{258} “La Junta Superior de Sanidad al Capitán General,” January 18, 1867, Junta de Sanidad, Havana, No. 19, File 52, AN.

\textsuperscript{259} Ibid.
vaccinate the general population, consult with local authorities and fulfill additional obligations as per individual negotiations with the municipality. Reformers also created new institutions, the *Casas de Socorro*, or “Relief Houses,” to serve as urgent-care facilities and charitable distribution centers for the poor.

Although Cuba was governed by “special laws,” nineteenth-century Spanish legislative legacies combined with the exigencies of a new reality in the Cuban political and socio-economic landscape to spur the foundation of similar institutions and devolution of sanitary authority. Slavery’s imminent demise was to leave a large, impoverished African population unshackled even as the strength and activity of proletarian labor organizations alarmed colonial administrators and sympathizers during the late 1860s. Large populations of the mobile and poor had to be addressed without breaking colonial coffers, which by 1868 was furthermore spending large amounts of money trying to quell what would turn out to be a ten-year long independence war (see below). Concerns over these impending and/or ongoing crises harmonized with promises of reform by liberals in Madrid. Expanding responsibility for sanitation at the local level seemed the most cost-effective way to maximize state oversight. By early 1872, not only were all town councils obliged to maintain municipal doctors on staff but in Havana, construction for 7 new “Relief Houses” was well under way.

Vaccination services as traditionally understood were completely overturned. Rather than retaining a large corps of professional vaccinators working under the auspices of a colony-

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260 Local responsibility for provision of public health services, including medical treatment, had a much longer pedigree, but their codification and institutionalization in the mid-nineteenth century proved important for regularization of the practice. Jesús Miguel Tejedor Muñoz, Jesús Moro Aguado, Juan Riera Palmero, *El ejercicio médico en España: la demanda profesional en el ámbito rural decimonónico, 1854-1863* (Valladolid: Universidad de Valladolid, 1998).

261 Casanovas, *Bread and Bullets!*, 71-96.

wide public health institution, responsibility for vaccination became the special province of the local town council, “at liberty to arrange for vaccine service in their districts as they see fit.”

Although the legislation conserved the posts of vaccinators in good standing, town councils were free to adjust salaries, personnel and material after brief consultation with the executive. In practice this legislation sounded the death knell of regular corps vaccinators as councils, usually reluctant to spend on expensive public health projects, either offered vaccinators the opportunity to apply for new municipal positions or simply laid them off. The costly maintenance of what was perceived amongst some public health administrators as a “dysfunctional” corps was made even more superfluous when vaccination services were also being offered in the new “Relief Houses,” a project introduced and guided to fruition by town council member and Inspector of the Vaccine Dr. Vincent Hernández.

Many vaccinators were stunned. Some seem to have continued their activities as if nothing had happened. In neighboring Matanzas, former vaccinators were reprimanded for inertia in the face of change, neglecting to submit applications for their new possible role as municipal physician in confidence that their current status would be protected. In Havana, former Dean Rafael Hondares doggedly continued to vaccinate on assigned days in the sacristy of the church of Santo Angel Custodio, convincing other former corps members to do the same after their salaries had been withdrawn. When this locale was taken from him due to repairs, Hondares searched for another umbrella institution, the (in)famously creole Royal Academy of Science, for protection of the vaccine and service. For Hondares and other disillusioned

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264 Sr. D Juan N. Burriel, “Resolución dictada por el Gobierno Superior Político” Anales de la Real Academia 8 (March 1872): 532-33.
265 Le-Roy y Cassá, Desenvolvimiento, 11.
266 Burriel, “Resolución,” 532-33.
members of the corps, it seemed as if an era of professional prestige in the public service had ended. The sense of betrayal was especially poignant as it became clear that peninsular administrators were creating the conditions for a centralized vaccine institute at home even as they dismantled and decentralized vaccination provision services in the colony.268

Worse, the rupture occurred as inter-ethnic tensions were themselves devolving into violence. From the late 1860s onwards, creole hopes that imperial administrators would consider reforms that integrated Cuba into the peninsular system as a ‘province’ rather than a ‘colony’ were repeatedly run aground.269 In October of 1868, small-scale sugar planter Manuel Cespedes launched his “Grito de Yara” in Oriente province, a declaration of independence that inaugurated a vicious ten-year war (1868-1878). The violence, and two more bloody wars for independence that followed (1880-1883 and 1895-1898) shook the colonial structure to its core and exacerbated ethnic and political tensions between creoles and Spanish immigrants looking to preserve their political and economic privileges under the colonial system. Although all the revolutions began and thrived in the economically depressed and demographically distinct Eastern region, in Havana sympathizers formed underground associations to help the rebellious regions. Money, arms, and men flowed to the centers of conflict from both the capital and centers of Cuban exile in the Atlantic world. Numerous cafés of Havana teemed with the whispers of a dissatisfied creole majority, as plans and programs of dissent and even independence were launched by young educated creoles inspired by the potential for political change in the Atlantic world.270

269 From 1837 onwards, Cuba and Puerto Rico were governed by “special laws” that granted special economic and political privileges to the Spanish-born peninsulares. For a fuller exposition of reform movement, see Eliseo Giberga’s, Apuntes sobre la cuestión de Cuba por un autonomista (Miami: Editorial Cubana, 2006).
270 Bethell, Cuba: A Short History, Cluster and Hernández have a colorful description of the lively cafe culture in the capital in History of Havana, 85.
The large Spanish population and a vacillating Spanish colonial policy exacerbated the atmosphere of rebellion. From 1869 to 1871, armed peninsular militias (the ‘Volunteers’) patrolled the city and exerted vigilante justice on any intimation of disrespect to either the crown or Spain. These “insolent armed mobs,” as Captain General Domingo Dulces referred to them, composed largely of the immigrant working-class (army veterans, clerks, bakers, butchers, tobacco workers etc.), managed to occupy the capital and oust reformist authorities sent from Madrid to negotiate a settlement. Intransigent militias were subsequently reigned in by Spanish authorities and some significant economic and political reforms (particularly concerning freedom of the press and associational life) were gained in the late 1870s and 1880s. However, continuing friction and the onset of hostilities allowed hard-line governors and local militias to periodically take on the mantle of intransigent colonial anti-reformism.

Conclusion

It was in this context that the Dean Rafael Hondares and his special corps of vaccinators saw their foundations crumble. Although most creole medical professionals were relatively moderate reformists, the radicalizing effects of war and vigilantism reverberated across the profession. Not only was the colonial pact broken, but a professional trust in a paternal and benevolent state was deeply shaken in the context of violence and war. For over sixty years, in the midst of repression, rebellion, the articulation of criollo identity/nationalism, and the transition from the Sociedad Económica to the Junta de Sanidad, smallpox vaccination had been

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271 Cluster and Hernández, History of Havana, 87-89.
272 Pruna, La Real Academia, 197.
273 See Alfonso W. Quiroz, “Orígenes de la sociedad civil en Cuba: La Habana y Puerto Príncipe en el siglo XIX,” Ibero-Americana Pragensia-Supplementum 18 (2006): 89-112. For its relationship to political reformism and the growth of the working class, see Mildred de la Torre, El autonomismo en Cuba, 1878-1898 (La Habana: Editorial de Ciencias Sociales, 1997) and Casanovas, Bread or Bullets!, respectively.
a preferred service of the Crown. Despite its many inefficiencies and defects, the service was an especially creole professional sanctuary for those who sought recognition from authorities and the people alike for their ethic, valor and professional worth. Smallpox vaccination had enabled medical professionals to move past the soapbox of a mere pedagogical mission, and impose their will on a recalcitrant population more consistently and thoroughly than any other medical preventative. Termination of the corps in the midst of colonial struggle would thus have long-lasting consequences for the mystique of creole medical professionalism, the construction of an imperial legacy in public health, and the creation of a Cuban identity.
Chapter Three: Vicente Ferrer and the Cowpox Controversy

Introduction

Dr. Vicente Ferrer was about to embark on an adventure of a lifetime. From February of 1867 to March of 1868, the Secretary of Cuba’s Health Council and Inspector of the Vaccine scheduled a whirlwind tour of Europe to acquire both ‘legitimate’ cowpox and the skills for its mass production. Post-vaccinal mortality, infection, and ineffective ‘takes’ had abetted public resistance to what was often a painful surgical operation; and health officials across the globe had high hopes for the new procedure.274

Vaccine applied directly from the calf had some advantages over what was known as ‘Jennerian’ vaccination, or the arm-to-arm technique. With calf vaccination, physicians hoped to avoid the accidental transmission of syphilis, leprosy and erysipelas from person-to-person along human vaccination chains. Popular resistance and the problems of supply that often resulted could also be more easily overcome; parents would not have to return their children to vaccinators for the sometimes painful extraction of virus and via the calf, vaccine could be produced in much greater quantities. Heady with the triumph of what he perceived as a major scientific advance in preventive medicine, Ferrer went so far as to argue that the ‘purity’ and ‘virtue’ of a vaccine that had never passed to the human species was the only real guarantee of preservation against smallpox. As an administrative official and field vaccinator of the colonial public health service, he was determined to bring the benefits of this technical innovation to Cuban shores.275

274Hopkins, Princes and Peasants, 88-89 and Bhattacharya, Fractured States, 38-47.
Ferrer’s first stop was Naples, where Dr. Guiseppe Negri had for decades been running an institute based on extraction of vaccine directly from the calf. From Negri’s Institute, Ferrer travelled to France, Belgium, and Spain to visit similar animal vaccine production centers and consult medical experts, eventually bringing two inoculated calves from the port of Cadiz to Havana in the spring of 1868. Just a few months later, on the 27th of August, the Secretary’s hopes were realized by royal decree; the crown granted him permission to establish the “Practical Institute for Animal Vaccine in Cuba and Puerto Rico” as a private institution, at no cost to the state.\(^{276}\) Ferrer’s original plans for the Institute were ambitious. He sought not only to create a permanent fount of cowpox vaccine available to both authorities and the public but to build a research center dedicated to the investigation and discussion of animal vaccine. Modeled after research centers he had investigated in Italy, France and Belgium, the Institute would allow professors from the Spanish Antilles to congregate, conduct experimentation and promote their work in a refuge “all the more necessary for the Americas because of its distance from centers of scientific innovation.”\(^{277}\)

The Institute was the first of its kind in the Americas, and preceded the establishment of a similar center on the metropolis by four years. In the midst of public health dislocation and the dismantling of smallpox vaccination services, Ferrer was also the first private institute to consistently offer preventive treatment to the public. By 1872, the former Secretary boasted to the Academy of Medicine in Madrid that he had vaccinated over twenty thousand people using the new technique in both city and countryside.\(^{278}\) Although most of these were paying


\(^{277}\) “Solicitud: Creación del Instituto Práctico de Vacunación de Cuba y Puerto Rico,” December 6, 1867, Ministerio de Ultramar, No. 4711, File 20, AHN.

\(^{278}\) Vicente Luis Ferrer, “Memoria presentada a la Real Academia de Medicina de Madrid,” February 14, 1872, File 124, Doc. 5791, Biblioteca de la Real Academia Nacional de Medicina, Madrid, Spain (hereafter RANM).
customers who purchased vaccine directly from Ferrer’s institute, donations to public officials kept a steady supply of vaccine flowing in moments of scarcity. The confluence of public and private interest also led the former Secretary to publish seminal tracts of public health propaganda in favor of cowpox vaccination. Ferrer dedicated the last years of his life to enhancing the prestige of his institute and technique and was recognized by contemporaries with the Cross of Isabel la Católica for his service in bringing calf vaccine to the colony.\textsuperscript{279}

Yet Ferrer’s legacy does not reflect his scientific, institutional or personal accomplishments. In a national historiography that generally takes great pride in the island’s precocious scientific development, Ferrer appears a marginal figure.\textsuperscript{280} Certainly, his projects hit rocky waters as the colonial administration’s shifting and contingent financial situation precluded institutional expansion from a production depot to a Caribbean-wide research center. But Ferrer’s most determined opponents, that which most tarnished his image and soured his victory, were other medical elites. While conflict over the relative merits of cowpox vaccination was a relatively common feature of preventive health in the 1860s and 70s, disputes between members of the Royal Academy and Ferrer’s cowpox was unusually prolonged and acerbic. Former colleagues, some of which had struggled with Ferrer against the devastating smallpox epidemics of the late 1860s, turned their backs on his newest project, offering a bitter estimate of his service to the public and profession well after his death.\textsuperscript{281}

Historical omissions of this nature are usually the product of defeat in scientific conflict; particularly in the more traditional histories of science, hagiographies of the “winners” get all the

\textsuperscript{279} “Concesión de la Gran Cruz de Isabel la Católica a Vicente Luis Ferrer,” August 29, 1876, Ministerio de Ultramar, No. 4725, File 22. AHN.

\textsuperscript{280} A notable exception is the short article on Ferrer’s public propaganda by José Antonio López Espinosa, “El doctor Vicente Luis Ferrer y la revista El Propagador de la Vacuna,” \textit{Cuban Journal of Health Information and Professional Communication} 12, no. 1 (2004) at \url{http://bvs.sld.cu/revistas/aci/vol12_1_04/aci08104.htm} (last accessed May 1, 2014).

\textsuperscript{281} “Informe respecto al Instituto de Vacunación Animal,” \textit{Anales de la Real Academia} 22 (1885): 193.
spoils of recognition. In this case however, Ferrer’s procedure eventually dominated supply. Calf vaccine spread gradually but consistently for decades after its introduction; with calf lymph supplying even the Academy of Medicine by the 1890s. Explanations for his virtual disappearance from a well-worked historical record must be sought after in the socio-economic, cultural and political realms. What did the Secretary symbolize for the largely creole medical establishment of late nineteenth-century Cuba? And what motives, in the midst of disease, war and ethnic strife, would contemporary and later medical elites have to effectively write him out of Cuban medical history?

**Origins of the Practical Institute for Animal Vaccine in Cuba and Puerto Rico**

Dr. Vicente Ferrer (1823-1883), a native of Madrid and graduate in Medicine and Surgery from the Royal College of San Carlos, was an ambitious physician in the Spanish naval forces during the 1840s. Immigrating to Cuba in 1857, the young doctor used his contacts and professional acumen to quickly rise through the ranks of the colonial bureaucracy, eventually becoming one of the islands most prominent sanitary officials. Promoted Secretary of the Junta de Sanidad in 1863, he organized Civil Sanitation Corps for medical inspection of ships at port and passed multiple regulatory frameworks for the maintenance and reform of public health.²⁸²

Ferrer’s most important work however, was in the extension and promotion of smallpox vaccination services across the island of Cuba. Fellow professionals and administrators praised the Secretary for his contributions as Inspector of the Vaccine in Cuba during the turbulent epidemic years of the 1860s, citing his excellent work in the introduction, organization and supplementation of vaccine stores in the western sugar plantation zones of provincial Havana.

Ferrer’s key role in extinguishing one of the worst epidemics in the history of this region won him the coveted ‘Cross of Charity’ award in 1866, an honor of service to which very few medical practitioners could aspire.

Ferrer was deeply affected by his experience as a public health official trying to staunch the flames of recurring smallpox epidemics on the island. The Secretary experienced particular frustration with the significant popular resistance to the procedure that accompanied vaccinators throughout their campaigns in the western sugar zones of Matanzas and provincial Havana. Vaccinators struggled against an almost constant scarcity of vaccine, as parents resisted bringing their recently vaccinated children to return lymph, an operation “no mother tolerates without repugnance and pain and which the majority resist.” Moreover, many despondently encountered the “vociferous protests of vulgar and uncultured segments of the population, who don’t believe in the efficacy of the vaccine.” Only with the aid of local authorities and the threatening presence of a regular police escort was a truly expansive mass vaccination program possible in many neighborhoods.

Vaccinators may have blamed popular ignorance for resistance to their preventive imposition, but complaints about degenerated vaccine were not limited to the popular classes. Debate over the relative effectiveness of different smallpox vaccines, both in Europe and the Americas, had a long history. During the 1840s and 50s, the number of persons who, vaccinated as children, were later confirmed as having contracted smallpox as adults had increased to a notable degree. Physicians in the Academy of Paris began to seriously consider the immunity offered by smallpox vaccine as limited in time and sought scientific consensus on the need for

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283 Zambrana, Memoria, 12.
284 Vicente Luis Ferrer, “Memoria presentada a la Real Academia de Medicina de Madrid,” February 14, 1872, File 124, Doc. 5791, RANM.
revaccination after a certain number of years to ensure continued protection.\textsuperscript{286} The failure of life-long immunity became entangled with doubts about the current vaccine’s potency. Prominent Parisian scientific figures such as the oft-cited Jean-Baptiste Bousquet argued that revaccination was essential not only because of the vaccine’s natural limitations but also because the original material had ‘degenerated’ in its long passage via human transmission and was in need of ‘rejuvenation’ with its protean source.\textsuperscript{287}

Professional and local rejection of a significant pillar of 19\textsuperscript{th} century preventive medicine left an impression on Ferrer, who began to publicly argue in the 1860’s that the problem of vaccine scarcity and public fear would only be resolved with a technical advance in the source and application of vaccine. According to the Secretary,\textsuperscript{288}

“The vaccine would always encounter great obstacles in its propagation when the population was not given true cowpox or vaccine lymph that was always effective or without a system of vaccination capable of dissipating their concerns (which are not always without reason and justice); to calm their spirits in respect to the transmission of syphilis and other diseases and to free them of certain troubles, such as that of having to return the children to vaccination sites to return lymph so as to extract virus.”

For Ferrer the problem was more than just an ineffective source of preventive, it was systemic. Alongside many other public health officials associated with the service, as Inspector of the Vaccine Ferrer became convinced that the institutionalization vaccination on the island was “dysfunctional” and in need of a serious overhaul. During the 1860s, he submitted a series of impassioned proposals and recommendations to streamline and rationalize the service while


\textsuperscript{287} Jean-Baptiste Bousquet, “De la inoculación de virus vacuno en la vaca, y de los efectos de esta inoculación sobre la vacuna” \textit{Repertorio Médico-Habanero y Boletín Científico} 2, no.10 (March 1844): 255-260.

\textsuperscript{288} “Al Capitán General,” October 25, 1866, Junta de Sanidad, Havana, No. 19, File 52, AN.
maintaining the basic integrity of a vaccination corps funded by state coffers.\footnote{289} Even as many of his recommendations were taken up by royal authorities, Ferrer was disillusioned with the capabilities of the official vaccine service in the face of public apathy and resistance. After his return from Europe he lamented that, “the most categorical laws, the most explicit instructions to governors, all sort of pecuniary sacrifice, and the creation of vaccine deposits were not enough to awaken desire for vaccine amongst the vulgar.”\footnote{290} Ferrer was convinced that whatever measures were undertaken by the government in favor this service, “they all broke down before public indifference.”\footnote{291}

His disillusionment with public service probably played a role in his desire to create a private institution for the production of vaccine. After all, resistance and apathy could not be overcome without effective lymph and the creation of permanent deposits in the Juntas de Sanidad (by Royal Edict in 1857) had clearly not resolved the issue of either vaccine scarcity or popular anxiety about the material in circulation. By being the first to bring calf vaccination to the colony, Ferrer could work around public health inadequacies and help supply the government with the latest in vaccine technology. He could also enhance his prestige as a scientist and medical professional; all while turning a profit with a service that had always been considered a government obligation and a free public good.

