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# A TEST OF CONSCIENCE:

# NAVIGATING MEXICO'S SERVICIO MÉDICO-SOCIAL (1935-1940)

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## ACKNOWLEDGEMENTS

I remember well how this project began. It was late October 2015, my first year of graduate study. Claudia Agostoni visited the University to discuss her work on public health in Mexico. After her fantastic talk, she and I sat down, chatting about her work. When the topic of open areas of scholarship arose, Claudia told me about hundreds of medical student theses sitting in the archive. These theses described years of service trips that students made to rural places as part of an UNAM program called the *servicio médico-social*. Though some had examined them, her included, no one had yet dived deep into this source base. Maybe I could?

Seven years later, here we are: I have devoted the better part of a decade to understanding medical student experiences in the context of the broader politics of health in Cardenista Mexico. To accomplish this, I enjoyed the support of the Social Sciences Division and the Center for Latin American Studies at the University of Chicago, as they funded my research in Mexico City archives through the Orrin Williams Fund and the Tinker Field Research Grant, respectively. In Mexico City, I was assisted by the helpful staff at the *Archivo Histórico* of the *Secretaria de Salud,* the *Archivo Histórico* of the *Facultad de Medicina*, and the Biblioteca Nicolás León, in particular Jorge Zacharias and Xochitl Martinez Barbosa, who made navigating the treasure trove of documents contained therein as wonderful a process as a historian could hope for.

This is a project about the how emotional connection informs the way we think. While writing this dissertation, I had countless allies whose compassion and earnest engagement with me and my ideas vividly demonstrated that fact. Claudia Agostoni has, with generosity and interest, helped me make this project rich. Emilio Kourí and Brodie Fischer have given years of warm encouragement and incisive commentary on my ideas. They welcomed me into the

wonderful community of Latin Americanists at the University. Bob Richards and Michael Rossi made the Fishbein Center a real home, where conversations were heady, laughs came easily, and mentorship was generously given. Beth Calderon has an unparalleled ability to make negotiating the University's bureaucracy, even across professional schools, look easy.

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## ABSTRACT

In 1936, the *servicio médico-social* (SMS) was established by the *Universidad Nacional Autónoma de México* (UNAM) and the *Departamento de Salubridad Pública* (DSP) of President Lázaro Cárdenas del Río (1934-1940). The SMS was a public health/medical education program that would require sixth-year medical students at the UNAM to spend a period of approximately six months doing medical service, basic sanitary oversight, and record-taking in a rural Mexican village, industrial site, or workcamp. It was a low-cost, low-footprint program that permitted Mexico to address problems of health infrastructure in an efficient manner. While scholars to date have seen the SMS as a reflection of the powerful institutional expansion of the post-Revolutionary Mexican State under President Cárdenas in the domain of health, in this dissertation, I take an alternative approach. I argue that the SMS reflected not a rigid clinico-politics resting upon the monolithic, domineering power of the State, but rather, that the SMS reflected a multifaceted, negotiated, open politics of health that rested upon a foundation of emotion. Drawing upon the work of historian of emotions William Reddy, I argue that the SMS was product of the navigation of feeling, and inspired medical students to their own navigation of feeling. The program cemented a détente between the Cardenista State, impatient with Medicine's cold and disinterested emotional regime, and the profession of Medicine, concerned with the preservation of its autonomy. The program would "socialize" students, in the argot of the time, catalyzing within them feelings of compassion for vulnerable Mexican citizens, thus reorienting Medicine to be more in line with the priorities of Cardenistas. Students were not passive objects in this emotional conflict. They were key actors who determined the ultimate form the politics of health took in Mexico's localities. It was by their performances of

compassion, their navigation of feeling—in receptional theses submitted to the UNAM, and in clinical service described in them—that students participated in Cardenista politics. Compassion served as a matrix within which students could transform Cardenista ideals for Mexican nation—modernization, national capitalism, eugenics, hygienization—into the concrete political action of clinical care. In this way, this dissertation not only enhances our understanding of the emotional dimensions of Cardenismo's politics. It also shows that the everyday practice of Medicine involves the careful cultivation of feeling.