\footnote{289} “Secretario a la Excmo Junta Superior de Sanidad,” December 18, 1866, Junta de Sanidad, Havana, No. 19, File 52, AN.  
\footnote{290} Vicente Luis Ferrer, “Memoria presentada a la Real Academia de Medicina de Madrid,” February 14, 1872, File 124, Doc. 5791, RANM.  
\footnote{291} Ibid.
Figure 7: Naturally occurring cowpox from *El Propagador de la Vacuna*; Ferrer’s underlying justification for the superiority of both his production method and vaccine was that both came from the same original and ‘spontaneous’ form of cowpox (illustrated above) used by Jenner in the late 1780s.

Whatever the relative weight of public versus private motivation, Ferrer returned to the island determined to aggressively promote his method and Institute. In 1872, in the midst of much medical controversy over the relative virtues of cowpox versus arm-to-arm vaccination, he published what was to be one of a series of short tracts dedicated to popularizing knowledge about his method. *The Propagator of Vaccine: War Against Smallpox, [written] by a Friend of Children and Dedicated to all Mothers* was directed to a wide audience (including the rural population), and can be considered one of very few public health manuals dedicated exclusively to smallpox vaccination on the island. The tract included staged dialogue in response to general queries about vaccination; ‘does the vaccine revolve the humors, does the vaccine produce smallpox, is it safe to vaccinate during an epidemic?’ But a great deal of the content was intended to prove the superiority and distinctiveness of Ferrer’s innovation. According to the

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Institute’s genesis story, Ferrer’s cowpox was undiluted by “incessant passage through infinite generations of persons with herpes, syphilis, and tuberculosis” and was thus a uniquely different substance from the ‘human’ vaccine. Not since Jenner’s original extraction of virus (or the discovery of cowpox-ridden calves in Passy, France in 1836) had the original material been in circulation outside Negri’s Institute in Naples. Ferrer considered it his ‘mission’ to bring this vaccine back to the colony, at his expense, for investigation and distribution.

**Figure 8: Comparison of vaccines from*El Propagador de la Vacuna;* Exact replicas of sketches produced by the Academy of Medicine in Paris dramatically illustrated the differences in virtue between Ferrer’s vaccine (on the left) and its human variant (shown at right).

Overall, the colonial officials were enthusiastic about Ferrer’s project. Ferrer’s promise to use his institute to serve royal authority and “facilitate animal vaccine at whatever hour for all

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294 Most of Ferrer’s nineteenth-century contemporaries never doubted the cowpox origins of either “degenerated, human” vaccine or Negri’s calf variant. Revisionist historians of smallpox vaccination however, have detailed the existence of a multiplicity of “Jennerian” vaccines in circulation during the nineteenth and early twentieth centuries, including horsepox and attenuated smallpox. Whatever their origin, over time local experimentation with production and application of lymph usually created vaccines that were unique to the region. See Sanjoy Bhattacharya and Niels Brimnes, “Introduction: Simultaneously Global and Local: Reassessing Smallpox Vaccination and Its Spread, 1789-1900,” *Bulletin of the History of Medicine* 83, no.1 (Spring 2009): 3-5.
its necessities of service no matter how great” sounded upon sympathetic ears during increasingly alarming epidemic outbreaks in both Cuba and Puerto Rico.295 Cuba’s own Junta de Sanidad wanted to make Ferrer a salaried, official inspector of not one but three centers of animal vaccine to be located in Havana, Puerto Principe and Santiago de Cuba.296 Although government support for such an ambitious plan of public/private collaboration was lacking, by the spring 1872 Ferrer could proudly declare to the Royal Academy of Medicine in Madrid that two more modest centers for the conservation and propagation of animal vaccine were being constructed in Matanzas and Santiago de Cuba under the direction of their Ayuntamientos.297 Other municipal governments across the island clamored to acquire the highly regarded cowpox lymph; free donations of lymph to various public and private corporations across the island continued into the 1890s.

Even as the full realization of these projects were stunted by colonial administrative inertia and a precarious financial situation, elite medical colleagues turned an icy shoulder to Ferrer’s introduction and institutionalization of the cowpox. To some degree this was a response to the former Inspector’s categorical imposition of his own professional and scientific achievement. Ferrer had drawn a line in the sand; his propaganda on behalf of a “superior” innovation required that other vaccinators accept their techniques as inferior and even dangerous to the population. Former vaccinators and other physicians associated with the Royal Academy of Sciences, some of which had struggled with Ferrer against the devastating smallpox epidemics of the mid-1860s, reacted viscerally to their colleague’s attempts at professional aggrandizement and offered a bitter estimate of his service to the public and profession.

295 “Solicitud; Creación del Instituto Práctico de Vacunación de Cuba y Puerto Rico,” December 1867, Ministerio de Ultramar, No. 4711, File 20, AHN.
296 “Solicitud; Creación del Instituto Práctico de Vacunación de Cuba y Puerto Rico,” May 14, 1868, Ministerio de Ultramar, No. 4711, File 20, AHN.
297 Ferrer, El Propagador, 45.
The Academy’s Response

Founded in 1861 by elite creole physicians dedicated to the principles of “science, detached observation and experimentation,” the Royal Academy of Science in Havana had been running its own vaccination services based on the arm-to-arm method since 1869 (see Chapter 2).²⁹⁸ Headed by former Dean of the Central Vaccine Commission Rafael Hondares (who was not a member of the Academy) and former vaccinator Tomás Mateo Govantes, the Sub-commission of the Vaccine reserved at least one day a week for free, public vaccination in the Academy’s elegant salon. As advisor to the government the Academy’s obligations included a review of the scientific merit of medical innovations, and the colonial government requested a report on Ferrer’s institute soon after its installation. The Commission of Public Hygiene coldly acknowledged the royal order authorizing the establishment of the institute and in September of 1869 submitted a scathing report against him and the Institute.

According to the report, members of the commission were offended by Ferrer’s argument for the superiority of animal vaccine over the current arm-to-arm method. Ferrer’s exaggerated claims about the absolute advantages of animal vaccine regarding transmission of disease (like syphilis), productive capacity and preventive potency were interpreted by the commission as a scientific and professional insult to their own vaccination efforts on the island. As asserted in the report, “a vaccinator who fulfills his duty would never draw vaccine unless it was from a healthy child and triumphs over, as they have to this day, resistance to returning lymph.”²⁹⁹ Moreover, Ferrer offered no conclusive evidence about the possibility of animal-to-human transmission of

²⁹⁸ For a comprehensive study of the history of the Cuban Academy, see Pedro M. Pruna Goodgall, Ciencia y científicos en Cuba colonial: La Real Academia de Ciencias de la Habana, 1861-1898 (Havana: Editorial Academia, 2001), 141.
²⁹⁹ “Higiene pública; Vacunación animal,” Anales de la Real Academia 7 (October 1870): 206.
bovine diseases such as tuberculosis and “that the same repugnance [towards vaccination amongst certain sectors of the public] would [not] be produced with inoculation using a sick animal.”

Claims about the relative potency of animal vaccine and its life-long preservation of an individual from a bout with smallpox struck the Commission as unsubstantiated and unscientific propaganda.

An overt current of anger towards Ferrer’s professional and pecuniary ambitions ran through the report. If the stipulations regarding scientific research in Ferrer’s institute were acceptable and even laudable, the private nature of his endeavor was condemned as impermissible under the regulatory structure of public vaccination on the island. Vaccine should be free and tubes of vaccine virus distributed without charge to any solicitor (particularly hacendados). The sale of vaccine to the well-endowed was a threat to public health, for as one academic argued after the report was concluded, “the people always seek and follow the coattails of the rich, and unable to reach it, they will not get vaccinated.” What was worse, Ferrer was trying to discredit human vaccine when his professional credentials included a service award for the eradication of epidemics in western Cuba during the early 1860s, campaigns that relied almost exclusively on the arm-to-arm method. Ferrer’s petition was portrayed as a self-interested and hypocritical attack on both human vaccine and Cuban administration of the smallpox preventive, which “with more than 50 years of experience, has plainly justified its good and sound effects; as Sr. Ferrer has himself proved, his brilliant success due to the benefits of the current system.”

300 Ibid. 206.
301 Ibid. 208.
302 Ibid. 214.
303 Ibid. 207.
The Commission’s conclusion was categorically against the legitimation and institutionalization of animal vaccination on the island. According to the report, Ferrer had not provided sufficient evidence to conclude that animal vaccination enjoyed any advantages over the arm-to-arm method. The new technique should only be admitted for research and comparative study, “taking care that nothing prejudices the application of the current method [italics in original].” If its superiority is proven scientifically and with rigor, the Academy could accept the institutionalization of animal vaccination under Ferrer’s proposed framework, with the exception of its general disposition on the sale of vaccine. This latter clause is “inadmissible, because this would serve as an obstacle to the propagation of vaccine…and should be removed so that with more extensive dissemination come more beneficial results [for the population].”

A heated debate ensued after Govantes read the Commission’s report and continued into the late evening, during which a few academics demonstrated more sympathetic opinions of Ferrer’s proposal. Secretary Dr. Antonio Mestre, widely considered an exemplar of scientific objectivity in the Academy, admitted that diseases such as syphilis could be transmitted “with the least lack of caution” via the arm-to-arm method and that cases of syphilis transmission “are now numerous enough to draw attention and seek a means of preventing contagion.” Mestre agreed with the report in that the relative superiority of animal vaccination had not been resolved scientifically, but asserted that each technique had advantages and disadvantages to take into consideration. In his discussion of contemporary debates in the Academy of Paris, the Secretary

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304 Ibid., 207.
305 Ibid., 208.
306 Ibid., 212.
seemed to favor a moderate approach, whereby “both [human and animal vaccines] are cultivated simultaneously so that the administration of good virus is always assured.”

Other Academics went further. Upon hearing Secretary Mestre play devil’s advocate with the costs and benefits of animal vaccination, Dr. Joaquín Lebredo (a member of the Commission) abruptly changed course. Arguing that the report should not have been presented with such a scarcity of data, Lebredo thought that the Commission’s conclusion pre-maturely discarded both the practice and research of animal vaccination, “when in reality animal vaccination should be accepted and established, not as a special comparative study, but as a method which also has established standards of proof and is already applied in enlightened nations.” Although he along with other members of the Commission insisted that vaccination be free, Lebredo understood that the Institute’s vaccination fees “could not be avoided, as it is a private business; just as the public cannot be obligated to refer to this center.”

An addendum to the final government response reflected the impact of these tempered voices. Without accepting Ferrer’s claims concerning the superiority of animal vaccination, the Commission conceded that the technique was backed by scientific evidence, as attested by its practical administration in some ‘enlightened’ countries. The Academy was therefore “not opposed” to the establishment of the institute as stipulated in the Royal Order. However, the Academy approved the Commission’s original conclusions and qualified this last show of acceptance. President Gutierrez had been alerted that some Ayuntamientos on the island had already requested animal vaccine from the Institute. Without evidence to suggest that animal vaccination should substitute the arm-to-arm method, he argued for human vaccination’s

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307 Ibid., 213.
308 Ibid., 213.
309 Ibid., 211.
310 Ibid., 215.
preservation. Faced with the threat of both official sanction and public/private partnerships, the addendum asserted that the government “cannot establish such an institute in an official or obligatory manner,” since such a measure would prejudice human vaccine. Responding to Ferrer’s messianic exaggeration of animal vaccination’s benefits, the Academy seemed to look upon both the institute and the practice of animal vaccination as threats to their professional primacy in any state-led public health initiative against smallpox.

A flurry of heavily edited publications, composed in their majority by a second-generation vaccinator in the service and scion of a prominent medical family Dr. Tomás Mateo Govantes and his close colleague Lic. Francisco A. Sauvalle, appeared in the Anales soon after submission of the report. All reaffirmed a binary vision of smallpox vaccination in which animal vaccine in Europe and on the island was framed as a dangerous innovation that was comparatively ineffective and prone to mercenary ‘trafficking’ and monopoly. Although a heavy silence eventually enveloped the issue and some exceptions to this position emerged in later years, the Academy converted itself into the scientific and practical bastion for the defense of the arm-to-arm method and human vaccine until independence in 1898. Many Academics became convinced that the reason for government inability to enforce thorough and extensive vaccination was its adherence to animal vaccine. As Dr. Mestre declared during the great smallpox epidemic of 1878,

“The affinity for vaccination in the Academy can be explained not only because of the fear of a bout with smallpox; but because, with the Casas de Socorro unable to rely on anything more than calf vaccine ministered by [Ferrer’s] Instituto, many physicians preferred the arm-to-arm method vaccine and counseled in favor of this in the heart of families and amongst clientele.”

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311 Ibid., 214.
313 Pruna, La Real Academia, 350-355.
The Science of Rejection

As Cuban historian of medicine Pedro Pruna argues, academic skepticism of calf vaccination did not necessarily demonstrate a retrograde attitude towards a hygienically and scientifically superior process.\textsuperscript{315} Even as cowpox vaccine became established throughout Western Europe in the late 1860s and early 1870s, problems with successful ‘takes’ led some corporations to rely at least partially on the arm-to-arm method for the duration of the nineteenth century. In Madrid, consolidation of a state-sponsored vaccine institute that would centralize a scattered and inefficient public health infrastructure was hampered by the quality and quantity of cowpox vaccine. By 1876, after four years of scientific efforts to promote the method on the peninsula, even fervent supporters of the superiority of cowpox began to consider it prudent to conserve both methods simultaneously to assure the flow of good vaccine.\textsuperscript{316} In Paris and Brussels, the bad performance of cowpox during the devastating epidemics of 1870 tarnished the reputation of well-established institutes. Although cowpox continued to be utilized on a large scale, some influential physicians became disillusioned with the idea of a total reliance on any one technique.\textsuperscript{317} Academics witnessing these scientific controversies often based their arguments against cowpox on clinical data that demonstrated the technique’s inferior results when compared with its “human” variant.

Yet the Academy’s reaction went above and beyond a response based on empirical detachment and objectivity, articulated as a complete repudiation of a technique with scientifically-authenticated benefits (particularly as regards vaccine supply and assurance against

\textsuperscript{315} Pruna, \textit{La Real Academia}, 350.
\textsuperscript{317} Marín, “El difícil proceso,” 104-105.
disease transmission). Such an acerbic response is surprising considering the generally positive opinion of cowpox amongst the medical establishment prior to Ferrer’s project. From patrician vaccinator Tomás Romay onwards, vaccinators and laymen alike had conducted recurrent searches for a spontaneous outbreak of cowpox on Cuban soil.  In both the Cuban medical press and the Anales, various historical and scientific pieces on vaccination praised efforts to ‘rejuvenate’ the vaccine by taking it directly from the cow, its original source. According to the author, rejuvenation could mean either finding the original cowpox as spontaneously manifested in nature or inoculating a calf with human vaccine. Arm-to-arm (or human) vaccine was by no means denigrated and physicians made vociferous declarations against degeneration as a primary problem in the extension of vaccination. But as one physician put it, the vaccine, “becomes weak in its passage through so many organisms” and rejuvenation was the surest way to ensure the vaccine’s legitimacy and potency amongst a select group of professionals and a skeptical public.

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318 Romay’s earliest efforts to obtain spontaneous cowpox in Cuban rural areas later achieved epic status as a demonstration of great personal sacrifice. See for example, Domitila García de Coronado, A la humanitaria Sociedad de Recreo y Beneficencia el Centro Gallego al propagar la vacuna gratuitamente al pueblo en 1887, dedica estos breves apuntes históricos del ilustre Cuba Dr. y maestro, D. Tomás Romay y Chacón, a quien debe Cuba este beneficio eterno (Havana; Imprenta de Howson y Heinen, 1888), 17.


320 José de la Luz y Caballero, “Importancia de la vacunación y revacunación demostrada por hechos experimentales,” Anales de la Real Academia 3 (March 1867): 383-396. Domingo Rosain, “Apuntes históricos acerca de la introducción y propagación de la vacuna en la isla de Cuba,” Anales de la Real Academia 3 (February 1867): 352-360 and Juan G. Hava, “Breves consideraciones sobre la vacuna en la isla de Cuba,” Anales de la Real Academia 3 (April 1867): 433-438. The latter two sources are each individual installments in multi-part series on the history of the vaccine and its reform, respectively. It was also in the government interest to defuse doubts about the efficacy of extant lymph and reassurances and remonstrations in this regard appeared during epidemic times. Vicente Luis Ferrer, “Higiene pública: Vacunación y revacunación (Circular),” Anales de la Real Academia 3 (July 1866): 45-49.

321 Hava, “Breves consideraciones,” 433-438. Correspondence from affiliated physicians in France was also reproduced to prove the superior effectiveness of vaccination from the cow. According to Mr. Danet, a physician to the French Ministry of the Interior who conducted a study on the nature of vaccination and its effects on mortality rates in prisons and other public institutions, vaccination from the cow had a success rate of 40%, as opposed to only 26% with the arm-to-arm method. “Correspondencia,” Anales de la Real Academia 3 (March 1867): 405-406.
Many Academics also demonstrated a general fascination with veterinary medicine and its relation to human disease. Academy applicants such as Dr. Juan Moreno y Delgado, defended the consolidation of veterinary medicine’s professional status in the late nineteenth-century. Veterinary physicians cited the importance of animal-to-human transmission of disease and the possible contributions of veterinary medicine in defining precepts for sanitary policing of diseases such as smallpox, anthrax, rabies, sarna and typhus. Interest in the profilactic potential of this relatively young branch of medical science increased exponentially with the late nineteenth century bacteriological revolution. Pasteurian methods of serum and vaccine production, which relied heavily upon animal experimentation, offered creole medical reformers hope of developing preventive technologies for a tropical climate considered too insalubrious for European civilization.

Scientific Uncertainty and Professional Integrity

Scientific controversy’s chilling effect on popular acceptance of vaccination constituted part of the reason for the intransigent Academic stance against the Institute. In Cuba as elsewhere, accusations of a ‘degenerated’ and ‘ineffective’ vaccine were as old as the vaccine itself and had resulted in a number of challenges to established medical opinion on the island. Popular credulity of the vaccine’s effectiveness impeded public health initiatives and facilitated market usurpation by the largely unlicensed competition, as “unscrupulous or ignorant individuals spread rumors about the vaccine” for the benefit of their practice and personal

322 “Medicina veterinaria,” Anales de la Real Academia 7 (February 1871): 543-545.
324 This was particularly true for yellow fever, which had been the subject of much vaccine experimentation decades prior to the bacteriological breakthroughs of the late nineteenth-century.
Physicians who fulfilled their “sacred duty” to science and promoted vaccination contended with widespread (and sometimes well-founded) popular beliefs about the procedure’s dangerous ability to transmit disease, stir the humors, and disrupt normal infant dentition.326

Controversy in Europe over one of medicine’s greatest preventive technologies thus had the potential to significantly undermine professional integrity and discredit the prestige of medical science amongst the wider public. The nascent Cuban medical press of the period carefully covered these debates in the halls of the Academy of Paris and beseeched vaccinators on the island to investigate. Headed by some of the same physicians who would later pass judgement on Ferrer’s Institute, short-lived periodicals such as the Repertorio Medico Habanero y Boletin Cientifico (1843-) included frustrated calls for the speedy resolution of an issue which “awakens doubt in the public and makes [our profession] laughable.”327

The necessity of revaccination was eventually approved by the Academy of Paris, but unresolved discussions over degenerated vaccine had clearly left a bitter taste amongst the elite medical establishment. Cuban academic commentators in the cowpox report echoed conservative voices before them, arguing that the specter of doubt would disturb the peace amongst families and lead to a preventive care divided by class.328 To some degree, the integrity of the vaccine became synonymous with the scientific bedrock upon which medical science rested.

The Politics of Public Health

325 “Circular; Junta Superior de Sanidad de la Isla de Cuba,” May 12, 1866, Junta de Sanidad, Havana, No. 19, File 52, AN.
326 Ibid.
327 “Academia de Medicina,” Repertorio Médico-Habanero y Boletín Científico 2, no. 4 (January 1844): 112.
328 “Higiene pública: Vacunación animal,” Anales de la Real Academia 7 (October 1870): 214.
The political significance of smallpox vaccination in a milieu of war and internal strife was moreover, not conducive to mutual understanding on the sensitive topic of public health. Havana’s Royal Academy of Sciences, a bastion of creole medical prestige, was not immune to the peninsular paranoia that followed the first (or subsequent wars of independence). Indeed, beginning with the onset of the first war of independence, hard-line captain generals periodically railed against a “refractory spirit without due respect to authority” that reigned in the halls of the Academy, an attitude they considered suspiciously “alien for individuals pertaining to ‘enlightened’ corporations.”329 Separatists and even many reformist members suspected of sympathies with the rebel cause were harassed, arrested and/or exiled. Disagreements over scientific problems and/or administrative protocol quickly became political, risking the very integrity of the Academy. Particularly from 1868-1872 and 1891-1898, the Academy teetered on the brink of imperial administrative intervention and/or dissolution.330 After the American intervention of 1898, famed Academic Manuel Delfin remembers that the Academy halls were “deserted” by members who had been lost to political conflict and an atmosphere of fear:

“The ones who did attend [sessions] did not dare raise their voice, because over our heads danger hovered, and because under this roof we did not feel safe. Every word was measured, every gesture calculated, all thought silenced or enveloped in robes of the finest dissimulation.”

In times of hardline colonial revanchism, official suspicions were not staunched by either the comparatively mild reformism of most members or the many services the Academy rendered to the colonial government. Indeed, the problem was systemic and based on a prejudice against medical practitioners more generally. Amongst professionals, creoles were disproportionately represented in the medical sphere and physicians were thus particularly suspect for treason during periods of repression. Blocked from obtaining many desirable public and administrative

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329 Pruna, La Real Academia, 209.
330 Pruna, La Real Academia, 204-212, 292-313.
posts by colonial policies that favored the Spanish-born and economically squeezed by technological and financial transformations in the sugar sector, creoles of the middle and upper middle-classes sent their sons to medical school. Indeed, in the University of Havana, a hotbed of creole dissent, the only licensure available to most creoles was in law and medicine; the medical profession offered middle class creoles the opportunity to reproduce their social status and forged paths of upward mobility for the lower classes. For political as well as socio-economic reasons, Cuba in 1899 continued to have one of the highest ratios of physicians per person in the world.

Whether via overt administrative pressures on established associations and ‘seditious’ periodicals, the Spanish state was not blind to the insurrectionary potential of this medical ethos. During the first war of independence, vigilantes and hard line governors acted precipitously to quash what they considered to be creole centers of treasonous activity. In one of the most notorious acts of violence, 44 medical students and a celebrated creole medical professor were arrested by peninsular authorities and collaborating voluntarios on November 25, 1871. Charged by a military tribunal with desecrating the grave of prominent Spanish conservative Gonzalo Castanón, many were sent to prison or deported. Eight (including a 16 year old boy) were executed as traitors to the mother country in an act that outraged creoles, shocked Spanish liberals and reverberated across the Atlantic world.

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331 Reinaldo Funes Monzote, El despertar del asociacionalismo científico en Cuba, 1876-1920 (Madrid: Consejo Superior de Investigaciones Científicas, 2004).
332 Funes Monzote, El despertar, 55.
333 Pruna, La Real Academia, 211. Cluster and Hernández, History of Havana, 89, 94.
Figure 9: A tribute to the innocence of the eight “martyrs” executed in 1871 in the Cementerio de Colon. Erected in the 1880s by physician and creole patriot Fermin Valdes Dominguez, the mausoleum holds the remains of the 8 executed medical students. In response to what had become a site of symbolic conflict, José Gener y Batet, the military tribunal judge which had condemned the youths, built up his nearby, final resting place so as to tower over the monument.

Making Enemies

Antonio Mestre, creole reformer and one of the most pre-eminent medical figures in Cuban society, had envisioned the Academy as a “republic of science,” a haven where politics and personal difference had no place. Imbued with positivist ideology of scientific certainty, Mestre and other Academics believed that the scientific arena had the potential to “bring men

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together rather than drive them apart,” and utilized the idea of ‘objective’ science as their main defense of a largely creole institution dominated by reformers.335

But in an atmosphere of violence, militarism and cultural conflict, personal and political prejudice against Ferrer tarnished the image of his Institute and played a significant role in delaying scientific acceptance of cowpox vaccination in the Academy. Ferrer’s previous intra-professional conflicts with Academic vaccinator Rafael Hondares were particularly damaging. During his tenure as Secretary of the Junta de Sanidad and Inspector of the Vaccine (1863-1868), Ferrer had openly clashed with Hondares over sensitive questions regarding professional credentials and reform. Hondares was a stellar creole vaccinator who had been propagating vaccine under the auspices of the Central Commission for just under 20 years when he was promoted to serve as the organization’s Dean. In 1865 however, a Commission-wide review of professional credentials revealed he was licensed only in surgery. With qualifications inferior to many of his subordinates and insufficient for his official post, Hondares “listened to his conscience” and prepared to resign.336

In consideration of the Dean’s experience and aptitude, Ferrer chose to temporarily overlook Hondares’ ‘impertinence,’ but as Inspector of the Vaccine Ferrer was clearly irritated by the deception. Equalizing salaries amongst professors who “did the same job, had the same responsibilities and enjoyed the same professional pedigrees” had, after all, been a central component of Ferrer’s reform proposal for the Vaccine Commission.337 Such a shocking revelation from the very apex of the Commission’s professional ladder increased the severity of perceived disfunction in the corps and demanded a strong response from its Inspector. In 1866,
as Ferrer prepared the petitions for his voyage in search of the ‘true cowpox,’ he also submitted an angry proposal to create a rational service based upon merit. The position of Dean was eliminated since the officeholder “enjoys the highest salary [and] has the least work.”

Hondares in particular was reprimanded as a “simple surgeon who, inferior to all in academic aptitude” should have never taken on such a public responsibility.

Ferrer’s critiques of the vaccine in currency on the island also seem to have intensely annoyed Hondares. Months after Ferrer’s departure in the February of 1867, the new Inspector Pablo Fulla’s casual comments about vaccine scarcity and requests for information on routine experiments with recently received English vaccine were misinterpreted as a condemnation of the collective work of the Corps as a whole. With righteous indignation, Hondares clarified that vaccine was scarce only because the Corps had succeeded in vaccinating an extraordinary number of people of late, “saving this capital from a horrible and destructive disease” and “ensuring that his [Hondares’] efforts have not been useless.”

Importation of English vaccine, associated in Cuba with the cowpox, was a waste of resources as well as a professional slight. Hondares and a team of vaccinators had, according to a few accounts, managed to find it amongst domestic cattle and successfully “replenished” the preventative some years prior. Moreover, the extant vaccine became the object of regional pride that would be tarnished through importation of “foreign” elements. As Hondares stated:

“It’s not the first time, Mr. Inspector, that foreign vaccine offers negative results. If ours is good and of proven efficacy in critical circumstances, why substitute it with another of foreign origin, whose virtues are in doubt? The virus we have is originally of the cow and … I have had the Glory of having obtained it on our own soil, together with other professors of the capital’s

338 Ibid.
339 Ibid.
340 “Rafael Hondares al Inspector,” March 28, 1867, Junta de Sanidad, Havana, No. 19, File 52, AN.
341 “El Decanato de la Comisión Central de la Vacuna,” September 19, 1867, Junta de Sanidad, Havana, No. 19, File 52, AN.
Central Commission, without any contribution from either the Government or the Ayuntamiento.”

It was however, Ferrer’s legacy as a reformer that most impacted the reception of his innovation amongst creole Academics. Reorganization of the Commission according to Ferrer’s proposal was followed in 1871 by a total liquidation of the Corps (see Chapter 3). The newly installed Liberal government in the metropolis decided to make the colony’s system of public goods distribution a closer reflection of that on the peninsula. Public health services, including distribution of charity, were in large part decentralized to the municipalities. Responsibility for vaccination was no longer entrusted to a special corps of professionals; all licensed medical personnel could perform the procedure. Preservation of the vaccine lymph devolved to newly constructed charitable associations, the Casas de Socorro, and to municipal physicians who were to give the vaccine no more preference than their other obligations. Hondares was crushed. Despite the fact that Ferrer’s reform had not been radical in content or intended to dismantle the institution, Hondares and other former vaccinators quickly associated him with the destruction of their professional livelihoods and the public health. Acting representative of the Academy’s Vaccine Subcommittee, Hondares helped author the report condemning Ferrer’s institute and would subsequently become cowpox vaccination’s most acerbic critic.342

Although other Academics demonstrated more moderation in their views of Ferrer and his Institute, a strong association between the institutionalization of cowpox vaccination and the destruction of public health infrastructure became generalized throughout the Academy. The seven Casas de Socorro, which combined public health services such as vaccination with charitable relief, were particularly targeted for censure. Accusations that the newly-installed Casas relied solely on [ineffective] cowpox vaccine and actively suppressed press

342 Ibid. See also A.G.C., “Historia,” 373-428. Hondares even refused to vaccinate the children of Duke de la Torre with calf vaccine he had acquired from England, confessing his lack of trust in the substance.
announcements of Jennerian vaccination appeared in the *Anales* shortly after the Academy’s qualified censure of Ferrer’s Institute.\(^{343}\) The initial scarcity of public concurrence for vaccination in the Casas and the publication of information on unsuccessful ‘takes’ amongst the few who did get treated in these establishments only added fuel to the fire.\(^{344}\) Antonio Mestre, widely considered a voice of disinterest and reason in the Academy, found it “lamentable that the foundation of these Casas came just two months after vaccine service…was suppressed,” as this prejudiced many against what should have been a progressive development in public health.\(^{345}\) Yet even Mestre came to believe that these institutions had disgraced their own reputation by suppressing Jenner’s vaccine and the extinguished Commission, an aggression that amounted to “a neglect of science and humanity.”\(^{346}\)

As cowpox became directly associated with destructive changes in public health, arm-to-arm vaccination was linked to a disinterested medical profession and glorified memories of a formerly effective vaccination program staffed and led by creoles. During the particularly fierce smallpox epidemic of 1871, Hondares could proudly declare to the Academy that thirteen vaccinators associated with the recently extinguished Commission decided “not to abandon such an important institution” and continued their service “with the same zeal, interest and efficacy as in previous eras when such important work was remunerated.”\(^{347}\) More than fifteen years later in 1886, Hondares’ successor Tomás Mateo Govantes was lauded for his contribution to the same effort “at the same moment that the service was being dismantled in favor of the Casas de

\(^{343}\) “Correspondencia,” *Anales de la Real Academia* 7 (February 1871): 542. These accusations, and the government inadequacies in preventive care they revealed, were directly linked to Hondares’ participation in the Academy’s Sub-commission of the Vaccine. See “Correspondencia,” *Anales de la Real Academia* 7 (September 1870): 172-173.


\(^{345}\) Ibid., 430.

\(^{346}\) Ibid., 430-431.

\(^{347}\) “Vacuna de brazo,” *Anales de la Real Academia* 7 (December 1870): 427.
Socorro and protection of the cowpox.” Just as the Commission had successfully extinguished epidemics in the past, these vaccinators would work to counterbalance a clearly inadequate system of preventive health provision.

Their “humanitarian” professionalism, contrasted implicitly with Ferrer’s rude pecuniary ambition, was defined not only by their charitable preservation of the old organization, but by the preventive technique they utilized. According to Dr. Tomás Mateo Govantes, vaccinator of the old Commission and Hondares’ successor in the Academy, comparison between the two systems demonstrated that “much more benefit is observed for humanity if vaccinators, without any other interest than that inspired by [the public health], consagrate themselves exclusively to propagating Jenner’s vaccine.” Their steadfast sense of duty not only multiplied vaccination sites in times of epidemic, but “averted the disappearance of the richest source of prophylaxis against smallpox.” The Academy, whose responsibility it was to watch over “the application and disinterest of the professional practice of medicine” subsequently rewarded the old Corps with an official and unanimous vote of thanks.

Academics’ reaction is testimony to the powerful effect of vaccination on the formation of a localized medical ethic amongst medical professionals. Academics didn’t feel the need to justify their arguments with references to late Enlightenment interpretations of the physicians’ “politic ethics” which bound the medical scientist to the betterment of society and state and had formed the intellectual foundation of the vaccination project. Nor did they cite influential medical ethicists such as John Gregory (1724-1773) or Thomas Percival (1740-1804) on the

349 “La vacuna en los Casas de Socorro,” 555.
350 Ibid., 555.
351 “Voto de gracias” Anales de la Real Academia 7 (December 1870): 417-418.
fiduciary responsibilities that linked medical professionals to a disinterested service on behalf of their patients and were models for later deontological prescriptions.\textsuperscript{353} Even as these philosophical predecessors certainly informed their broader professional consciousness, over sixty years of free vaccine provision for the wider population seemed precedent enough. The service had become idealized as the ultimate demonstration of governmental beneficence and support for its subjects. Vaccinators, in turn, represented exemplars of the kind of moral authority which validated professional distinction and countered age-old negative stereotypes against licensed physicians.

**Officials React**

Ferrer never directly responded to charges of professional and scientific negligence in either the popular or medical press. If anything, he was sincerely pleased “for both the country and common sense” that the two periodicals which had published critiques against him had subsequently shut down.\textsuperscript{354} However, the controversy spread widely enough that he felt the need to address it in his popular health manual, *El Propagador de la Vacuna*, in 1872. Directed to a wide audience (including the rural population), the manual steadfastly defended both Ferrer and his method against detractors. The issue was largely posed as one of professional self-interest and human nature. Vaccinators were waging ‘a ferocious war’ against him because “no one loves a physician less than another physician.”\textsuperscript{355} Just as early inoculators of smallpox resisted Jennerian vaccination as a scientific advance, vaccinators feared losing trust in a well known

\textsuperscript{353} Although a long tradition of ethical prescription against medical avarice and self-interested behavior existed across the Mediterranean world, Scottish Enlightenment thinker John Gregory and his student, Percival played important roles in the early nineteenth century formation of a secular, professional medical ethic based on service and compassion across Europe and the Americas. Laurence B. McCullough, *John Gregory and the Invention of Professional Medical Ethics and the Profession of Medicine* (Dordrecht: Kluwer Academic Publishers, 1998).


\textsuperscript{355} Ibid., 17-26.
procedure and (it was implied) their professional niche. To some degree, his opponents’ motives transcended professional interests, as “it was the law of human nature to doubt and negate all that is unknown.” Ferrer’s institute was portrayed as just the latest scientific advance to suffer from defamation due to ignorance and fear. Ferrer dismissed attacks on his own economic interests and neglected to discuss the public health implications of a reorganized vaccination routine. As director of the Institute, his only interest was to rescue the reputation of cowpox from what he believed was a very public libel.

Public health officials charged with public vaccination, however, could not afford to wax poetic about human nature when confronted with accusations of imperial maladministration. In the midst of a devastating Ten Years’ War for independence (1868-1878), a tense political atmosphere compelled many colonial officials to address public complaints. Inspector of the Vaccine and member of the Ayuntamiento Dr. Vicente Hernández approached Secretary of the Academy Antonio Mestre personally in the spring of 1871 to clear up what proved to be the first wave of resistance to official management of vaccination. Hernández was well aware that physicians accused him “of working to destroy the beautiful edifice that our greatest men had built for the vaccine; taking the jobs of public health workers, [and] giving preference to calf vaccine, without the foundation or sanction of science.” He admitted that the slow installation of the Casas (which at time numbered only two) had resulted in few new jobs for physicians and that public concurrence was still scarce.

But Hernández vociferously denied accusations that these institutions were trying to monopolize vaccination. On the contrary, the Inspector believed that the procedure “could and

356 Ibid., 17.
357 “La vacuna en las Casas de Socorro,” 551.
358 Ibid., 551. The Inspector believed these weaknesses would be overcome when the seven Casas de Socorro, with its fourteen doctors, were established and the public grew more aware of their vaccine services.
should be performed by any medical doctor [and] loudly protested” against rumors that he suppressed publication of vaccinations outside the Casas de Socorro.\(^ {359} \) Hernández passionately disavowed any discrimination against Jenner’s method, asserting “has always been completely convinced of the prophylactic efficacy of Jenner’s vaccine; but not being of an exclusionary opinion, believed that calf vaccine has offered and continues to offer services that should not be underestimated.”\(^ {360} \) Although for reasons of supply calf vaccine predominated in these casas, Hernández assured the Academy that the human variant was not excluded and requested that the Academy “prove a true disinterest and love of humanity” by remitting some human lymph to further its propagation.\(^ {361} \)

Mestre, true to his reputation as impartial arbiter, warmed to the arguments of Dr. Hernández. Although Mestre clearly preferred the arm-to-arm method, he recognized that the Inspector was a “zealous functionary who above all wanted to obtain good and abundant material.”\(^ {362} \) He even conceded that cowpox vaccine could offer good results under certain conditions. A few Academics were even more constructive in their handling of the controversy. Famed statistician Dr. Ambrosio González Del Valle, together with veteran vaccinators Rafael Hondares and Tomás Mateo Govantes, drafted a proposal for the service that restored a shadow of the old Corps infrastructure. The obligations of municipal physicians, local authorities and regular police towards vaccination were carefully delineated and codified. Public practitioners were granted space for the exchange of ideas in monthly meetings “endeavoring always to focus their studies on the preservative pustule and the means for its conservation, so as to make this

\(^{359}\) Ibid., 552.  
\(^{360}\) Ibid., 551.  
\(^{361}\) Ibid., 552.  
\(^{362}\) “Vacuna,” *Anales de la Real Academia* 7 (March 1871): 601.
resource inexhaustible.”

363 Although reliance on human lymph is implied throughout the text and directly regulated in some of the statutes, the issue of cowpox vaccine was at least formally disaggregated from institutional reform in that no specific preventative variety was explicitly cited as preferable.