## INTRODUCTION:
## Filled with optimism

In August 1936, a group of senior medical students gathered at the Club France, a storied and luxurious banquet venue in Mexico City. They were being feted by their university, the *Universidad Nacional Autónoma de México* (UNAM), and the Mexican Federal *Departamento de Salubridad Pública* (DSP), to mark an august occasion. Earlier that academic year, the Director of UNAM's *Facultad de Medicina*, Dr. Gustavo Baz Prada, had rolled out a new educational program referred to as the *servicio médico-social* (SMS). The SMS was a public health/medical education program that would require sixth-year medical students at the *Facultad* to spend a period of approximately six months doing medical service, basic sanitary oversight, and record-taking in a rural Mexican village, industrial site, or workcamp. From the medical school, situated a few blocks from the Zócalo at the heart of Mexico City, students would travel to Mexico's neglected corners to care for the true heart of the nation: its vulnerable citizens.

The lush banquet was a moment of diversion that punctuated a very busy time in the lives of medical students. In the runup to the ceremony, students had received briefings from their professors and from bureaucrats in Mexico's public health apparatus, receiving resources and instructions to secure their special licensing status to practice medicine while still students. If the orientation lectures at the *Facultad* and DSP had not adequately impressed upon pasantes how important the SMS would be for Mexico and for their future medical careers, the revelry at Club France was interrupted to make that fact crystal clear. High-level officials within both the Presidential Administration of Lázaro Cárdenas del Río (1934-1940) and the administration of the UNAM rose to speak. Both Secretary of the DSP José Siurob and Rector of the UNAM Luis

Chico Goerne wished the pasantes well, lending the imprimatur of both the University and the Federal government in a moment of relative comity between two institutions whose enmity had been obvious in years prior. Director Baz, the putative architect of the SMS, also took the opportunity to address the medical students. Though it may have seemed incongruous, with the clink of cocktails and knives and forks running through fine cuisine, Dr. Baz emphasized that in a few short weeks, the students would encounter a world to which they were unaccustomed:

> You all have been studying for six years…normally, in a few months, you would receive your title…in place of that, I have come to ask you to patriotically lend yourselves to one of the most singular experiments that will be registered in the history of medicine: each of you will go to a place where there are no doctors and you will spend six months there, practicing the function of sanitary inspector and physician…The majority of you will be lucky enough to practice your ministry among primitive and very uneducated people, uncultured children of the mountains, the forest, the highlands, that have not any idea about the modern art of healing.[1]

In the 1930s, Mexico's numerous rural dwellers—estimated by some to be about two-thirds of the population—often suffered from profound poverty. In addition to disease caused by lack of resources and poor hygiene, rural Mexicans often lacked access to licensed physicians, and were often unfamiliar with biomedical principles. Pasantes were directed to address all those problems, by means of curative work, preventative care, and health education. In this way, Baz, UNAM, and Cardenista Federal health officials hoped that the SMS would enable medical students to play a critical role in the creation of a modern, healthy Mexican *pueblo.*

After that last moment of indulgence at Club France, pasantes went on their way, whether via train, cart, horse, or donkey. Some went to marshy wetlands on the outskirts of Acapulco or in the Yucatán peninsula where they spent their *servicio* confronting the specters of malaria and gastrointestinal infections. Others went to serve communities in the Valley of Mezquital or the isthmus of Tehuantepec where they encountered indigenous culture and custom and worked to

[1] Juan José Mazón Ramírez et al. "El Servicio Social Médico", UNAM, Facultad de Medicina, http://www.facmed.unam.mx/sg/css/documentos_pdf/El%20Servicio%20Social%20Medico.pdf, 4.

sideline local healers or curanderos. Others still were placed in clinics in the industrial plants of Monterrey, in the foreign-owned oil refineries of Veracruz and Tamaulipas, or in rural workcamps building railroads and dams in Campeche or President Cárdenas' native Michoacán, where they worked to enforce the recently-passed *Ley Federal de Trabajo*. Across these locations, pasantes encountered Mexicans who lacked clean water, adequate food, or basic health knowledge, who lived in a manner very different from the Revolutionary vision of a modern, productive society.

When pasantes returned to Mexico City, they had one more requirement to satisfy before graduation: the submission of a receptional thesis. After their months of service, most took the opportunity to collate their various reports from the field into a thesis for review by examiners at the *Facultad*. Within, they offered details about sanitation and hygiene, epidemiology, local health practices, offering both quantitative and qualitative data to capture medical conditions at their site. These demographic and geographic data would theoretically be of use to Federal health officials hoping to better integrate neglected Mexicans into the national fold. This information was interspersed with snapshots of daily life of their patients, describing issues of social life, political economy, religion. Students described the various sorts of medical care they had provided while *en servicio*, and the creative methods they used to create bonds with their communities. It no doubt must have pleased examiners to read of pasantes' exploits, as they showed that the plans of the DSP and the *Facultad*—of the State and of the profession of Medicine—seemed to be working out as they had planned.

The historical significance of the SMS may seem quite obvious from this broad review. It represented an ideal low-cost, low-footprint program to permit Mexico to—at least in a perfunctory manner—address widespread problems of health infrastructure in the resource-

strapped nation. It advanced social welfare, consistent with the goals and interests of President Cárdenas. It was a useful educational exercise for medical students to see what it meant to care for vulnerable people. The SMS was thus a unique program that fused social justice, public health, and medical education in the face of real structural constraints, emblematic of Marcos Cueto and Stephen Palmer's concept of "health in adversity."[2]

This dissertation argues that these were not the only reasons the SMS should be of historical interest. Careful examiners at the *Facultad* might have observed something beyond the data presented in student theses—something subtler, but no less desirable for bringing about the ends favored by physicians, politicians, administrators, and bureaucrats hoping to create a "modern" *Patria*. In his thesis, for example, pasante Gonzalo Granados Miranda described the SMS was a distinct way of learning:

> We are passing through special times, which separate us to some extent from our predecessors who bravely contributed, rectifying, widening, instructing on scientific themes, engaging in personal investigation, all aided by the hospital clinic, the laboratory, the appropriate therapeutic arsenal, and the disinterested assistance of true friends of the pasante.[3]

Relative to previous generations' more staid, academic educational experiences, pasantes now had additional aides in their quest to become physicians. For many students like Granados, the real educational benefit of the SMS came from bearing witness to the "the illness and misery" that punctuated the lives of the "immense majority of the little villages of our Republic," far removed from the classrooms of the *Facultad*. Granados felt this experience inspired compassion within him, equipping him to view his patients as subjects deserving of health, wellness, and the other guarantees of Mexican citizenship, rather than mere scientific objects.

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[2] Stephen Palmer and Marcos Cueto, *Medicine and Public Health in Latin America* (New York: Cambridge University Press, 2015), 7.
[3] Gonzalo Granados, "Estudio medico-social de Asuncion Ixtaltepec, Distrito de Juchitán, Oaxaca," Mexico, DF, 1938, 2.

During the SMS, students thus learned more than simply how to treat amebic dysentery or prevent malaria: they learned how to feel about their patients.

In this dissertation, the emotional politics of public health, clinical practice, and medical education are my focus. Beyond its material public health benefits, I argue that the emotional dimensions of the SMS manifest in Granados' thesis are worth exploring in greater detail. Understanding the SMS in this way permits us to observe how feeling was an essential tool by which the Cardenista State and the profession of Medicine negotiated their sometimes congruent, sometimes conflicting respective political agendas. Pasantes were not passive objects in the quest for emotional détente between Medicine and Cardenistas. They were key actors who determined the ultimate form the politics of health took in Mexico's localities. After all, it was pasantes who cultivated a functional doctor/patient relationship in the face of suffering, deprivation, and death, many kilometers from the nearest train station, let alone the offices of the *Facultad* in Mexico City. It would only be through a deep emotional engagement with patients that the nation could hope to "speak of 'Revolution' and await a brilliant future for Mexico."[4]

***Cardenismo and its limits***

While it is clear that the SMS was inextricably tied to the political dynamics of the Cárdenas Administration, describing those dynamics is no easy task. The six-year Presidential Administration, or *sexenio*, of Lázaro Cárdenas is an oft-debated epoch in Mexican history. During the Cárdenas *sexenio*, the fundamental conflicts that had dominated Mexican political life since at least the dictatorship of Porfirio Díaz (1870-1910)—and arguably dating back to the mid-nineteenth-century Wars of the Reform—did not evaporate. Rather, they remained open

[4] Manuel Velasco Suarez. ''El Servicio Social de la Facultad de Medicina: Breve comentario,'' *Revista Mexicana de Sociología* 1, no. 2, (May–June 1939): 133.

questions that President Cárdenas and his allies did their best to address. Broadly, they were enthusiastic about transforming Mexico's people into a modern, productive citizens. Much of this agenda was set in the 1933 *Plan Sexenal*, a diverse array of policy commitments set forth by the *Partido Nacional Revolucionario* (PNR), the national party of which Cárdenas was a member. In general, the Plan supported greater State intervention in "national economic activities, with the goal of controlling them and being able to regularize them, to counter foreign interference in the resources of the nation."[5] Among its priorities, the Plan prioritized the distribution of lands, as well as the effort to transform peasants receiving those lands into "free holders, owners of the land and trained…to obtain and take advantage of the highest yield from their production."[6] The *Plan Sexenal* also articulated the Party's interest in a nationalist economic modernization, with the goal augmenting industrial output by means of superior organization, infrastructure, and technology.