However, understanding and compromise between the Academy and official vaccinators was relatively short-lived. Similar pro-Academy challenges to the colonial administration of vaccination on the island soon re-surfaced in the medical and popular press. During the particularly deadly smallpox epidemic in the winter of 1878, the Ayuntamiento of Havana published an invitation to public vaccination in the Casas de Socorro, all of which were freshly supplied with lymph from both England and Ferrer’s Institute. A few weeks later, an anonymous article appeared in the *Cronica Medica Quirurgica*, accusing the ayuntamientos of public health maladministration during times of crisis. Official solicitation of virus from other corporations, domestic and foreign, was proof that vaccine stocks were empty in the casas. Failure to maintain a steady supply of virus had furthermore “forced a great movement of persons to the Royal Academy in search of vaccination; thanks to which we [Cubans] do not find ourselves completely deprived of virus.”

364 Seven years after the permanent dissolution of the Central Vaccine Board, the use of cowpox as vaccine material remained intimately interlaced with concerns about colonial administration of vaccination. Faced with a dire public health situation, the provincial government had failed to adopt practical measures “in harmony with the precepts of sanitary science,” such as the creation of isolation houses for the sick, house calls in stricken

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neighboringhoods and police intervention in cases of resistance to obligatory vaccination.\footnote{José Argumosa, “Cuatro palabras sobre cuestiones de vacuna por el Dr. D José Argumosa,” \textit{Crónica Médica Quirúrgica de la Habana} 4 (April 1878): 190.} The Ayuntamiento had also fallen victim to the ‘whim of fashion’ in their adherence to what many physicians, domestic and foreign, considered the comparatively ineffective (and even dangerous) cowpox vaccine.\footnote{Eduardo F. Pla, “Variedades: La viruela y la vacuna (cont.),” \textit{Crónica Médica Quirúrgica de la Habana} 4 (May 1878): 228.}

The government’s response was swift. Inspector of the Vaccine Dr. D. José Argumosa would not be as considerate as his predecessor in addressing accusations of administrative shortcomings. Argumosa blasted the anonymous pamphleteer for trying to diminish the prestige of the only municipal medical service in Havana. According to the Inspector, the municipality had procured abundant material for the 14 vaccinators in the Casas, spread ample propaganda to stir public opinion, quickly opened a new isolation house for the sick and gotten the police involved in enforcing vaccination. The municipality’s only “crime” was to adhere to the counsel of the highest public health authorities.\footnote{Ibid., 188.} Doubts raised by the government’s handling of the crisis and the integrity of available vaccine material had the potential to compromise public health outreach; already the Inspector noted a flurry of publications for popular remedies “very discordant with the precepts of sanitation.”\footnote{José Argumosa, “Cuatro palabras,” 189-190.}

As for the use of calf vaccine, Argumosa unapologetically announced that although he believed both vaccines to be effective, he personally preferred the cowpox and sarcastically lamented that eminent doctors on the island could not reach agreement with the many “foreign and civilized nations which continue to rely on this method.”\footnote{Ibid., 186.} The Inspector furthermore considered vaccine from Ferrer’s Institute as good as the foreign supplies and was pleased that
upon official request, “the distinguished Director provided it [vaccine] in abundance and gratis.”  

While he praised the Academy’s disinterest and zeal, he thought the pamphleteer’s efforts unnecessarily divisive. It was not necessary to degrade the efforts of others “in order to make [the Academy’s work] shine more brightly.” The Academy was just one of many institutions and private individuals providing vaccine service; physicians tied to such institutions had an obligation to “mutually help and promote one another to serve the common good.”

After almost ten years of colonial militarization and ethnic polarization in the midst of war, the local situation did not offer propitious ground for public criticism of what was now a mature municipal public health service. The pamphleteer, who eventually revealed himself as Academic Dr. Eduardo F. Pla, consequently rescinded much of his original critique against state ineptitude when confronted by the vociferous protests of the Inspector and the loyalist press. With somewhat exaggerated airs, Pla announced that he was “deeply affected that the Inspector had wanted to interpret his refutation as an offense against respectable institutions and a censure of his public works” when this had not been the intention. Much to the Inspector’s satisfaction, the rest of their interchange (and Pla’s critique) would be limited “only to opinions regarding the use of calf and human vaccination.” Amidst the language of high science and a polite exchange of articles, political critique became subsumed and at least superficially disaggregated from the controversy over the virtues of cowpox vaccination.

Conclusion

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370 Ibid., 185.
371 Ibid., 184.
372 Ibid., 184.
373 Pla, “Variedades (cont.),” 228.
The cowpox controversy contributes to our understanding of the political, social and cultural bases of scientific method and belief systems. By the late 1860s, smallpox vaccination had become an integral part of Cuban medical identity and political ethic. It was the institutional, moral and cultural bedrock of creole medical professionals in a context of broadening state responsibility for the public good. Although the arm-to-arm method had been globally dominant during the first sixty years of smallpox vaccination, there was no inherent revulsion to cowpox or the use of calves as vaccinifiers (or at the very least, “rejuvenators” of the human variant), until the introduction of this technique coincided and clashed with the dismemberment of the old Vaccine Corps.

The ‘dark shadow’ of public dislocation and private interest haunted public administration of the cowpox for decades. Only in 1894 could the Secretary Luis Montane publicly state that rumors about calf vaccine’s defects were absolutely unsubstantiated.\textsuperscript{375} Political dissent against the cowpox and all it symbolized had emerged and flourished under the guise of scientific controversy. Resistance to calf vaccine may have been tempered and almost entirely dissolved by the early 1890s, but until independence in 1898 (and even as the Royal Academy relied on vaccine from two institutes dedicated to the production of calf lymph), cowpox remained associated with imperial neglect and the dislocation of both public health workers and their public.

Chapter Four: Public Responsibility in the Republic of Science

Introduction

On December, 21st 1887, dignitaries, members of the press and a numerous public converged outside Dr. D Tomás Romay y Chacón’s (1796-1849) birthplace in Havana to unveil a commemorative marble plaque in honor of this “illustrious and enlightened son of Cuba.” The hour-long ceremony, located on the festively decorated street of Empedrado, included speeches by the Governor-general, municipal mayor and leading lights of the creole scientific establishment. As a devastating smallpox epidemic ran its current of fear and mourning throughout the city, speakers emphasized the august patrician’s contributions to scientific advancement on the island, the formation of a regional medical press and of course, his “most important and transcendental contribution to this nation and Humanity,” the propagation and institutionalization of smallpox vaccination after its introduction to Cuban shores in 1804. The commemoration, granted by the municipality after intense petitioning by leading creole political agitator Sra. Domitila García de Coronado, was successfully concluded with “upmost order,” after which attendees were graciously treated to sweets, ices and liqueurs by the owner of the residence.

Although the plaque submerged Romay’s legacy within the general triumphs of Spanish preventive medicine (see figure 11), the significance of the event for the reaffirmation of a ‘Cuban’ identity was not lost upon the press. Editors of all political stripes struggled to include the full text of participant speeches as both “the distinguished lady” García de Coronado and the

376 García de Coronado, A la humanitaria sociedad, 27.
377 “Homenaje al Señor Romay,” La Voz de Cuba, December 30, 1887.
378 García de Coronado, A la humanitaria sociedad, 38.
Ayuntamiento were lauded for their patriotic recognition of this eminent Cuban. One newspaper, *El Cubano*, ventured to call the ceremony an “act of justice for a people that should conserve, and revere, the memory of its illustrious sons.” Even the fiercely conservative *Diario de la Marina*, which viewed any affirmation of Cuban regional pride warily, published an emotive article in which students of Romay, “who had so recently shared precious moments with this noble and enlightened figure,” could also softly opine that a narrow marble plaque served as insufficient commemoration for a patriarch of Cuban people.

Remembering Romay was a potentially incendiary political act. By the late nineteenth-century, the legacy of smallpox vaccination had become deeply associated not only with the cultural legacy of creole medical professionalism but with the assertion of a more mature Cuban identity in a tense political atmosphere. Most historiographical discussion of identity and public health in the colonial periphery is based upon the concept of a resistant ‘other,’ subjects who formed identities in communal negation of intrusive colonial policies, particularly smallpox vaccination. The implementation of public health in colonial Cuba, however, was complex, layered and offered positive opportunities for identity formation based on cooperative action. Many creole physicians imagined very specific roles for themselves in creating the ideal conditions for regional (and national) uplift and the nurturing of a distinctly “Cuban” culture. When the imperial state failed to provide platforms for concerted action in the realm of public health, creoles had recourse to a rather selective medical history, with early nineteenth-century triumphs of smallpox vaccination under creole auspices playing a vital role in legitimating resistance to colonial legacies they had helped create.

379 See for example, “En Honor del Dr. Romay,” *La Lucha*, December 22, 1887.
381 “La Conmemoración del Dr. Romay,” *Diario de la Marina*, December 22, 1887.
382 See for example David Arnold, *Colonizing the Body*, 116-158 and Deepak Kumar, “Unequal Contenders,” 172-211.
The commemoration of Romay’s birthplace, spearheaded by a leading creole patriot, came at a difficult time in creole-peninsular relations. Public acts of regional self-assertion or protest against the status quo could be interpreted as seditious in the tense political atmosphere of late nineteenth-century Cuba. Recent political developments had somewhat diffused the potential for violence. The treaty of the Pact of Zanjón (1878), which set the terms for peace after the first war of independence, had been predicated upon the extension of liberal reforms in the economic and political spheres. Limited and often passed piecemeal by “special laws,” the application of basic Spanish constitutional rights concerning abolition as well as freedom of expression in print and assembly had a dramatic effect on public life during the last twenty years of Spanish colonial rule. Civil society blossomed. Ironically, public expressions of ethnic pride such as Domitila’s were made possible years after ethnic divisions had been aggravated by repression and violent conflict. But the blatant assertion of creole identity remained controversial for many Spanish colonial officials, especially when it was associated with reformist creole professionals with their own press outlets and institutional centers of organization.

Scientific and medical associationalism had always held a relatively privileged place in nineteenth century colonial Cuba. As early as the 1840s, prior to the reforms which would transform associational life amongst creoles on the island, physicians such as Nicolas Gutierrez and Julio Jacinto Le-Riverend circulated several short-lived, scientific periodicals in the name of

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“science” and “public health.” Many creole physicians worked as public servants for colonial sanitary institutions. Partly as a consequence of their ostensibly apolitical motives and insinuation into the public realm, the foundation of institutions dedicated to science and/or public health were permitted even prior to their foundation on the peninsula. Luis Ferrer’s Animal Vaccine Institute (1868) and Juan Santo Fernández’ Bacteriological Laboratory for the Production of Rabies Vaccine (1887), for example, each preceded similar establishments on the peninsula by a few years. Cuban scientists often collaborated closely with scientific pioneers on the peninsula and looked to the same for institutional precedents. Yet medical dynamism on the island was such that Cuban scientific entrepreneurs were not merely working with derivatives of peninsular ideas and institutions, but harnessing the latest scientific currents in Western Europe and North America.

Despite the association of creole medical professionals with subversion and independence by intransigent militarists and Spanish colonial supporters, most professionals of the middle and upper-middle classes were non-violent reformists. They favored autonomy for the island within a Spanish framework, including the devolution of some legislative power to the island, the extension of basic civil rights, and freedom of trade in what was essentially a liberal political economy. Contrary to many traditional narratives, autonomists were not however, anti-nationalist. While political process was emphasized over violence and formal independence, their writings indicate a keen awareness of a peculiarly “Cuban” identity and regional “patria” in

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384 Steven Palmer, “From the Plantation to the Academy,” 65. Le-Riverend was a naturalized French immigrant and Gutiérrez, who would later become President of the Royal Academy in Havana, was born on the island.

385 During the final stages of their research, both Ferrer and Fernández worked closely with peninsular counterparts who would in turn establish their own institutions in the metropolis shortly thereafter.

386 Professionals formed over thirty-five percent of the Autonomist party, far outweighing their proportion of the population and relative productive capacity. Luis Miguel García Mora, “Quiénes eran y a qué se dedicaban los autonomistas Cubanos” in Cuba, algunos problemas de su historia, ed. Josef Opatrný and Simona Binková (Prague: Universidad Carolina, 1995), 53-70.
need of preservation and rejuvenation. Considering their constituency, it is not surprising that perceived obstacles to the fulfillment of their goals were situated in more than just political process, but also in the epidemiological realm of disease.

**Imperial Legacies**

In 1887-88, Havana was in the midst of yet another deadly smallpox epidemic which ultimately took over two thousand, two hundred lives and veiled the city in mourning, constituting one of the capital’s major killers for those years and precipitously raising mortality rates. Smallpox had ravaged the city in 1871 and 1878, with smaller outbreaks throughout the early 1880s, but this epidemic was the most severe of recent decades. Although more efficient vaccination initiatives would provide some level of respite for Havana’s inhabitants during the next five years, the threat of smallpox sowed fear and anger amongst many in both the medical and lay community.

The Spanish imperial state bore an unprecedented amount of responsibility for continuing smallpox epidemics in the late nineteenth century medical press. As discussed in chapter 3, the destruction of the centralized, island-wide vaccination institute in 1871 led many in the creole-dominated medical press to lose faith in the government’s ‘paternal zeal’ for public health and rail against unfulfilled obligations to address “such easily preventable diseases as smallpox.”

Even the establishment of a provincial vaccination depot in 1879 under the auspices of Dr. Luis

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389 A startling 19.8% of total deaths in 1887 were attributed to smallpox, waning the next year to reap a grim harvest of only 8.3%. See ‘Defunciones y proporción por cien fallecidos: Cuadro XIV,’ in de la Guardia’s, “Estadística,” 194-202. See also Pruna, *Ciencia y científicos*, 141.

390 “Variedades: Indiferentismo,” *La Abeja Médica* 1, no.3 (March 1892): 38.
María Cowley, a physician from a veritable dynasty of creole vaccinators, “did not reflect the great importance of vaccination and revaccination,” either in the number of vaccinated or the districts served within Havana province. Apathy and governmental abandon (particularly at the municipal level) led to weak vaccination drives, a dearth of hospitals and isolation wards for the sick, and the repeated importation of disease via carelessly supervised Spanish maritime commerce.

Profilaxis against smallpox was not the only preventive public health measure considered to be in a state of abandonment. In the early 1890s, Havana was the largest city of the Caribbean, bustling with over 200,000 inhabitants (not counting the fluid migrant population, which numbered in the tens of thousands). A busy commercial center at the crossroads of traffic in the Atlantic world, Havana physicians and laypersons alike were keenly aware of the hygienic conditions that prejudiced their island in the eyes of outsiders. According to one member of the Academy, Havana would have nothing to envy other great cities of the world if not for the myriad foci of disease that conspired against the public health, easily found:

“in streets converted into sewers and inundated with contaminated water during the night, through which one must be pass quickly with nose and mouth covered so as to not breathe in the impure air... in sewers of poor construction, whose mouths teem with the lethal effluvia of several generations worth of vegetal and animal matter .. in a beautiful bay whose bottom serves as a receptacle for slaughterhouse refuse that gives life and sustenance to innumerable insects of all kinds... and throughout public markets where putrid and old fish is often sold under a veil of ice and meat [if not putrified] often comes from raquitic and/or diseased animals.”

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391 Ibid., 38.
392 The Academy of Science’s Dr. Vicente de la Guardia was a particularly acerbic critic, condemning municipal penury and governmental inaction in various articles in the Anales. See for example, Vicente de la Guardia, “Comunicación relativa a la epidemia de viruelas,” Anales de la Real Academia 24 (n.d. 1887): 275-287 and his “Estadística,” 194-202. See also “Higiene pública: Pobre pueblo infeliz,” La Abeja Médica 1, no. 4 (April 1892): 37-38 and “Imitemos a Alquistar,” La Higiene, January 3, 1892.
393 Cluster and Hernández, History of Havana, 97.
Indeed, Havana’s epidemiological portrait left much to be desired. Tuberculosis, dysentery, enteritis and meningitis persistently stalked the population, particularly in the poorer districts on the outskirts of Havana’s colonial fortifications.\textsuperscript{395} Severe epidemics of cholera (1833, 1850, 1867) and smallpox (1871, 1878, 1886) continued gripping the capital in waves, augmenting mortality rates and striking panic amongst local authorities as disease decimated whole communities.\textsuperscript{396} Yellow fever, an endemic disease which granted most locals permanent immunity after a relatively mild childhood infection, stirred deep fear amongst recent European and North American arrivals every summer and autumn. According to many contemporaries, the colonial capital was one of the world’s most insalubrious places, a foci of disease for the Atlantic world.\textsuperscript{397}

Havana’s dire mortality statistics often supported these assertions. Prominent academic Dr. Vicente de la Guardia calculated that between 1883-1893 the capital had a general mortality rate of 34 per thousand, a rate only better than that of Madrid and Lisbon amongst the major cities of Europe and North America.\textsuperscript{398} In 1893, when many infectious diseases in the “civilized” world were being checked by the sanitary prescriptions of a new hygienic science, statisticians could assert with some confidence that at least in the capital, preventable infectious diseases such as “smallpox, tuberculosis, diphtheria, malaria and many, many others” accounted for a whopping 24% of all deaths.\textsuperscript{399} De la Guardia concluded that the application of “the most precious laws of Hygiene,” could rescue over a third of these lives from certain death and make Havana one of the most salubrious places in the world! Although by the late 1880s and early

\textsuperscript{395} Pruna, “Estadísticas” in \textit{Ciencia y científicos}, 140.  
\textsuperscript{396} Gregorio Delgado García, “El cólera morbo,” 4-21.  
\textsuperscript{397} The geopolitical implications of this reputation are investigated in Mariola Espinosa’s, \textit{Epidemic Invasions: Yellow Fever and the Limits of Cuban Independence, 1878-1930} (Chicago: University of Chicago Press, 2009).  
\textsuperscript{398} de la Guardia, “Estadística,” 195.  
\textsuperscript{399} Vicente de la Guardia, “Reseña general de los trabajos de la Real Academia de Ciencias durante el año de 1894 a 1895,” \textit{Anales de la Real Academia} 32 (June 1895): 593.
1890s, a few of the most frightening epidemic diseases (smallpox included) waned in strength as a proportion of all deaths, their constant presence created an atmosphere of fear and anger amongst many medical commentators in Cuba and abroad.\textsuperscript{400}

Considering that the Spanish imperial state was in a position of marked international decline by the mid-nineteenth century, the colonial administration was unlikely to resolve the problem. Unlike Great Britain, de la Guardia continued, “which pours millions upon millions of pounds” into the enforcement of local sanitation laws when mortality rates rise above 21 per thousand for two consecutive years, a “disgraceful abandonment” of hygienic laws predominated amongst the authorities of the Spanish state.\textsuperscript{401} Municipal governments, to which responsibility for public health had devolved by royal order in August of 1871, received particularly acrid denunciations of public misadministration, noncompliance with basic obligations and penury in the provision of sanitary services by commentators such as de la Guardia and a burgeoning press. As one reporter desperately lamented in the periodical \textit{La Hygiene}, “smallpox, malaria, rabies, typhoid, tuberculosis, and we haven’t even a carriage with which to [aid the] service of municipal physicians!”\textsuperscript{402}

Particularly in times of epidemic, similar indictments against administrative neglect in the realm of public health could be found in the burgeoning medical press of late nineteenth century Spain and indeed, throughout most of the Western world.\textsuperscript{403} What made creole criticism of Spanish mismanagement particularly fraught with tension was its situation within a colonial environment laced with disappointment for reform, in which political and cultural alternatives to

\textsuperscript{400} Pruna, \textit{Ciencia y científicos}, 140.
\textsuperscript{401} de la Guardia, “Estadística,” 195.
\textsuperscript{402} “Variedades,” \textit{La Higiene}, June 14, 1891.
imperial rule were ripening into full fledged projects for independence. Although concessions after the Treaty of Zanjón in 1878 included electoral reforms and even the formation of a rudimentary party system, voting requirements and a carefully manipulated electoral system precluded popular inclusion in government.\textsuperscript{404} The Autonomist Party, limited artificially to constitute an extreme minority in the Spanish Cortes, was little more than a propaganda mouthpiece with little ability to influence decision-making for either substantive political reform or the transformation of an economic infrastructure prejudicial to domestic interests.

The neglect and penury of municipal Ayuntamientos, who were to supposed to represent local interests and conserve public health, embodied for many the contradiction of piece-meal reform and became inviting (and politically safe) targets for censure. In turn, the elite strata of late nineteenth century civil society was represented by newly minted and largely creole medical and scientific associations such as the Royal Academy (1861), the Anthropological Society (1877), the Society for Medical Mutual Funds (1878), the Society for Clinical Studies (1879) and the Havana Society for Hygiene (1891). These associations considered themselves obliged to inform and lobby the government for application of the scientific precepts of hygiene, a superficially neutral field for all political persuasions that benefitted the “public good.”\textsuperscript{405}

Yet their voices often multiplied to little or no effect. The medical press assailed the discourtesy of municipal governments that ignored sanitary prescriptions of scientific associations and thus “threatened the lives of an entire people.”\textsuperscript{406} In the spring and summer of 1892, for example, fear that a cholera epidemic would cross the Atlantic to augment already harsh epidemiological conditions during the hot and humid summer heightened tensions. In

\textsuperscript{404} This exclusion led many to become disillusioned with the autonomist party and favor independence.

\textsuperscript{405} Funes Monzote, \textit{El despertar}, 71-79. See also Pedro Pruna’s description of the Royal Academy’s ‘Republic of Science’ in “National Science,” 412-426.

\textsuperscript{406} “Pobre pueblo infeliz,” 38.
April, threatened by a public works project that included the extensive turn-over of soils for the installation of water works, one critic writing for *La Abeja Medica* called for the resignation of local council members “who did not know or could not fulfill that which in all civilized countries is the popular investiture.”\(^{407}\) A few months later, another article in *La Higiene* declared that “the health of the people is supreme law” and that sanitary neglect had justly “exposed [the Ayuntamiento] to the harsh punishment of upright public opinion, which deserves respect and attention in any cultured society.”\(^{408}\) In tandem, an observer in *La Abeja Medica* again lamented that Cubans could take any pride in making “our sad history and civic-mindedness known, if we are forever permitting all that makes us small and places us at the level of an oppressed and raquitic people.”\(^{409}\) The close association between popular rights and sound public health policy was expressed amongst advocates of the labor movement as well.\(^{410}\)

Of course, as during the first half of the nineteenth century, individuals were condemned for their failure to adhere to the tenets of *private* hygiene. As prominent Academic statistician Dr. Vicente de la Guardia himself testified, “our dominant character trait in all that refers to hygiene is apathy and (sometimes) ignorance in both peninsular and creole.”\(^{411}\) The visibility of the poor and racially discriminated made them particularly easy targets for condemnation amongst the medical elite. The colony’s wars of independence, the abolition of slavery and periodic depression exacerbated economic conditions for the urban lower classes. From the 1870s onwards, migrants driven from the countryside into the capital and other cities across the island in search of work inflated the number of urban poor. Charities, mutual aid and labor organizations provided limited relief. Contemporaries in the press and public forums of the

\(^{407}\) Ibid., 38.  
\(^{408}\) “Las señales de los tiempos,” *La Higiene*, July 24, 1892.  
\(^{409}\) “El cólera y la Habana,” *La Abeja Médica* 1, no.7 (July 1892): 73.  
\(^{410}\) “El Congreso de Obreros,” *La Higiene*, February 7, 1892.  
capital in turn voiced serious concerns about increased vagrancy, unemployment, prostitution and crime, all of which were intimately linked with the problem of maintaining the standards of private hygiene necessary to ward off disease.\textsuperscript{412}

Poverty remained deeply associated with individual moral bankruptcy, underdevelopment, racial degeneracy and disease.\textsuperscript{413} The upper classes could not afford to ignore working class “neglect [of private hygiene] and slovenliness…since epidemics spread from the most humble slum to the houses of prestige and power.”\textsuperscript{414} According to one author, at the root of the problem were “uncultured blacks and mestizos and selfish asiatics, which have been difficult to civilize and have greatly influenced the mass of our population,” fostering scandalously unhygienic standards amongst the working class.\textsuperscript{415} Even representatives of a growing late nineteenth-century organized labor movement campaigned for educational initiatives in private hygiene. Leaders in the Workers’ Congress of 1892 signaled an interest in remedying the “lack of good hygienic habits and culture” on the part of many in the city’s population, which together with bad living conditions and deficient administrative activism made public health an urgent problem in Havana’s working class suburbs.\textsuperscript{416}

However, unlike early nineteenth century medical commentary which centered very much on private hygiene and individual responsibility for disease, the state bore a great deal of condemnation for the dire sanitary plight of the poor and working classes in the medical press.

\textsuperscript{412} The Ten Years War, which according to contemporaries led to an acute increase in both public prostitution and the incidence of venereal diseases, prompted what would be the first of several administrative attempts to regulate the profession in 1873. See Le Roy y Cassá, Desenvolvimiento, 7-8.
\textsuperscript{413} “Mañanas científicas,” La Higiene, April 17, 1892. The issue very explicitly links microbes to moral contagion for a popular audience. As in Europe, associations between dirt, poverty, racial degeneracy and disease did not simply dissolve with the discovery of disease causing “microbes” with the onset of the bacteriological revolution in the 1870s and 1880s. It was in many ways reinforced by germ theory and late nineteenth century European imperial expansion, as demonstrated in Roy MacLeod and Milton Lewis, ed., Disease, Medicine and Empire: Perspectives on Western Medicine and the Experience of European Expansion (London: Routledge, 1988).
\textsuperscript{414} “Por conveniencia y humanidad,” La Higiene, May 8, 1892.
\textsuperscript{415} “El hogar de la miseria,” La Higiene, July 5, 1891.
\textsuperscript{416} “El Congreso de Obreros,” La Higiene, February 7, 1892. See also Casanovas, Bread and Bullets!, 138.
Sympathetic physicians and political commentators noted that public health neglect in working class neighborhoods of Pueblo Nuevo, Ceiba, Jesus Maria Sitios, and Arsenal, “leaves our workers, our poorest classes, subject to the harsh law of necessity, which makes [them] inhabit those places where anemia and tuberculosis are [their] only patrimony.” When a poor individual “has the misfortune of taking ill, [he/she] is irrevocably condemned to die for lack of funding” since most municipalities could provide home medical care and pharmaceutical services but no isolation from contagious diseases or hospitals for more intensive treatment.

Scathing critique of poor housing construction, water provision, vaccination outreach and even ill timed public works projects put workers and all the city’s inhabitants “in imminent danger due to the mismanagement and disregard [for the public good] on the part of our ill-dedicated administration, which sees anything in reference to the public health with indifference and disdain.”

Sanitizing the Cuban Identity

Such insalubrity not only served as an example of stunted political reform and a neglect of popular wellbeing, but also put into question Cubans’ ability to thrive as a society and govern themselves. Environmental determinism, the idea that environmental factors such as climate determine the health and degree of social, cultural and economic development in human populations, can be traced back to the Hippocratic corpus of classical Greece. One of its basic postulates, that excessive heat and humidity cause deviation from an ideal human form, became firmly embedded in the western imagination with sixteenth and seventeenth century European

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417 “Por conveniencia y humanidad,” La Higiene, May 8, 1892.
418 “Imitemos a Alquízar,” La Higiene, January 3, 1892.
419 “Pobre pueblo infeliz,” 37.
exploration and colonization of the Western Hemisphere. As intercontinental disease exchange accelerated, African and New World port cities in particular became known for their terrifying and frequent epidemics. By the mid-nineteenth century, smallpox, malaria, and plague, diseases well known on the European continent, combined with the novelty and terror of yellow fever to produce an understanding of warm climates as insalubrious and decadent places. Nature’s very abundance in tropical climates seemed to sow disease and degeneracy in human beings, damaging man’s health, sense of industry and even his culture.

It also endangered a carefully constructed, white “Cuban” racial identity. Variants of environmental determinism condemning tropical human populations to an “entirely uncivilized, savage” existence eventually served to buttress the very popular nineteenth century idea that tropical climates foster an inherent and scientifically measurable racial degeneracy, sown during many generations of tropical existence. Prior to the nineteenth century and the elaboration of the concept of biological “race”, few European naturalists had attempted to construct scientifically organized racial hierarchies. However, the publication of Charles Darwin’s *Origin of Species* (1859) and the evolutionary perspective this work introduced to the wider European public during a period of imperial expansion gave new scientific validation to the philosophy of a natural human hierarchy as formed by environmental determinants. British social evolutionist Herbert Spencer, French anthropologists Armand de Quatrefages, Paul Broca, and Louis Agassiz

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423 Darwin’s theory of natural selection did not include a concept of hierarchy or the valuation of worth according to anthropomorphic criteria. What it permitted was the idea of superior adaptation to environmental circumstances which was eagerly grasped by social scientists to justify the creation of a racial “human pole” with Europeans placed at the very apex of human development.
and American polygenists Josiah Nott and Samuel Morton vociferously argued for the natural inferiority of Africans and mixed-race peoples. Born and bred in the tropics for generations, the darkened skins of tropical peoples (Africans in particular) were considered a product of their environment; a divergence from an idealized European standard which had more than aesthetic implications. The climate not only darkened their skin, the evolutionary trajectory had rendered them “an undeveloped race, [which like] an undeveloped child” retained primitive anatomical and mental faculties. Under the tenets of scientific racism, the tropics thus became a fundamentally black natural setting, with degeneracy woven into the very biological fabric of its condemned races.

From the early nineteenth century, Cuba’s international reputation as a racially-degenerate torrid zone moved an increasingly self-conscious reformist elite to propel “the progress of agriculture, the perfection of the arts, in a word, Cuban prosperity in all its forms” through white immigration. By the last decades of the nineteenth century the programs had made a significant demographic impact. From 1841 to 1862, “whitening” settlement projects and spontaneous European immigration tipped the population’s balance in favor of a white majority. During the next three decades, more than 500,000 more immigrants, most from the economically devastated Canary Islands, would land on Cuban shores. While many would return to their homelands, thousands swelled the ranks of the working and commercial classes of the cities and a significant percentage would work as laborers and/or small agriculturalists in the countryside.

424 Gould, Mismeasure, 147, 407-408.
425 Cluster and Hernández, History of Havana, 82. This reversed early nineteenth century demographic trends wrought by the importation of African slaves to meet the needs of tobacco, sugar and coffee cultivation.
426 Ibid.
Even as ethnic strife between creoles and the Spanish-born accelerated and multiplied the myriad divisions of late nineteenth century Cuban society, creole reformers maintained a generally positive attitude towards the whitening project. The belief that African “barbarism” was an impediment to the fulfillment of regional (or national) pride and civic-mindedness led most white creole reformers to reject those of African descent as Cuban. Pioneers of the creole reform movement such as Felix Varela and José Antonio Saco had helped construct a Cuban identity as against the sugar economy, the African slave labor used to maintain it, and those elements in the Spanish colonial system that saw benefit in balancing the black and white populations to sow fear of social revolution. “Cubanness” was embodied by the white small agriculturalist, which after generations on the soil not only imbibed the distinct culture and

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428 Consuelo Naranjo Orovio, “Cuba: Una isla impregnada de guarapo,” in Francisco Arango y la invención de la Cuba azucarera (Salamanca: Ediciones Universidad Salamanca, 2009), 27-40. See also Josef Opatrný’s formative work on Cuban identity, Historical Pre-conditions of the Origin of the Cuban Nation (Lewiston: The Edwin Mellen Press, 1994).
customs of *criollo* culture but also grew an array of products for a diversified domestic market.\(^{429}\) By the last decades of the nineteenth century, alternative formulations of Cuban identity were being forged and propagated in both Cuba and amongst the exile communities in North America and Europe (sometimes in stark opposition to the overtly racial boundaries of this “imagined community”).\(^{430}\) Yet the majority of elite reformers held onto this mid-nineteenth century ideal and advocated for white immigration to make it a reality.

As a result, prominent Academics used complex statistical analysis to defy the “terrible propaganda” that located the climate of Cuba amongst the most inclement for Europeans, considering it “fit only for inferior races dedicated to exploiting the land for the exclusive benefit of a small number of entrepreneurs.”\(^{431}\) Carlos J. Finlay, who would later become famous for his experiments linking the *Aedes* mosquito to yellow fever, was one of the several late nineteenth century statisticians who criticized the generally dismal portrayal of Cuban epidemiology as a problem of faulty calculation. According to Finlay, mortality rates should be racially discriminate and eliminate the impact of “exceptional” causes of mortality, “such as cholera epidemics, which are not of this climate, smallpox, which is the result of neglect on the part of some in obtaining the preservative and yellow fever, which does not attack [the indigenous] part of the population.”\(^{432}\) Properly calculated, the white indigenous and acclimated population offered mortality rates, “which can be favorably compared to the great cities of Europe” and

\(^{429}\) Such cultural formulations were connected to reformist programs for economic diversification as well as immigration.


\(^{431}\) Melero, “Reseña estadística,” 289.

\(^{432}\) Carlos J. Finlay, “Informe acerca de la memoria ‘Aclimatación e higiene de los europeos en Cuba’,” *Anales de la Real Academia* 12 (Junio 1875): 80. This was followed by a more detailed analysis three years later in “Clima de la isla de Cuba,” *Anales de la Real Academia* 15 (Junio 1878): 261-273.
demonstrated a marked superiority over those of African or Asian descent.\textsuperscript{433} Although it was “absolutely irrefutable” that the environment constituted a real danger for the immigrant in his first year of residence, subsequent acclimatization brought real benefits in terms of public health.\textsuperscript{434}

For creole reformers looking to racially sanitize the Cuban body politic, there was nothing more unjust than to blame the capital’s insalubrity on its climate when it was due, “in large part, to our bad customs, our backwardness and neglect” of public and private hygiene.\textsuperscript{435} It was instead the entire Spanish colonial ethos which should be associated with a “backward” cultural heritage, unfit for nation-building. Even as intellectuals inverted the extant racial logic of tropical colonization and reported with relief the decline of “inferior races” in relation to those of European descent, human activity and socio-economic and political circumstances remained important agents of disease causation. Academic statistician Marcos J. Melero pointed out in his own statistical analysis of racial demography, “those that intimately know our society understand that it was not the climate which caused [the relatively high mortality rates of the afro-Cuban population], but the horrid system of life and work to which men brought from Africa were submitted to on our agricultural enterprises.”\textsuperscript{436} For many reformers, Spanish colonial rule was inextricably linked to African slavery, devaluation of white colonization, and administrative neglect of the public good. Such legacies fostered international infamy and endangered carefully constructed regional (and proto-national) identities based upon exclusive notions of race. It also distanced the imperial state from what an internal elite deemed its “civilizing” mission.

\textsuperscript{433} Finlay, “Informe,” 82.
\textsuperscript{434} Ibid., 83.
\textsuperscript{435} Melero, “Reseña estadística,” 293.
\textsuperscript{436} Ibid., 293.
In 1893, in the wake of florid celebrations commemorating the 400 year anniversary of Colombian contact, Dr. D Diego Tamayo reiterated rather common beliefs amongst the reformist and nationalist creole medical elite in his sociological study of “The Causes of Mortality in Havana.”\textsuperscript{437} According to Tamayo, the Spanish cultural heritage (and even resident peninsulares) helped create a climate unpropitious for general sanitary reform, the construction of large public works, or even community-building. Forged upon the short-term gains of war and conquest and marked by literary intellectual traditions inclined towards the marvelous “imaginary,” the Spanish mindset could not justify long-term planning for the public good or assimilate the “simple, prosaic language” of the technical sciences.\textsuperscript{438} Past and present émigrés from Spain viewed the island of Cuba through a colonial lens, arriving on Cuban shores “not to construct a new, more prosperous home,” but for private interest and with an eye towards returning to the mother country.\textsuperscript{439} Lacking a sense of stability and possession of their adopted land, inheritors of a conquest mentality could not see the population as a social “organism” which must “keep vigil over the air we breathe, the ground we walk on, the houses we inhabit, finally, anything that can perturb physiological function and make life difficult and disagreeable for the community.”\textsuperscript{440}

Since Cuban identity was conceived by many reformers as derivative of Spanish ancestry, critics of poor public and private hygiene tended to blur the line between direct condemnation of Spaniards (and/or Spanish colonialism) and island society as a whole. Complaints about generalized Cuban neglect were many and medical gadflies seeking to place the blame for Cuban insalubrity on Spanish colonialism had to be careful about the severity of

\textsuperscript{437} Diego Tamayo, “Reflexiones sociológicas sobre las causas de mortalidad en La Habana,” Anales de la Real Academia 30 (June 1893): 43-58.
\textsuperscript{438} Ibid. 56-57.
\textsuperscript{439} Ibid. 56.
\textsuperscript{440} Ibid. 56.
their remarks in the face of censorship and political repression. However, the associational constructs between colonialism and “underdevelopment” in the intellectual and practical realm were there for separatists (including some medical professionals) to grasp. For these, the Spanish legacy was more than just an administrative disaster in the realm of public health. As the oft-reproduced quote by famed mixed-race intellectual and political agitator Juan Gualberto Gomez declares,

“There is nothing Spanish about our scientific, literary and philosophical progress. Spain has always neglected this capital point of colonization. Consequently, our men of literature and science have had to petition foreign lands for foundational knowledge and inspirational sources. We cannot [suffer] a metropolitan politic distinct from our understanding of American principles, so that old European custom may govern us.”

**Remembering Romay**

In this context, the commemoration of Romay’s birthplace in late 1887 was of great cultural and political significance. From the late 1860s until the 1880s, nowhere was colonial neglect more evident than with smallpox vaccination. Framed as a “sacred obligation” in the early nineteenth century, devolution of authority to the municipalities and the absence of a centralized vaccine institute dedicated solely to smallpox vaccination left the service “if not wholly ignored, then almost completely unattended.” Moreover, the event came in the midst of one of the most devastating epidemics of the past quarter-century. Imported due to lax regulation of incoming ships from French and Spanish Transatlantic Lines, the epidemic of 1887-1888 took over 2,000 lives in the capital and thousands more island-wide. It inspired the creation of new legislation reaffirming obligatory vaccination, the tightening of regulatory

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statutes regarding quarantine and disinfection, and the expansion of a provincial institute
dedicated solely to the production and service of smallpox vaccine (see below).

Public commemorations and the writing (or re-invention) of the history of vaccination
under the auspices of this creole patriarch were thus a cultural and political affirmation of rights
and equality. If Romay represented the epitome of personal sacrifice in the name of the
profession and public health, he also exemplified the perfect union of creole interests and state
power.