During his *sexenio*, Cárdenas did much to follow the broad contours of the Plan. Yet he did so via a unique political path, relative to previous post-Revolutionary administrations. For instance, in response to the issue of inequality in land distribution, Cárdenas redistributed lands to peasants as ejidos—the post-Revolutionary institution of land parcels commonly owned by a community—just as his predecessors had, in the hopes that collectivization would promise increased productivity.[7] But Cárdenas distributed more ejidos than all his antecedents combined.[8] Cárdenas also took the unique step of reinforcing and massifying these agrarian politics by the formation of peasant leagues, such as the *Confederación Nacional Campesina*

[5] Martha B. Loyo, "Cárdenas y Calles: amigos y adversarios" in *Lázaro Cárdenas: Modelo y Legado, Vol. 2* (Mexico City: INEHRM, 2020): 666
[6] Jose Rivera Castro, "Politica agraria y movilización campesina en México," in Ibid., 261.
[7] Maria Teresa Aguirre C., "Las ideas de la izquierda en torno al problema agrario," in Ibid., 593.
[8] Alan Knight, "Cardenismo: Juggernaut or Jalopy?" *Journal of Latin American Studies* 26, 1 (Feb., 1994): 82.

(CNC), to integrate agricultural laborers into the national—and international—system of markets. In the domain of labor and industrial policy, he supported the unionization of workers, as his predecessors had. But Cárdenas also worked to centralize and empower a wide swath of labor under the auspices of a new, national *Confederación de Trabajadores de México* (CTM). Finally, and most importantly for our purposes, while previous Presidents had fitfully contributed to the formation of a public health apparatus, Cárdenas invested heavily in health, establishing a robust rural health infrastructure. One such innovation was the establishment of the SMS.

As historian of science Juan José Saldaña has noted, "scientific institutions are the forge in which knowledge and politics are joined."[9] It is perhaps not surprising that historians have linked the growth of the Cardenista public health infrastructure to metanarratives surrounding Cárdenas' unique political progressiveness. Historian Ana Maria Kapelusz-Poppi suggested that the Cárdenas years vitally "contributed to making the right to modern health care part of the notion of citizenship in postrevolutionary Mexico."[10] Historian Ana Maria Carrillo began her article on public health and political power with Cárdenas assuming the presidency, denouncing the fact that, "injustice and inequality persisted in the nation," and outlining how Cardenistas created a robust apparatus of health to "make tangible the promises of the Revolution for those who had fought in it."[11] For these historians, Cárdenas' departures from the status quo established by other post-Revolutionary administrations, particularly in health, showed that Cárdenas represented a return to the true spirit of the Mexican Revolution: that of social justice.

[9] Juan José Saldaña, *Science in Latin America* (Austin: University of Texas Press, 2010), 12.
[10] Ana María Kapelusz-Poppi, "Physician Activists and the Development of Rural Health in Postrevolutionary Mexico," *Radical History Review* 80 (Spring 2001): 45.
[11] Ana María Carillo, "Salud pública y poder en México durante el Cardenismo, 1934-1940," *Dynamis* 25 (2005): 146; 148.

These historians also state that the social-justice ferment of "high" Cardenismo in the realm of health was not to last after 1938's oil nationalization. Cárdenas' final two years in office, from 1938 to 1940, called "the withdrawal" by Carillo, saw the President retreat from his social agenda in response to an onslaught by "the nation's conservative forces and the imperialist interests who had united" against what they perceived to be outsize social spending by the Federal government.[12] As the "effervescence of the 1930s" gave way to the withdrawal, Cardenistas "began to soften the revolutionary tone of official rhetoric."[13] The powerful forces of popular Revolution were halted in their tracks by agents of reaction.