Figure 11: A graphic of the commemorative plaque placed in Romay’s birthplace by order
of the Royal Ayuntamiento in the winter of 1887. It is no irony that Romay’s commemoration
vaunts the “honor and prestige of Spanish medicine!” While the details of the Ayuntamiento’s
contentious debates concerning passage of this proposed homage are unavailable, the emphasis
on Romay’s contributions to Spanish medicine can be interpreted as a slight by intransigent
colonialists, a re-affirmation of creole contributions to Spanish history, or both.
As Domitila’s petition to the Ayuntamiento testifies, Romay wasn’t merely a promoter of vaccination or even a model of creole professional medical ethic. Vaccination was tied to his many other civic and social activities for consolidation of creole power and the cultivation of elite Cuban culture. He was a prominent member of the Sociedad Económica, a creole bastion of science and culture, and under its auspices became an educational and public health reformer who pursued the pedagogical application of “scientific” medicine in the University and hospital.\footnote{López Sánchez, \textit{The Origin of Science}, 205.} Romay also made a name for himself in defense of Cuba’s reputation against climactic and racial determinism. His famous studies on (and experiments with) the cure and prevention of yellow fever, his persistent emphasis on the application of hygienic standards for incoming European immigrants and his membership on the White Immigration Board could be interpreted by later generations as an early example of elite creole patriotism and allegiance to a racially-exclusive Cuban identity.\footnote{López Sánchez, \textit{The Origin of Science}, 139-141.} His name, along with those of reformist Spanish contemporaries such as the Bishop Diaz de Espada y Landa, would always be pronounced with “heart-felt gratitude amongst cultivated creoles,” because both zealously guided creole society towards “dignified and great cultural accomplishment.”\footnote{García de Coronado, \textit{A la humanitaria sociedad}, 23.}

Romay’s greatest and most uncontroversial achievement (at least from a political standpoint), was of course the introduction and propagation of vaccine, one “amongst many other blessings which not only Havana, but all America and Humanity owe him.”\footnote{Excerpt from the “Moción presentada al Ayuntamiento de La Habana” in early November of 1887, cited in García de Coronado, \textit{A la humanitaria sociedad}, 27.} As discussed previously, smallpox was an Old World disease infamous for its destruction of a “virgin America,” so much so that vaccination was portrayed as a sacred act of colonial
Until the 1820s, the colonial state ideologies of productivity and public obligation dovetailed with elite creole professional ambitions to reach a nearly perfect symbiosis in the name of vaccination for the “public good” and energetic individuals like Romay could play prominent roles in reshaping public health structures both within the colony and across the Atlantic world. The history of the vaccine, it was said in homage to this seminal figure in early smallpox vaccination efforts, “was a history of Romay.”

Indeed, the many mid-to-late nineteenth century histories, medical memoirs and panegyrics that include Romay and his achievements created and perpetuated the vaunted creole physician’s legacy as a cultural icon. Romay was celebrated as a “brilliant star” dedicated to humanity and science “who [together with the Spanish king Carlos IV, leader of the Royal Expedition Dr. Xavier Balmis and the Patriotic Society] gave health, life and glory to Cuba.” The Royal Academy, which had not officially sanctioned the publication of medical history in the Anales until June of 1871, included a number of histories of the vaccine prior to this date. In these and other publications, Romay often eclipsed Balmis and even Jenner himself as a scientific spirit embued with excitement of discovery and fervor for the vaccine’s propagation.

The sacred mingled with the secular in some of depictions, as Romay’s widely lauded qualities

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448 Romay himself promoted the idea of the vaccine as redemption for the introduction of smallpox into the Americas with Spanish conquest, but placed the onerous fault of original sin upon an African slave (see chapter one).


450 Romay’s place in Cuban history was engraved by late eighteenth and early nineteenth century authors ranging from statistician and historian Jacobo de la Pezuela to the medical histories and memoirs of prominent Academics Antonio Mestre, Ramón Zambrana, and Nicolás Gutiérrez. Besides García de Coronado’s A la humanitaria sociedad (1888), general histories of the vaccine include Pérez Beato, Memorias (1899) and A.G.C., “Historia” (1895), as well as various contributions to the Anales.

451 Domingo Rosain, “Apuntes históricos acerca de la introducción y propagación de la vacuna en la isla de Cuba,” Anales de la Real Academia 3 (September, 1866): 153-154. This initial installment was followed by two others, one in the October issue of that year and the other in February of 1867. The fourth and last, with its treatment of the contemporary state of vaccination, was never published, although its receipt was mentioned in the Anales.

452 Rosain’s three part series (cited above). See also Luz y Caballero, “Importancia de la vacunación,” 383-396 and Juan G. Hava, “Breves consideraciones sobre la vacuna en la Isla de Cuba” Anales de la Real Academia 3 (December 1866): 270-277. These histories are usually part of expositions with very contemporary concerns about diffusing popular resistance and increasing efficiency in the service.
of superior patience, fortitude, self-sacrifice, wisdom and oratory skills included portrayals of his life as a series of trials,

“suffered by a spirit deserving of a hero of antiquity, testing the elevated temple of his soul, and to the fiery glimmer of immortal genius that illuminates his apotheosis, are joined the soft glow of the aureola of the just which rest in peace.”

Histories of both Romay and the smallpox vaccine could be used for more than creole cultural assertion in times of political and economic displacement; they also became spaces for competing versions of anti-colonial politic. While most authors blamed persistent smallpox epidemics throughout the nineteenth century on ‘bad’ administration implicitly connected to a negligent imperial government, others were more critical of internal factors. Antonio García Coronado, for example, true to his more conservative reformist tradition, blamed the dislocation of the independence wars for the resurgence of smallpox. Observing the relatively high incidence and mortality rates from smallpox from 1870 to 1879 as compared with later years, Coronado noted that when war disappeared the country “entered into an era of prosperity in all spheres.”

Echoing the reformist repulsion to destruction and violence as mediums for change, Coronado praised the “blessed shadow of peace [through which] agriculture flourishes, industry develops, commerce prospers and the arts and sciences progress.” All these had an effect on hygiene, “that most important branch of medicine, which has not other mission than to care for the public health.” Coronado’s emphasis on the negative effects of war, vulnerable island topography, and his balanced and comprehensive criticism of public health administration made his history exceptional as a statement in favor of political moderation in a time of war and ethnic polarization.

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453 García de Coronado, *A la humanitaria sociedad*, 22.
455 Ibid.
456 Ibid.
Tropical Redemption and the “Republic of Science”

The selective use [and abuse] of creole patrician Tomás Romay’s historical and cultural legacy became an important source of legitimation for those licensed practitioners who used their professional platforms to both address perceived vacuums in late nineteenth century public health and participate in the flourishing civic life of Cuba in the post-Zanjón era. The great question was whether or not to get involved in the colonial government’s administrative apparatus. This was especially true with regards to smallpox vaccination, a symbol of progress, civilization and creole cultural achievement. While some used the name of Romay for cultural affirmation in an autonomous sphere of action from colonial authorities, others considered their duty to revive his legacy of public collaboration with the state in the name of public good.

A few physicians followed in the footsteps of Vicente Ferrer, founding private, autonomous institutes for smallpox vaccination in the name of public health. After his death in 1883, his Institute for Animal Vaccine was taken over by Doctors Antonio Albertini and Enrique Porto until 1892, when his son Luis Ferrer became director. Albertini and Porto subsequently created their own animal vaccine production center in the capital that same year. Their center, which procured and renovated vaccine periodically with material sent from Dr. Ernest Chambon’s Animal Vaccine Institute in Paris, became the government’s sole provisioner. A third vaccine center appeared in the capital in 1890 with Dr. Domingo Cabrera at its head. According to one historian, all three centers were said to be “perfectly hygienic and well maintained.” Although they charged for their products and services, they “freely donated

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457 Le Roy y Cassá, Desenvolvimento, 13.
458 Ibid.
459 A.G.C., “Historia,” 416. All the centers offered glycerinated lymph as well as pustules fresh from the calf.
whatever vaccine was necessary” to the Municipality and the Royal Academy, thus performing “an important public health service to the state and deserving of society’s gratitude.”

Ferrer, of course, had a complicated relationship with Romay’s legacy. His introduction of cowpox vaccine to the colony in 1868 became the epicenter of a sometimes vicious intra-professional conflict regarding the new technique’s merits and its relationship to the privatization of public health. The cowpox was converted into a symbol of professional greed and contrasted explicitly to the “sacred material bequeathed by [Spanish expeditionary physician Xavier] Balmis and [Tomás] Romay,” conserved faithfully by the Royal Academy via the arm-to-arm method. Scarred by conflict and recognizing the close association between creole patriotism and Romay’s medical achievements, Ferrer veered away from using the creole patrician as a symbol of his own innovation in his propaganda pamphlets for the cowpox. He instead compared himself either to discoverer of the vaccine Edward Jenner or to fellow Spaniard Xavier Balmis, since “it is writ that only the Spaniard consistently sows good in America.” Only with widespread adoption of the technique were the negative cultural, economic and social stigmas associated with the cowpox superceded and even claimed for Romay’s legacy. In any case, the creole patrician figured very little in the early origin stories of those who promoted these vaccine centers, and the conflict surrounding the cowpox might have even prompted these institutions to maintain their autonomy even as they provided free material for the government and other vaccine associations.

The creole-dominated Economic Society, through which Romay had coordinated the old Vaccine Board’s activities for the first thirty years of the service, inaugurated a small-scale,

460 Ibid.
462 Ferrer, El propagador, 17.
463 Pérez-Beato, Memoria, 64.
public vaccination service under the auspicious title “Centro Romay,” in 1880. However, the Royal Academy’s Sub-commission of the Vaccine, very self-conscious of their “sacred duty” to “maintain the flame” bequeathed by eminent creole medical predecessors, can be considered the immediate cultural and institutional inheritor of Romay’s old Vaccine Board after the service was decentralized from 1868 to 1871. As a semi-autonomous institution with an obligation to consult the government in matters of legal medicine and hygiene, the Royal Academy more easily approached the state. Certainly, this institution often exhibited a marked enthusiasm for engaging the public realm, particularly as gadfly, ready to “make manifest the great gaps in the public administration of hygiene.”

Even before decentralization, Academics exposed scientific inconsistencies in the laws regulating the application and confirmation of good vaccine and criticized statutes limiting the practice of vaccination to a select few individuals. Soon after the municipalities took over the service, public criticism of the state dovetailed with calls for obligatory vaccination, effective quarantine, reform of existing municipal regulations and requests for the creation of a remunerated and centralized institute dedicated exclusively to smallpox vaccination. The Academy also took an active role in drafting regulatory statutes and reform proposals for public vaccination initiatives.

Yet in the fulfillment of its “most sacred obligation,” that of smallpox vaccination, the Academy remained wary of getting entangled in the administrative apparatus of public health service, effectively losing its autonomy to become just another arm of colonial government. In September of 1881, prompted by Academic insistence on making smallpox vaccination

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466 Alongside Hava and Luz y Caballero (cited above), see Luis de la Calle, “Informe,” 205-216.
467 For example, González del Valle, “Proyecto de reglamento,” 645-648.
obligatory, the government offered the Vaccine Sub-commission an opportunity to claim a leadership position in the creation of a new smallpox Vaccine Center, following precedent on the peninsula. The Sub-commission would be charged with the preservation and distribution of vaccine lymph, oversight of the scientific and practical administration of vaccination throughout the island and inspection of all vaccination centers, public or private. Dr. V. B. Torralbas eagerly presented the proposed regulatory framework (drafted by the sub-commission), stating that taking on such a responsibility would “put our Academy in possession of something useful that would elevate its prestige.”

Not everyone agreed. Concerns about what work obligations the Academy should and would be able to shoulder in a central vaccine center dominated the discussion during September and October of that year. Most academics seemed leery of taking on such a heavy administrative duties. Subcommittee Director Govantes chose to interpret the statutes liberally, considering participation of the subcommittee members voluntary and their fulfillment of all statutory obligations optional. But as Torralbas had stipulated and Finlay had warned, the intention of government was to create a “scientific core” that does not merely consult with the government on scientific matters concerning the vaccine but “intervenes and inspects those individuals charged with vaccination.” Once Academics understood the requisites for adopting the proposal, enthusiasm withered. While the Academy voted in favor of the Sub-commission

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468 Pruna, *Real Academia*, 353. For the presentation and discussion of the proposal, see “Centro general de vacuna” and its corresponding “Discusión” in *Anales de la Real Academia* 18 (June 1881): 180, 214-217. The Reglamento of September 14th, 1876 places all vaccination centers, private or official, under the direction of the Academy of Medicine in Madrid, which constitutes the central board of directors.

469 Pruna, *Real Academia*, 353.

470 “Discusión,” 215.

471 Ibid., 216-217.

472 Ibid., 216.
taking on the mantle of the Central Vaccine Corps, they resoundingly negated performing inspection of vaccine centers across the island, effectively nullifying the vote.\textsuperscript{473}

Surely, practical considerations served as a strong check upon the desire for many Academics to adopt a great and symbolic responsibility; concerns about the amount of work, the cost of material and dearth of personnel pervaded the discussions. But the desire to maintain autonomous “republic of science,” built up so carefully throughout 15 years, was also a powerful motivation for rejecting such initiatives. The Academy saw itself as an elevated bastion of scientific exchange and collaboration, constantly on the defensive against “uncontrolled passions” and aggression by those who “whether to injure some person or satisfy an most unjust rancor against this land, sought to rip [Cuba’s] most precious cultural icon from its breast.”\textsuperscript{474} The institution would have disappeared “amongst the ashes of such a disturbed society” if not for its “superior spirit and exquisite tact, with which it maintained itself in the high, serene realms of science.”\textsuperscript{475} The late nineteenth century “Republic of Science,” as articulated by Antonio Mestre, distanced itself very consciously from political intrigue in the public realm to remain afloat.

By no means did Academics (or at least their most engaged spokesmen) consider their diminished and indirect political role insignificant in social terms. The Academy held itself up as an exemplar of “disinterested” professionalism, research and culture in a profoundly materialistic society. Their work had implications for individual professionals participating in the “medical priesthood” and sowing sacrifice, humanitarianism and civilization in their path.

\textsuperscript{473} “Discusión del reglamento para el cuerpo de vacunadores,” \textit{Anales de la Real Academia} 18 (June 1881): 277-279.
\textsuperscript{474} Juan Santos Fernández, “Vidas comparadas de algunos académicos,” \textit{Anales de la Real Academia} 45 (June 1908): 9-10.
\textsuperscript{475} José I. Torralbas, “Discurso del Sr. Vicepresidente,” \textit{Anales de la Real Academia} 38 (1902): 5. For discussion of the dimensions of this “Republic,” see Pruna’s, “National Science,” 412-426.
This is not to say that some Academics did not bemoan their purely consultative position. As President Nicolas Gutierrez voiced in May of 1869, the lack of a systematic civil registry, regular sanitary police, and forensic medical services created “tremendous obstacles for the fulfillment of [basic] obligations.” But because the Corporation “was deprived of initiative” it could only “deplore the deficiency of organization in these spheres” and took advantage of its consultative time with public authorities to do just that.

Political society, as a reflection of the public health, also depended greatly upon the overworked institution. One of the Academy’s core obligations was to “enlighten with science both the Government and Nation” through statistical inquiry, regulatory oversight and scientific debate. The vast knowledge accumulated laid the basis for preventing needless loss of life, facilitating public instruction, fomenting the white population and thus acting as an “advanced centinela of social order” upon which “the exercise of civil and political rights may rest.” As in other national contexts across the Atlantic world, not only was the body politic “medicalized” but the state of medicine and public health became inseparable from political, social, and cultural well-being. Yet to accomplish the requisite tasks of what the creole elite and many government officials considered civilizational uplift, the Academy had to walk a fine line between different forms of public service and political engagement.

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477 Ibid., 8.
479 Ibid.
480 Against a background of rapid urbanization and the growing inequality which accompanied industrialization, physicians and administrators in emerging European and North American public health establishments participated directly in the intellectual development of the new political economy and at times directly challenged its foundations. For example, see William Coleman’s analysis of Louis-René Villerme’s impact on philosophy and state interventionism in Death is a Social Disease: Public Health and Political Economy in Early Industrial France (Madison: University of Wisconsin Press, 1982) and Rudolf Virchow’s, “Report on the Typhus Epidemic in Upper Silesia, 1848,” American Journal of Public Health 96, no. 12 (December 2006): 2102-2105. For a modern critique of the essentially conservative nature of most theoretical constructions of disease causation, see Sylvia Noble Tesh, Hidden Arguments: Political Ideology and Disease Prevention Policy (New Brunswick: Rutgers University Press, 1988).
The majority of Academics were not alone in privileging the principle of autonomy from government, even when it was tied to such “sacred” and very public obligations as smallpox vaccination. As Reinaldo Funes Monzote argues, the medical sciences flourished during this period and constituted a predominately creole civil space from which to participate in the public realm, independent of government auspices.\textsuperscript{481} Even the Havana Society for Hygiene, founded in 1891 by Dr. Antonio González Curquejo and famed for its practical interventions in the realm of preventive medicine, carefully negotiated clear boundaries between its sphere of pragmatic activism and government initiatives in public health. The Society sought to “fight against the denigrating inertia that today humiliates us in foreign eyes” by “extending its beneficent influence upon the family,” propagating smallpox vaccine, dictating rules for home sanitation, and forming medical councils to inspect and report on conditions at the neighborhood level.\textsuperscript{482}

Yet the association, as an author in its unofficial organ \textit{La Higiene} put it, should be careful to work within a “special sphere of action, independent of all governmental management” without allowing this to “impede our taking to all spheres of public administration our valuable and effective initiative.”\textsuperscript{483} By the end of the colonial era, so many mutual aid, educational, scientific and public health organizations had promoted and even administered the vaccine in the capital that the colonial government’s role in extirpating smallpox epidemics was sometimes erased altogether in the public memory. Associations such as the Society of Pilar, which administered free vaccine amongst its many other philanthropic mandates, was lauded by later commentators for filling a necessary void, “when we did not have a Secretariat of Sanitation, but

\textsuperscript{481} Funes Monzote, \textit{El despertar}, 130-133.
\textsuperscript{482} Manuel Delfin, “Variedades,” \textit{La Higiene}, May 17, 1891. For a review of the Society’s work, see also Funes Monzote, \textit{El despertar}, 130-133.
\textsuperscript{483} Ibid.
only physicians such as Romay and his descendents who tenaciously opposed the onslaught of smallpox.”

Clearly, the vacillating colonial politic and deepening ethnic strife of late nineteenth century Cuba could not support the kind of cohesive creole/Spanish elite collaboration of Romay’s era. Paradoxically, for many medical elites, preserving the legacy of “great patricians” such as Romay meant keeping a safe distance from the political activism he embodied as an elite creole physician who bridged the gap between civil society and state initiative in order to broaden the scope of the public health apparatus. In such an atmosphere, the Royal Academy considered it their main obligation to critique, petition, draft proposals, and preserve the “sacred material” and method of their hallowed predecessors, not to participate in any general administrative oversight of the preservative. Other organizations, such as the Havana Society for Hygiene or the Society of Pilar, also considered it prudent to keep a safe distance from government auspices, fulfilling a philanthropic (and patriotic) duty free of political interference.