It is within this historiographical metanarrative—Cardenismo as a powerful force of democratized social justice, followed by a Thermidor that ushered in a conservative Institutional Revolution—that the small number of scholarly analyses of the SMS have typically been framed. For many Mexican citizens and scholars, the concrete, positive actions of the Cárdenas Administration—including the establishment of the SMS—proved Cardenismo's beneficent, socialistic nature: indeed, the SMS was deployed within a few Mexican social scientific studies written in the 1990s—an era of neoliberal austerity and increasing frustration with the PRI's autocracy—as a symbol of a more just, more democratic Revolutionary Mexico under Cárdenas.[14] Historians who have written about the SMS often cast it as a scientific institution a la Saldaña—the forge in which hygienic knowledge was fused with the unique, transformative politics of the Cárdenas years. Historian Ivonne Meza Huacuja traced the various intellectual

[12] Ibid., 178.
[13] Kapeluzs-Poppi, "Physician Activists," 45.
[14] Lourdes Ruiz Lugo, Benjamin Salvo, and Alejandro Mungaray, *El servicio social en México* (Mexico City: ANUIES, 1995); Ramiro Jesus Sandoval et al., "La experiencia Mexicana del servicio social en Medicina," *Educación Medica y Salud* 28, 3 (1994): 341-354. In English, during a similar era, Margaret Sherrard Sherraden and Michael Sherraden, "Social Service by University Students in Mexico: Thoughts for the United States," *Child and Youth Services Review* 13 (1991): 145-170. See also Octavio Gómez-Dantés, "Precursores, promotores, y artifices del servicio social de medicina en México," *Salud Publica Mex.* 63 (2021): 281-287 for a contemporary perspective.

threads in Mexico that justified establishing the SMS as a means of extending biomedical practice "from the university to the countryside." The SMS represented a desire for "national reconstruction and strengthening of governmental institutions and the figure of the president," and the diffusion of "notions of justice and social regeneration."[15] Historian Claudia Agostoni highlighted the expansion of the institutional architecture for health during the Cárdenas years. With particular focus on the SMS, she argued that these major organizational innovations represented a vital part of a crystalizing Mexican post-Revolutionary State under President Cárdenas, which understood social engagement and social medicine as means to "true medical and social rediscovery in the country."[16]

This is not to say that the historiography has been monolithic. Historian of medicine Gabriela Soto Laveaga has been skeptical of the social justice reading of SMS, as she has emphasized the "colonizing" character of public health institutions, arguing that Cardenista rural health professionals became "crucial emissaries of a paternal state capable of providing health care to the poor."[17] In subsequent publications, she has focused on the imperialistic character of the SMS, in particular the racialized dimensions of the pasante/State paternalism implicit (and sometimes, explicit) in the program.[18] Despite some perspectival diversity within the

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[15] Ivonne Meza Huacuja, "De la universidad al campo: el establecimiento del servicio medico-social en la Universidad Autónoma de México (1934-1940)," *Historia Mexicana,* vol. 64 (254), no. 2 (Oct-Dec 2014): 608.
[16] Claudia Agostoni, "Médicos Rurales y Medicina Social en el México Posrevolutionario (1920-1940)," *Historia Mexicana,* 63, 2 (Oct-Dec 2013): 791. See also Claudia Agostoni, "Los viajes de higiene: el servicio médico social en el México rural durante los años treinta del siglo XX" in *Enfermedad, Epidemias, Higiene y Control Social: Nuevas Miradas desde América Latina y México*, eds., Miguel Ángel Cuenya and Rosalina Estrada Urroz (Puebla: Benemérita Universidad Autónoma de Puebla, 2013), 315-332. See also Luis González, *Historia de la Revolución Mexicana, 1934–1940: Los días del president Cárdenas* (Mexico: El Colegio de México, 1981), 275-84 for a discussion of the SMS in the broader context of Cardenismo's health politics.
[17] Gabriela Soto Laveaga, "Bringing the Revolution to Medical Schools: Social Service and a Rural Health Emphasis in 1930s Mexico," *Estudios Mexicanos* 29, no. 2 (Summer 2013): 400.
[18] See Gabriela Soto Laveaga. "Seeing the Countryside through medical eyes: social service reports in the making of a sickly nation," *Endeavour* 37, 1 (2013): 34-41 and Soto Laveaga, "Medicalizing the Borders of an Expanding State," in *Globalizing Borderlands Studies Europe and North America,* eds. John W.I. Lee and Michael North, 545-573. (Lincoln: University of Nebraska Press, 2016). The racial dimensions of the SMS are addressed in detail in Chapter Four.

historiography, however, studies of the SMS share at least one key perspective. Whether they view medical students as agents of an imperialistic biopowerful surveillance state, evangelizers of social justice, or functionaries of an increasingly-bureaucratized health system, scholars seem to take as *a priori* that the SMS was part of a powerful Cardenista project of modernization, institutionalization, and centralization.

Perhaps unsurprisingly, this framework for understanding health under Cardenismo and the SMS per se reflects a common historiographical thread that unites readings of Cardenismo more broadly.[19] Adherents of an orthodox approach have viewed Cardenismo as a continuation of the overall arc of Revolutionary Justice, not qualitatively different from the preceding and succeeding presidential *sexenios,* yet expanding upon and improving the Revolutionary regime.[20] What I refer to as "venerationist" approaches viewed Cardenismo as a rupture in the course the Revolution had taken to that point, a clear break from conservative Sonoran administrations that won big benefits for "the people," even if that moment was stabbed in the back by forces of reaction.[21] The current of revisionism that swept Mexican historiography in the 1970s and 1980s

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[19] Often the multitude of policies and ideologies—some of which existed in conflict, some of which changed over that six-year period—are simplified into the term *Cardenismo*, much in the way that Americans describe the dynamic equilibrium of social conservatives, neocons, and fiscal hawks over an eight-year period as Reaganism. For our purposes, I use Cardenismo to refer to the set of policies pursued by the Cárdenas Administration, with the acknowledgement that Cardenismo was the product of complex internal and external debates.

[20] See Thomas Benjamin, *La Revolución: Mexico's Great Revolution as Memory, Myth & History* (Austin: University of Texas, 2000). This argument goes that Cárdenas' contributions to the Mexican state were not qualitatively different from the agenda advocated during the *Maximato*, or during the administrations of Calles, Alvaro Obregón, or Venustiano Carranza. Disparate Revolutionary groups were unified by myth to heal festering divisions within the nation; ideological figures who had had outright hostility in "real life"—Emiliano Zapata, Pancho Villa, Venustiano Carranza, for example—or whose ideological conformations and policy agendas jostled each other uncomfortably when looking too closely—say, Cárdenas, Calles, and Ávila Camacho, for instance, were all inspired toward the same Revolutionary telos (73-5). Several American analysts of the Revolution advanced a similar argument, admiring the economic development and stability of the post-Revolutionary state, particular in a Cold War context. See Frank Tannenbaum, *Peace by Revolution* (New York: Columbia University Press, 1966) and Frank Brandenburg, *The Making of Modern Mexico* (Englewood Cliffs, NJ: Prentice-Hall, 1964). See Arthur Schmidt, "Making it Real Compared to What?" in *Fragments of a Golden Age,* Gilbert Joseph, Eric Zolov, Anne Rubenstein, eds. (Durham, NC: Duke University Press, 2001).

[21] According to this view, Cárdenas' predecessors did their utmost to transform Mexico into their native state of Sonora: capitalistic, consisting of small, commercial farmers with some latifundios, supported by Federal irrigation infrastructure. In place of this, Cárdenas empowered "the people," granting them land, representation in labor

argued that it was Cárdenas who had *set the stage* for the decades of rule by the *Partido Revolucionario Institucional* (PRI), by his wide-ranging, insidious cooptation of the will of the masses to support international capitalism and the preservation of power for the Revolutionary Party.[22] While on their face, these metanarratives are worlds apart, the presupposition of the hegemonic power of Cardenista government to make changes for the people, whether for their benefit or to advance the State's power, is common to all of them.

Framing Cardenismo in this way, however, neglects to recognize perspectives that have argued for the relative *debility* of the Cardenista State. In her 1982 book, *The Limits of State Autonomy,* Nora Hamilton emphasizes that Cardenismo's impressive progressive policy victories—agrarian reform, oil nationalization, labor patronage—were arrested by the end of the *sexenio* and reversed in subsequent Administrations. Using a Marxist perspective, she argued that, despite the development of a "progressive alliance" that did represent a move toward an "autonomous state above all classes," Cardenismo's patronage of and dependence on a capitalist class and international system of capitalism its early days sowed the seeds of its own debility. As time went on, Cardenismo's scope of action came to be limited to either coopting or