**Turning the Tables: The Provincial Vaccine Institute**

Other creole elites were more enthusiastic about (or at least more effective in) directly harnessing governmental power in order to further public health goals and thus highlight the legacy of official collaboration inherited from creole medical activists such as Romay. Luis María Cowley was an Academic and member of a veritable dynasty of vaccinators. As University Chair of Hygiene and Public Health, Cowley lectured on comparative sanitary legislation and found much lacking in the devolution of authority for vaccination to municipalities and the Casas de Socorro by Royal Order in 1870. Legal imposition, he taught, was necessary to effectively enforce the vital practice of vaccination and revaccination, “so that

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Juan Santos Fernández, *Recuerdos de mi vida* (Havana: Imprenta y Ca, 1918), 2:47.
governments are obliged to maintain official institutes [dedicated solely to the conservation and provision of free public vaccination and] functioning under scientific and practical guarantees.”

Named secretary of the newly created Provincial Board of Sanitation of Havana (1879), Cowley promptly endorsed the foundation of an official vaccine institute for all Havana province. In the ashes of the devastating smallpox epidemic of 1878, the public health reformer found a receptive ear in the Governor General, who granted permission for the inauguration of the Institute with Cowley as Director in June of 1880. Similar institutes, though smaller in scale, were created in the cities of Matanzas and Cardenas.

With much help from a few critical supporters within the Havana provincial government, the new Director spearheaded the creation of an impressive edifice for the production and research of smallpox vaccination. At first the Institute’s activities were limited to a few personnel administering vaccine from Havana headquarters once a week and working with municipal physicians to schedule regular vaccination in other district centers. But within a decade, Cowley had a number of state-sponsored vaccinators directly under his authority. This staff collaboration closely with municipal authorities to coordinate vaccination and regulate the distribution of vaccine on a rotational basis across Havana province (and on many occasions, across the island). They also launched door-to-door campaigns, collected statistics, regulated production of vaccine and conducted research in the Institute’s laboratory.

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485 Pérez-Beato, Memoria, 71.
488 Le-Roy y Cassá, Desenvolvimiento, 13.
489 A.G.C., “Historia,” 417. By 1895 this staff included 8 licensed physicians who served as vaccinators or auxiliaries under Cowley’s direction.
490 Pérez-Beato, Memoria, 71-72 and Massino, Bosquejo histórico, 2. Experiments with animal vaccine were conducted in the Institute soon after its inauguration. Although human vaccine continued to be used by Institute vaccinators until its overhaul during the American intervention (1898-1901), after 1887 calf vaccine began to be intensively cultivated as the principal preservative.
enthusiastic commemorator of Romay, Cowley had seemingly reconstructed a modernized, public version of the Junta Central on a provincial level.\textsuperscript{491}

The smallpox epidemic of 1887-1888, the most deadly of the preceding quarter-century, helped legitimize public investment in the Institute and expand its jurisdiction to make it “rival those of Europe and the Americas.”\textsuperscript{492} In the midst of scathing public criticism and popular despair, certain critical sectors of the administration moved in favor of reform, passing a flurry of legislation which bolstered the regulatory framework for smallpox prevention. Old laws were given new life. In July of 1887, the Superior Sanitation Board reaffirmed the compulsory nature of vaccination and obligatory house-to-house vaccination by mixed commissions of municipal physicians and authorities in times of epidemic.\textsuperscript{493} Later statutes strengthened municipal regulation of disinfection and isolation of the sick. All provinces were obliged by law to maintain an Institute dedicated exclusively to vaccination and these were duly created in Matanzas, Pinar del Rio, Santa Clara, Puerto Principe and Santiago.\textsuperscript{494} During the epidemic, Cowley’s vaccinators had pushed the regulatory boundaries of their service. In November of 1889, after the epidemic had run its course, the Institute received formal recognition and license to continue carrying on its work in a broad capacity.\textsuperscript{495}

The Institute’s strategy of collaboration with sympathetic authorities paid off. By the early 1890’s, smallpox vaccination had once again become a model of good public health administration. Although funding and status was always on precarious footing, the Institute’s work played a significant role in diminishing the incidence of smallpox in last decade of the

\textsuperscript{491} Cowley had played a key role in getting Romay’s portrait donated and hung in the Academy in 1875. “Retrato de Romay,” \textit{Anales de la Real Academia} 12 (Junio 1875): 87-89.
\textsuperscript{492} Pérez-Beato, \textit{Memoria}, 71.
\textsuperscript{494} A.G.C., “Historia,” 424.
\textsuperscript{495} Pérez-Beato, \textit{Memoria}, 71-72.
nineteenth century, particularly during epidemics. Records indicate the Institute had vaccinated over 100,000 people between 1887 and 1895, when the final war for independence broke out. From 1889 to 1893, mortality rates plummeted, hitting single digits in 1889 and 1893 and registering no deaths from the disease in 1892. The success of the Institute’s efforts against such a preventable and symbolic disease as smallpox led one scientific contemporary to declare that “it was the first time that the vaccine service had been well attended by public administration in modern times.”

Even the generally critical medical press agreed that times had changed. Domingo Madan, a contributor to La Higiene, thought one had to be “myopic to not see the progress [of hygiene] amongst [all classes of] the population,” particularly when it came to smallpox vaccination. The vaccine, which “used to be repudiated by the poorest classes, is now solicited” eagerly by the same and those who neglect to vaccinate their children “are considered ignorant.” Another article published several months later praised the exemplary efforts of the Civil Governor and the Provincial Sanitary Board towards extinguishing the smallpox epidemic that had been imported into the capital that year, hoping that “it would serve as a model for what we can accomplish in respect to other diseases which [are so common as to] seem natural amongst us.”

Even as the Ayuntamiento was blasted as “a constant obstacle and refractory par excellence” in its lack of adherence to the tenets of public hygiene, the work of the provincial Sanitation Board and its Vaccine Institute in particular were praised for their successful inroads

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496 A.G.C., “Historia,” 418. Such was the impact of this epidemic that vaccination statistics were fastidiously maintained only after 1887.
499 “Reacción favorable,” La Higiene, June 21, 1891.
500 Ibid.
501 “Año 1891,” La Higiene, January 10, 1892.
against the menace of epidemic smallpox. 502 Criticism on the part of physicians calling for centralized vaccine institute dissipated as the Provincial body began to fill a void left by the closure of the Central Vaccine Board twenty years earlier.

Expanding the Preventive Net

Cowley wasn’t the only elite Cuban physician who believed that intense public collaboration with colonial officialdom was both beneficial for the public good and a legacy of early medical pioneers. Other preventive medical interventions also flourished in the more tolerant political milieu of post-Zanjón Cuba and brought forth opportunities for medical activism. By the late 1870s and early 1880s, the new science of bacteriology had revealed a world of microbes to an increasingly interconnected (and competitive) international network of scientists.503 French chemist Louis Pasteur’s successful attempts to attenuate the virulence of certain microbes and use the weakened organism and its byproducts to immunize both animals and people was of immediate use to physicians and scientists looking to foment bacteriological sciences in the “periphery.”504 As with the introduction of smallpox vaccination in the early nineteenth century, “practical” science legitimated the expense and labor required for the introduction of new medical technologies in a resource-poor environment.

In Cuba, the initiative was spearheaded by creole physician Juan Santos Fernández, who inaugurated the Histobacteriological Laboratory and Institute for Rabies Vaccination in May of 1887. An “altar upon which to raise the temple of science” and educate the next generation of

502 “Centro de Vacuna de la Excma. Diputación Provincial,” November 1, 1891 and “Junta Provincial de Sanidad,” November 8, 1891, both from La Higiene.
504 For an example of its successful installation as a cornerstone of “national” science in the periphery, see Nancy Stepan, Beginnings of Brazilian Science: Oswaldo Cruz, Medical Research and Policy (New York: Science History Publications, 1981).
physicians in scientific medicine, the Laboratory was also explicitly founded to produce rabies vaccine according to Pasteurian methods and served as a platform for public health initiatives against a number of other diseases.\textsuperscript{505} Serums to prevent or attenuate the effects of tetanus, streptococcus, leprosy, cancer, equine disease and diphtheria were produced, as were vaccines against carbuncles and swine plague. While some of these products proved to be ineffective (such as, for example, the anti-cancer and leprosy serums), the Fernández’ laboratory was the first to successfully manufacture rabies vaccine and later anti-diptheria serum in the Americas and together, these initiatives constituted the laboratory’s greatest triumph in the realm of public health. Offered for a relatively low price and donated to the poor at no charge, these preventive technologies raised awareness about (and reduced mortality rates due to) diphtheria and rabies in the capital, with no contribution from government authorities.\textsuperscript{506}

Although Fernández would eventually be placed in the pantheon of Cuban physicians who “through private initiative…paved the way for knowledge of science’s greatest triumphs,” the Academic and prominent public figure actively sought governmental support and intervention to buttress his medical activism.\textsuperscript{507} In the summer of 1886, prior to the establishment of the Laboratory, a select committee of medical doctors embarked on an expedition to investigate bacteriological techniques in Pasteur’s recently installed Institute in Paris. Bubbling with enthusiasm about the possibilities of utilizing the new science to resolve pressing public health issues upon their return in the spring of 1887, Fernández joined with committee members to call for the foundation of publicly funded bacteriological laboratories under the auspices of the Sanitation Board and colonial University. The “little attention” paid by

\begin{footnotesize}
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\item Fernández, \textit{Recuerdos}, 1:323.
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the colonial government to these suggestions convinced Fernández and his supporters to take full responsibility for the foundation of a Cuban bacteriological laboratory. 508 Fernández and other physicians also exerted continuous pressure for public legislation on disease prevention through the Laboratory’s main press organ, the *Crónica Medica Quirúrgica*, founded in 1875. 509

As we have seen, many autonomous scientific, medical and sanitary associations lobbied political authorities for improved scientific infrastructure and services. But Fernández and his close supporters at the Laboratory were more than just gadflies of the state, and instead attempted to integrally link their services to the public administration. For example, towards the final months of 1887, Fernández petitioned for the Laboratory to take over forensic and juridical clinical services for the colonial government, a motion approved soon afterwards. Such duties, which had been an onerous burden to the Academy prior to devolution of medical services to municipal authorities in 1870, were eagerly taken over by Fernández’ Laboratory in order to relieve the “high costs” and “insecurity” associated with many cases of “deficient juridical services.” 510

During the 1890s, as part of a “recalcitrant minority” of Academics, Fernández (along with Academics Gabriel Casuso, Braulio Saenz and Diego Tamayo) even tried to convert the Academy into an “official” organ of the anticipated and autonomous Cuban province, sowing discord amongst Academics seeking to maintain distance from the vicissitudes of turbulent and increasingly violent colonial politics. 511 The “high priest” of Cuban colonial medicine after the deaths of Antonio Mestre (1887) and Nicolas Gutierrez (1890), Juan Santos Fernández clearly believed that negotiation with even the most intransigent Spanish colonialists in the name of

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511 Pruna, *La Real Academia*, 304-305.
public health was the best way to demonstrate the utility of the sciences and commemorate the work of great Cuban pioneers of preventive medicine such as Romay.

Only after he failed to acquire desired political reforms and the Spanish colonial government’s support for his scientific initiatives did he re-write his own professional history and also that of his hallowed predecessors. In establishing, through private initiative, an autonomous bacteriological Laboratory which pioneered the production of both rabies vaccine and anti-diptheria serum in the Americas, Fernández claims he was only following in the footsteps of his illustrious mentor Romay. According to historical accounts of Cuban smallpox vaccination in Fernández’ memoirs (published in 1918), it was only through Romay’s “private initiative” and at his “personal expense” that smallpox vaccine was introduced and propagated for almost half a century after 1804. With the exception of token references about Romay’s close collaborator and creole hero Bishop Espada y Landa and the (late) arrival of the Balmis expedition, any and all of the colonial government’s collaboration, support and financial aid for the Central Vaccine Board were virtually erased.

With “diphtheria as with smallpox, individual initiative broke through epidemic momentum” as Fernández became just one more of a “small group of physicians, zealous to advance the prestige of their profession” and nation through the advancement of science and public works. Looking back at a time “in which we lacked every [resource],” the private, Cuban initiative which led to the introduction and propagation of smallpox vaccine, rabies vaccine, anti-diptheria serum and the profilaxis of yellow fever was an example that should be

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512 Fernández, Recuerdos, 1:323-324 and 2:403.
513 Fernández, Recuerdos, 2:4, 403.
515 Fernández, Recuerdos, 1:323.
honored by physicians everywhere.\textsuperscript{516} Reflecting both his inability to participate in official service under an autonomous colonial regime and the post independence milieu within which he penned his memoirs, Fernández reversed his previous public positions regarding the virtues of autonomy from a colonial government which offered little for the Cuban public good.

\textbf{Conclusion}

Antonio González Curquejo, physician and professional activist associated with the Society for Hygiene, famously remarked in 1913 that Spain had lost Cuba “more because of a deficit in hygiene than its bad government.”\textsuperscript{517} The incisive remark touched upon more than what had become the former colonial power’s dismal historical legacy of sanitation and public health. By the outbreak of the last war for independence in 1895, years before the Platt Amendment imposed the marriage of popular sovereignty and the maintenance of a very particular public health administration, epidemiology reflected the viability of political projects old and new. The failures of sanitation and the persistence of diseases such as smallpox were utilized as symbols of colonial decay even as early nineteenth century creole triumphs were vaunted to showcase the triumphs of an autonomous (or even independent) Cuban “proto-nation.”

Pervasive problems of colonial reform and ethnic conflict became inextricably interlaced with struggles over medical professional development in the public sphere. Of all colonial public health interventions, the history of smallpox vaccination was central to the construction of proto-national mythologies and duly manipulated to suit the needs of emergent political and social activists in post-Zanjón Cuba. Interpretive struggles between those who drew on long traditions of colonial collaboration and others who sought to distance themselves from damaging colonial

\textsuperscript{516} Fernández, \textit{Recuerdos}, 1:325.
\textsuperscript{517} Antonio González Curquejo, \textit{Datos para la historia: La Sociedad de Higiene de La Habana} (Havana: Imprenta El Siglo XX, 1913) quoted in Funes Monzote, \textit{El despertar}, 133.
legacies were stamped out however, by the beginning of a new moment in vaccination history, with the American occupation from 1898-1901.
Epilogue and Conclusion

The last Cuban war of independence against Spain broke out in February of 1895. After 3 years of deadly warfare, United States troops closed the chapter on Spanish colonialism on the island with their first occupation in 1898. This epilogue investigates the centrality of smallpox and its prevention for occupation policy and the continuation of colonial relationships under a new metropolis. Nineteenth century professional disenfranchisement of smallpox vaccinators had engendered a distinct and powerful anti-colonial narrative which Cuban medical professionals continued to use after independence. Selective interpretations of smallpox vaccination’s history thus played a critical role as a tool of resistance to US imperialism and in the accompanying formation of a distinct national identity.

The Devastation of War

Smallpox continued to play a role in the construction of a cultural narrative after the outbreak of war in 1895. Introduction of the disease was, by this time, almost exclusively associated with the transatlantic Spanish transport of mail and troops. With the importation and movement of more than 170,000 fresh peninsular soldiers, epidemic smallpox broke out almost immediately after hostilities began. More or less virulent epidemic foci festered in different points of the island throughout the war.518

Although yellow fever, under guise of “Generals July and August,” exacted a terrible toll on Spanish troops, smallpox also wreaked havoc amongst the newly arrived.519 As the war

518 Le Roy y Cassá, Desenovolvimento, 30.
progressed and the Spanish military thoroughly enforced compulsory (re)-vaccination, it was the civilian population which suffered most from the scourge. The Spanish general Valeriano Weyler’s scorched-earth and terror campaigns herded hundreds of thousands of the non-immunized Cuban rural populace into concentration camps in cities and towns in order to deprive rebel camps of aid. Lacking food, adequate water supplies and basic shelter, thousands died of smallpox and other epidemic diseases “which always court war”, feeding upon the starvation and misery of reconcentrados and the civilian population.\(^{520}\) From 1897 to 1898, when hostilities ceased, general mortality rates on the island reached their highest numbers in recorded history.\(^{521}\)

While the number of deaths from smallpox is disputed, its spread alarmed contemporaries.\(^{522}\) With the exception of a few key institutions, the conflict prompted the collapse of sanitary infrastructure dedicated to smallpox detection, prevention and treatment.\(^{523}\)

Even obtaining vaccination and care via private, licensed physicians became difficult as professionals fled the island or joined rebel ranks. As epidemics gained strength, a number of prominent Cuban doctors and municipal authorities publicized their concern over the situation and organized public health campaigns to staunch the epidemiological disaster with physicians, medicine chests, vaccine and food, “sav[ing] from certain death innumerable human beings who

\(^{520}\) Le Roy y Cassá, *Desenvolvimiento*, 29.

\(^{521}\) Local statisticians had long decried the city’s high mortality coefficients, which ranged from 30 to 34 per thousand in the five years preceding the conflict. These numbers spiked to a shocking 77 to 90 per thousand during the apogee of wartime reconcentration and North American blockade from 1897 and 1898.

\(^{522}\) Faithful register of smallpox mortality was discontinued in the midst of infrastructural collapse and devastating upheaval, so that estimates of the dead in Havana range from a total of 3,000 deaths between 1895 and 1898, to roughly 4,000 persons felled by a single epidemic in 1897.

\(^{523}\) Havana’s Provincial Vaccine Board was one of the few organizations to survive the upheaval and is credited with attenuating the violence of smallpox mortality during the war. Massino, *Bosquejo histórico*, 3.
are dying in the most terrible state of abandonment.” But the logistical difficulties of reaching populations in the midst of scorched earth warfare and overwhelming need were virtually insurmountable.

**American Intervention and Eradication**

The concern was not limited to Cuba or Spain. Historian Mariola Espinola argues that the United States feared Cuba as foci of the yellow fever epidemics which periodically devastated nineteenth-century Southern economies. Such fear played a pivotal role in the US decision to intervene militarily in 1898 and indirectly maintain a selective set of sanitary standards on the island after troop withdrawal in 1902. Smallpox also played an integral and yet overlooked role as a causative agent for empire-building. As United States’ investment and commerce with Cuba grew throughout the nineteenth century, the North American press regularly tracked smallpox outbreaks on the island and condemned Spanish authorities for “doing nothing” to prevent its spread. During the worst epidemics of the 1870s and late 1880s, North American fears of smallpox’s introduction to Southern coastlines propelled the exodus of travelers, inspired quarantines and cleared coastal towns of their inhabitants. The importance of containing both yellow fever and the “loathsome” pox in Cuba, and particularly in Havana, even served to legitimize an old dream of acquiring the island as a natural extension of the United States.