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organizations, teaching them, and giving them health. Adolfo Gilly, *Cardenismo: una utopia Mexicana* (Mexico City: Cal y Arena, 1994.) contended that based upon the clear language of Cardenistas of various sorts, and, of course, the actions of the Administration—the "leading Cardenista group and its ideologists…did believe that the world was heading toward socialism by means of national revolutions...and that the Mexican Revolution formed part of that universal process" (322). Anatoli Shulgosky, *Mexico en la encrucijada de su historia*. (Mexico City: El Caballito, 1981) argued that during the Cárdenas years, Mexico was able, "despite strong pressures of imperialism and internal counterrevolution," to harness the spirit of the working masses to "sustain national sovereignty with audacity" and "realize a policy of social reform with great energy," across many domains (16).

[22] For revisionists, land redistribution and labor reorganization were but part of a carefully manicured illusion obscuring a stealthy, cooptative clientelism. For them, Cardenista massification was simply an opiate for the masses, a rhetorical strategy meant to lull the people into a false sense that the State was responsive to their needs, when in fact, it was creating the very apparatus that would limit popular democracy and indeed, engage in a massacre at Tlatelolco in 1968. Arnando Córdova, *La política de masas* (Mexico City: Ediciones Era, 1974) is emblematic of this revisionist view of Cardenismo: "Cárdenas was changing the State into a true leader of the masses…making their interests coincident with the interests of the State" (30). In so doing, Cárdenas was finally able to succeed where the First Chief of the Revolution, Carranza, had not in 1917: "the erection of the State as the true mortar for social conciliation, the Leviathan that ended up devouring the entire society" (180).

repressing newly-mobilized subordinate classes, as national and international capitalist interests had become influential in the apparatus of state.[23] In a 1994 essay, Alan Knight advanced a similar argument: while he argued that Cardenismo ought to be understood as "a genuinely radical movement"—based upon the extent and quality of Cárdenas' policy decisions during his *sexenio*—Knight cast doubt on the idea that Cardenismo represented a great social justice Juggernaut.[24] In fact, it was Cardenismo's earnest radicalism that led to the *weakness* of Federal authority, beset as it was by opponents and skeptics, both foreign and domestic. In the setting of resistance through the whole *sexenio*, but most pointedly in the wake of the 1938 oil expropriation, Knight suggested that Cardenismo had to "fudge, compromise, and retreat" on some signature issues. By 1940, Cardenismo's "practical accomplishments were limited," and its wins came open to cooptation or hollowing out by later, conservative administrations.[25] Pithily stated, Knight argued that "Cardenismo—as a vehicle for radical reform—was less powerful, less speedy, and less capable of following its proposed route across a hostile terrain than is often supposed; that, in other words, it was more jalopy than juggernaut."[26]

This debility narrative is a historiographical thread that any study of the SMS ought to contend with. Though neither Hamilton nor Knight mentioned medicine or health in any great detail in their accounts, their argument regarding the limited political range of the Cardenista State seems to be supported by empirical work exploring public health during the Cárdenas years.[27] Michelle Dion has written on the failure of the Cárdenas administration to deliver on the

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[23] Nora Hamilton, *The Limits of State Autonomy: Post-Revolutionary Mexico* (Princeton: Princeton University Press, 1982).
[24] Alan Knight, "Cardenismo: Juggernaut or Jalopy?", *Journal of Latin American Studies* 26, No. 1 (Feb., 1994): 79. See also Alan Knight, "The Rise and Fall of Cardenismo," in *Mexico Since Independence,* ed. Leslie Bethel (New York: Cambridge University Press, 1991).
[25] Ibid.
[26] Ibid.
[27] This argument appears consistent with the metanarrative favored by Ana María Carillo, in which oil expropriation in 1938 was the final progressive act before a more conservative "retreat" in the last two years of the Cárdenas

issue of Social Security in Mexico, despite publicly promising as much in both 1936 and 1937.[28] The oil expropriation, it seemed, expended political capital to such an extent that the program was put on hold. Historian of public health Anne-Emmanuel Birn has also written about the delicate political dance between the Mexican State—especially under Cárdenas—and the Rockefeller Foundation as they coordinated on rural health endeavors in the 1920s and 1930s. Frequently, due to the Rockefeller Foundation's squeamishness about Cárdenas' radicalism, theirs was a marriage not of love, trust, or respect, but of convenience.[29] Though Cardenistas may have wanted to expand ejidal clinics—with their wide, social-medicine oriented purview (what within public health circles may be referred to as a horizontal intervention)—rather than the Rockefeller Foundation's disease-centric clinics (a vertical intervention), these efforts were "curbed or abandoned" by 1940. In the broadest strokes, the SMS itself suggests a real institutional debility: Cardenistas depended upon a few hundred trainees in their early twenties who turned over every six months to make a dent in a social problem of massive scope. In this context, the SMS could hardly be described as a juggernaut, whether benevolent or malevolent.