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526 See for example, “New Orleans Prepared: A Strict Quarantine Against Yellow Fever and Smallpox” *The New York Times*, May 21, 1887, “Barring Out Disease,” *The New York Times*, July 28, 1887, and “Society Topics,” *The New York Times*, March 18, 1888. In Florida, which experienced the most intense migration of cigar-makers to and from Cuba, the general population was said to dread smallpox and yellow fever more than war and reacted badly to federal overhaul of its quarantine regulations during intervention.
With the onset of hostilities, the political and military implications of guarding US ports from unchecked Cuban epidemics acquired new urgency. The North American press, which circulated sensational accounts of Cuban suffering, contributed to create an atmosphere of panic at the prospect of smallpox contagion. Reports surfaced of smallpox victims “hauled off in carts of rubbish” to mass graves or left unburied for days by a people “reduced by starvation to reckless despair.”528 Havana and much of the island became “a plague spot” scourged by the disease, which, like the reconcentrados upon which it reigned, were in desperate need of intervention.529

North American observers associated the persistence of smallpox and the dearth of vaccination with Spanish administrative ineptitude and cruelty. A few members of the press went further, transforming censures of the dire epidemiological situation into a general condemnation of Spanish colonialism.530 As one New York Times reporter put it, the existence of a “civilized community” in New York was evidenced by the quick containment of smallpox outbreaks using the “simple precautions” of segregation and vaccination. In Cuba:

“The utterly different condition of affairs shows the character of Spanish rule better perhaps, than all that has been written about the oppression and corruption which in that island combine to form what passes under the name of government. Not much has been said in the dispatches from Havana about the ravages of smallpox there, chiefly, it is fair to suppose, because epidemics of that and other diseases are taken as matters of course, to be endured with resignation and allowed to run their course without interference. The natural consequence of this is a death rate of about 200 a week in the Cuban capital itself, while in the smaller towns, according to private letters received here, more than every other house bears the disgraceful yellow card.”531

530 For a historical analysis of the popular sympathy that existed for the cause of “Cuba Libre” amongst North Americans and its disarticulation from imperial considerations at the highest levels of government, see Louis Pérez’, The War of 1898: The United States and Cuba in History and Historiography (Chapel Hill: The University of North Carolina Press, 1998).
The press represented the Cuban people as an almost equally offensive obstacle to “civilization” through smallpox control and vaccination. The disease had long been associated with the poor in both Cuba and the southern United States, especially “those ignorant classes of Negroes who admit it as God’s will.”\textsuperscript{532} In a milieu of ascendant scientific racism, resistance to vaccination and responsibility for its propagation had thus been racialized. For some legislators and members of the press, the eradication of preventable diseases such as smallpox justified an “enlightened” US occupation which could fulfill the responsibilities of “the white man’s burden.” Sanitary successes against smallpox on the island could also serve as an example for the benefits of vaccination for those areas of resistance, rhetorically defined as rural and of color, who defied sanitary science and “civilization” at home.\textsuperscript{533}

As American troops consolidated their victories and successfully occupied the island during the autumn and winter of 1898, containing smallpox and yellow fever became US priority. American soldiers were required to undergo compulsory vaccination to ensure their protection against a disease that had greatly affected their Spanish military predecessors. Tens of thousands of Cubans were obliged to do the same under conditions of martial law, “as a precaution,” particularly in major cities and regions where troops were quartered.\textsuperscript{534} To maintain the program, vaccine virus was declared a strategic supply and imported en bulk into the territory. Despite claims that the Cuban people were “submitting cheerfully” to the new compulsory vaccination orders, dozens of gendarmes were hired to enforce the law during


vaccination rounds. A rigid system of inspection and quarantine, spearheaded by the US Marine Hospital Service, gave priority to what necessitated “the greatest attention,” the prevention of either smallpox or yellow fever from getting conveyed back to the United States via military and naval communications.

The end of hostilities, combined with the intensity of the vaccination initiatives, led to a decrease in smallpox as well as general mortality rates. From 1897 to 1900, annual deaths from smallpox in Havana plunged from 1,404, at the apogee of the epidemic, to only 2 cases. By early 1901, a specially appointed commission was formed to institutionalize and regularize sanitary successes via a critical review of existing legislation. On June 24, 1901, following the advice of the commission, vaccination was declared obligatory by the military governor of Cuba. From September 1901 to January 1902, 265,000 people were vaccinated in one of the most extensive vaccination campaigns in Cuban history. Havana’s Provincial Vaccine Institute was officially converted into a central depot for the entire island, though legal responsibility for vaccination and the retention of official licensed vaccinators was left to the province and municipality. The disease was effectively eradicated on the island, as republican Cuban authorities effectively contained the small number of imported smallpox cases which occurred every five to ten years.

North American authorities utilized sanitary triumphs as an exemplar of imperial benevolence and grounds for colonial occupation. As Major General Gorgas highlighted during his summary report on statistical demography in 1902, the army would soon to leave an island

537 Villoldo, “Smallpox and Vaccination,” 496.
538 Ibid., 498.
539 Le Roy y Cassá, Desenvolimiento, 72.
transformed. A special commission confirmed the transmission of yellow fever via the
Stegomyia mosquito vector, “a discovery which in time would be placed amongst the greatest
benefits to humanity, only exceeded by that of Jenner,” enabling a targeted eradication program.
Endemic smallpox was also eliminated on the island, “with only one incident in the past 18
months.”

Most North American commentators agreed that American military muscle had
single-handedly realized the dream of disease eradication as a lesson to the world, to the benefit
of Cuban life and commerce. Cubans were expected to be “ever grateful to the American
nation” who had made the former a model to civilized nations. The danger of reversion to
unsanitary barbarism upon withdrawal of occupation forces seemed palpable. Despite
enthusiastic Cuban medical participation and massive sanitary investments during the early
republican period, under Cuban control the island, and specifically Havana, continued to bear a
reputation as foci of disease.

Smallpox and Nationalism

Elites in the Cuban medical community expressed gratitude for a North American
sanitary intervention that had managed to push through historical professional agendas. The
eradication of smallpox and yellow fever had been a dream of the elite Cuban medical
community since the late eighteenth century, when epidemiological realities clashed mightily
with the prerogatives of economic growth and “civilizational” projects (see chapters 1 and 4).

540 See excerpt in Le Roy y Cassá, Desenvolvimiento, 43.
541 “Research Work in the U.S. Army: The Achievements in Sanitation by Army Medical Men are among the
Marvels of the Age,” New York Times, December 1, 1912 and both “Good Works in Peril” and “A City Sweet and
Clean” in the New York Daily Tribune, February 11, 1902. For a short list of articles related to colonial medicine
Marine Public Hospital Service (including General Gorgas) proffered more even-handed depictions of Cuban
contributions to sanitation and disease eradication. These few instances do not seem to have affected popularized
notions of Cuban epidemiological guilt and the gratitude due to US occupiers.
542 This was especially the case with yellow fever control. See Espinosa, Epidemic Invasions, 100-109.
According to Jorge le Roy y Cassa, an early republican statistician, the eradication of smallpox and yellow fever under North American auspices was “the most beautiful period in our sanitary history.” Roy y Cassa agreed with General Leonard Wood that the American occupation provided an example of “good administration [through which] thousands of lives could be saved, the race could be made physically robust, and Havana converted into the most healthy and prosperous of tropical places.”

Great praise was reserved for military governor and chief sanitary officers Dr(s). Wood and William C. Gorgas, who “being medical doctors as well as military men, understood better the great task of sanitation.”

The American occupation and imperial priorities had greatly enhanced the medical profession’s social and political role. North American concern with protecting Southern economies from the importation of Caribbean epidemic disease manifested itself in the dramatic augmentation of Cuban sanitary infrastructure, the extension of medical authority over most of the population, and the effective curtailment of unlicensed competition. Political instability, together with outbreaks of epidemic disease (particularly those of yellow fever), aroused legitimate fear of renewed North American interventionism in the young republic and stirred patriotic passions at the highest levels of the Cuban government.

Independence, as the Havana Academic and public health official Dr. Enrique B. Barnet put it, “rested upon the fundamental bedrock of both peace and health,” leaving men of science “with great responsibility” to safeguard the nation.

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543 Le Roy y Cassá, Desenvolvimiento, 35 and also Rafael J. Fosalba’s, “El problema de la población en Cuba por el Sr. Rafael J. Fosalba,” Anales de la Academia 45 (April-May 1909): 694.

544 Le Roy y Cassá, Desenvolvimiento, 30.

545 See for example, the nearly fatal altercation a sanitary workers’ strike provoked between Cuba’s Secretary of State and Dr. Matías Duque, Secretary of Health and Charities in Espinosa, Epidemic Invasions, 100. For examples of the use of occupation to push through desired sanitary reforms, see Le Roy y Cassá, Desenvolvimiento, 51, 54-55.

546 Enrique B. Barnet, “Consideraciones sobre el estado sanitario de Cuba,” Anales de la Academia 50 (n.d. 1913-1914): 36. As in the nineteenth century, many Cuban public health officials felt that a major aspect of their political and social responsibility included the imposition of exclusionary projects against what they considered domestic...
Elite Cuban medical practitioners and sanitary officials publicly rejected the interpretative discourse that derogated their contribution to the mission of sanitation and to smallpox eradication in particular. Hundreds of Cuban, licensed practitioners had composed an integral part of initial campaigns for smallpox control across the island. Cubans worked alongside gendarmes in sanitary brigades formed under military occupation to isolate, disinfect and vaccinate smallpox affected areas. Physicians cooperated with occupation forces to extinguish epidemic foci in schools, hospitals, clinics and other institutions. The rest of the licensed medical community was indirectly tied to the project via required reporting of epidemiologically dangerous cases on pain of fine.547

Cuban medical elites had also participated enthusiastically in the creation of a permanent sanitary infrastructure for the maintenance of widespread smallpox vaccination. In early 1901, the occupation government organized a Vaccine Commission to review extant legislation on smallpox prevention and control. The Commission consulted Havana’s Academy of Science and other members of the Cuban medical community with regards to their opinions on obligatory vaccination. The Academy made a unanimous pronouncement in its favor and “expressed with pleasure” that most physicians on the island shared this sentiment.548 The Commission, composed almost entirely of Cuban medical leaders, including former Director of the Provincial Vaccine Institute Luis María Cowley, statistician and Academy vaccinator Vicente de la Guardia and future Director of the island’s Department of Sanitation Juan Guiteras, shortly afterwards laid the legislative foundations for obligatory vaccination and the inauguration of a new central vaccine depot in Havana.

__threats to racial and ethnic hygiene, namely the dark-skinned Jamaicans, Haitians and other islanders who seasonally worked on Cuba’s sugar plantations.__

At the start of travelling season, accusations of Cuban disinterest and ineptitude regarding proper control of epidemic diseases, including smallpox, peppered the North American press. Frequent North American defamation of Cuban initiative and ability to control epidemics was an especially egregious insult for a medical community that prided itself on its partnership in the construction of a great sanitary edifice. That US smallpox vaccination and control policy varied widely across regions and demonstrated such clear deficiencies in many southern states and rural areas embittered Cuban observers. Some took to the pen to make a direct response. As chief sanitary officer Juan Guiteras angrily retorted in 1910 to one such accusation of generalized public health malpractice:

“What facts have you….upon which to base your statements? Is it that we have less typhoid fever than most of your cities?...Is it that we have managed to keep smallpox out of our territory, though we are in communication with your States, where the disease prevails?... Is it that we are maintaining at great expense a system of inspections all over the island for the destruction of [Stegomyia] larvae [which transmits yellow fever]?”

Representing the island at medical conferences around the world, Cuban physicians and sanitarians publicized original research and emphasized the potential lessons to be learned from Cuban public health management. Many also emphasized the need to address oft-overlooked endemic diseases, such as tuberculosis, tetanus and infant enteritis, which preferentially affected

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549 Smallpox festered in many North American states during the early twentieth century, encouraged by a legislative patchwork of contradictory mandates on vaccination across states and municipalities and a more organized anti-vaccination movement. These difficulties frustrated US sanitary authorities, who often lamented they could not replicate at home the successes achieved in overseas territories. See for example, “Panic in Mississippi,” “The Danger in Smallpox,” “Wide Smallpox Epidemic,” and “A City Sweet and Clean,” all cited above.


551 See Director of Sanitation and Charities Juan Guiteras’, Insect-born Diseases in Pan America (Havana: La Moderna Poesia, 1915) and his collaborative work with Cuban sanitary representative Mario Garcia Lebredo, Sanidad y Beneficencia: Memoria (Havana: La Moderna Poesia, 1921).
domestic Cuban populations. Most remarkably, Cubans continued the late nineteenth-century use of public health histories and politics of remembrance to resist North American assumptions and bolster national identities. Even as they celebrated North American sanitary work, republican histories of public health and sanitation (such as that by statistician Jorge Le Roy y Cassa) overwhelmingly highlighted the collaborative effort and Cuban accomplishment in public health and disease eradication.

**Romay and the Politics of Historical Memory**

Specifically, historians resurrected Tomás Romay’s legacy in Cuban history of smallpox vaccination, as histories of the colonial era published or re-published in the republican era. The breadth of this historical reclamation should not be overestimated. Relatively few histories emerged in the wake of Spanish colonial collapse. Romay’s likeness often paled in comparison to that of Cuban Carlos J. Finlay, who first proposed and promoted the theory of the *Stegomyia* mosquito as the vector for yellow fever. As Manuel García Mayo put it in a 1937 doctoral thesis on the introduction of smallpox vaccination to Cuba, upon final reckoning Finlay was a scientific “discoverer.” He could be exalted amongst the pantheon of medical heroes in defiance of North American presumptions that had erased his memory in favor of the American occupation’s scientists and scientific initiative. Romay, in turn, only “established in his homeland an experiment realized far from its frontiers, many years after its discovery and by strangers.”

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552 See Jorge Le Roy y Cassá, *La mortalidad infantil en Cuba: Notas demográficas* (Havana: Imprenta y Libreria de Lloredo y Ca., 1914) and a description of the contributions made by various Cuban sanitary officials against endemic diseases on the island in *Desenvolvimiento*, 46-49 and 58-63.


554 García Mayo, *La introducción*, 100.
only parallel, Mayo admitted, was that both tried to “safeguard their peoples from a most terrible scourge.” In Romay’s case, he did not succeed in its eradication.  

Yet rescuing Romay’s memory became something of a project to build national consciousness amongst some physicians and historians. As in the colonial period, republican Cuban observers condemned the lack of cultural solidarity on the island. In a familiar strain of complaint, one Academic argued that the Cuban people “looked upon their national institutions (including their scientific ones) with indifference, when not distaste, always considering anything their own to be the worst.” Romay became a means to build a politics of remembrance and cultural appreciation of domestic achievements. As Mayo himself articulated, it didn’t matter that “the men of today, forgetful and ungrateful, ignore completely these deeds of yesteryear,” or that “their names do not figure amongst the greatest” the nation had to offer. Romay had succeeded:

“The symbol of Romay as a creole cultural hero only increased after the revolution of 1959. The new regime formulated its preventive public health policy as a reaction to North American imperialism and a source of legitimation for the new order. The centrality of preventive public health combined with a “new” history of science and medicine in Latin America to inspire re-interpretations of Romay and his role in early Cuban medical

555 Mayo, Introducción, 100.
557 Mayo, Introducción, 94.
558 Mayo, Introducción, 100.
The Marxist lens could be unforgiving with regards to former hagiographic traditions. Historians transformed Romay’s image to condemn the narrow socio-economic foundations which guided his work and prerogatives. Yet amongst Cuban historians such as José López Sánchez (1911-2004), remembering Romay became less an exercise in the repudiation of early commercial capitalism than a familiar embrace of early “Cuban,” creole patriarchs and their concern for the public good.

Conclusion

This dissertation traces the radical transformation of Romay’s image and person from their early nineteenth century origins. The medical patriarch played an integral role in fostering self awareness amongst creole elites which had enjoyed unprecedented economic success based on slave-powered commercial agro-export economy. Through his emphasis on promoting enlightenment ideals of public happiness in the “patria” via smallpox vaccination and the Central Vaccine Board, Romay led a licensed medical community towards a more public role in the engineering of their society. But for most of the nineteenth century, their relationship to the metropolis and the identities nurtured therein were overwhelmingly based on co-optation and interdependence rather than conflict and alienation from Spain.

Romay’s historical representations shifted along with the fortunes of early creole medical professionals on the island. In more than a rhetorical sense, smallpox vaccination was a “preferred service” of the Crown for much of the nineteenth century. The Sociedad Económica

José López Sánchez, Romay’s most prolific biographer and a historian of medicine and public health, compiled all of Tomás Romay’s work in Obras Completas (Havana: José Maceo ECAG, 1965) and wrote a definitive biography translated into English as Tomás Romay and the Origin of Science in Cuba (Havana: Ensayo Book Institute, 1967). See also César Rodríguez Expósito, Bicentenario de Tomás Romay (Havana: Consejo Científica, Ministerio de Salud Pública, 1964) and articles in the Cuban historical medical press during the bicentennial celebrations of Romay’s birth in 1764 and the introduction of vaccine in 1804. In 1964, Romay’s remains were transferred to a mausoleum erected in his honor at the Carlos J. Finlay Historical Museum of Medical Sciences.
and the Junta Superior de Sanidad showcased state paternalism and concern for the common good. Medically licensed creoles utilized vaccination to protect its professional turf through the enforcement of academic requirements and the articulation of scientific standards. These professional platforms in turn legitimized the creation of novel, very public roles that included an unprecedented amount of control over other colonial subjects. Initial concepts of the “public” service emphasized targeting African slave populations that powered the agro-economy and their elite, creole masters. Eventually however, the concept broadened to include the poor and, in the aspirations of many vaccinators, the entire colonial population.

Historians have often overlooked professionalization’s impact upon ethnic identity formation and its relationship to anti-colonial resistance. Yet amongst vaccinators that identified with the colonial project, war, repression and contemporary “creole” cultural constructions could not significantly shake a strong sense of partnership with metropolitan power. Only when vaccinators’ professional moorings fell away under pressure from systemic dysfunction and continued epidemiological crisis did vaccinators and other creoles question Spain’s enlightened colonial paternalism. Service for the “public good” then became a double-edged sword which could be wielded symbolically against the colonial system with every damning epidemic of smallpox.

Creole medical professionals expressed their anti-colonial resentment in several ways. Professional strife shaped scientific knowledge production and the application of new preventive technologies as leading creole physicians resisted a perceived colonial preference for calf-based vaccination. The new procedure’s introduction during institutional overhaul and its association with former Spanish colonial public health administrator Dr. Vicente Ferrer led representatives of the creole medical elite to identify calf vaccine with professional destitution and neglect of
basic health needs. Inextricably connected to professional dislocation, Ferrer was virtually written out of many Cuban histories on the subject and “his” cowpox subject to severe scientific critique. Throughout the late nineteenth century, calf vaccination served as a source of controversy and silence even as it was readily adopted throughout most of Europe and eventually, by the Cuban Royal Academy of Science.

Creoles also used medical professional history to create collective memories and a politics of resistance. Specifically, Romay’s role in the establishment of a creole medical bastion for the public interest was woven into the fabric of an implicitly anti-colonial narrative during the late nineteenth century. After the Central Junta was dismembered, the civic goals of preserving the Cuban population and “Cuban” identity seemed no longer compatible with the old colonial order. The latter needed to be seriously reformed or, in the most radicalized minds, shaken off. Loyalty to Romay as a symbol of creole patriotism and activism created a defined range of action for late nineteenth century vaccinators who sought to expand the web of smallpox immunity in a colonial context. Even after independence, conservation of Romay’s memory continued to serve the needs of identity construction and anti-colonialism by highlighting Cuban cultural achievement in the realm of preventive medicine and public service.
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