In sum, despite the historiographical commitments of some scholars who suggest that the accomplishments of the Cárdenas *sexenio* in the domain of health—the SMS among them—were the result of a powerful, expanding, beneficent state, or the inevitable result of a singular diktat

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sexenio. I will note, however, that Carillo is a tad more credulous about the robustness of Cardenista radicalism. There is, I think, a distinction to be made between Carillo's defeat narrative and Knight's narrative, which casts Cardenismo as rather weak from the first. The two authors do agree on periodization, however, which sets the 1938 oil nationalization, rather than the formal transition of power from Cárdenas to Ávila Camacho in 1940. This periodization is now largely accepted within the literature.

[28] Michelle Dion, "The Origins of Social Security in Mexico during the Cárdenas and Ávila Camacho Administrations." *Mexican Studies/Estudios Mexicanos* 21, 1 (Winter 2005): 59-95.

[29] Anne-Emanuelle Birn, "A Revolution in Rural Health? The Struggle over Local Health Units in Mexico, 1928–1940." *Journal of the History of Medicine* 53 (January 1998): 43-76; Birn, *Marriage of Convenience* (Rochester, NY: University of Rochester Press, 2006). Birn does also mention the SMS in both of the above (see Birn, "A Revolution," 68-9; Birn, *Marriage,* 220-21). In both, suggests that the plan came initially from the work of a Rockefeller Foundation fellow, though her language in the monograph is a tad more circumspect about the direct causality. See Chapter Two for more on the origins of the SMS.

from a powerful *jefe máximo*, I contend that the reality is rather more complicated. If we are to fully understand the significance of the SMS, I believe we benefit from understanding it as a program established by the Cardenista State for an array of purposes, some of them beneficent, some cynical, but all of them designed to extend its political reach in the face of real limitations.

### *Emotional Cardenismo*

With this conceptual reframing, we have a few interpretive questions to attend to. How did the SMS fit into Cardenismo's larger political goals or ideas about politics? By what mechanism was that politics meant to proceed, given the real limitations in Cardenismo's power?

In broad conceptual strokes, I understand the development of the SMS by reference to the concepts of negotiation and hybridity, taking after scholars studying the social and cultural programs of post-Revolutionary Mexico over the past twenty years.[30] It seems reasonable to understand the political dynamics of the SMS as the product of careful negotiation between the State and the diverse governed, as against prevailing modes of analysis that have taken a more top-down perspective. A wide array of individuals and organizations were involved in creating the SMS and in defining its ultimate political significance, from the Secretary of the DSP to the medical student to the local healer to the willing—and sometimes unwilling—patients who

[30] Citing the Knight's jalopy thesis as an impetus, Mary Kay Vaughan, *Cultural Politics in Revolution* (Tucson: University of Arizona Press, 1997) cast the project of socialist education as a "slow, painstaking process that required accommodation and negotiation, as well as coercion," framed her analysis of around the very concept of negotiation, rather than as an imposition by an imperious Mexico City (8). Vaughan and Stephen Lewis, eds., *The Eagle and the Virgin* (Durham: Duke University Press, 2006) argued that Mexican popular culture between 1920 and 1940 was "multiple [and] polyphonic…a powerful force in the making of modern Mexico, a process of dynamic hybridity that transcended categories of assimilation and acculturation" (16). Gilbert Joseph, Anne Rubenstein, and Eric Zolov, eds., *Fragments of a Golden Age* (Durham: Duke University Press, 2001) contended that a shared concept of Mexican identity was formed and sustained through "reciprocal borrowings, expropriations, translations, misunderstandings, negotiations, and transformations" (15, 16). Negotiation has also been used effectively by Marcos Cueto and Stephen Palmer, *Medicine and Public Health* described a dynamic relationship between high and low medicines in Latin America, punctuated by "moments of tolerance with frustrated quests of hegemony and mutual rejection" that resulted in an "interconnected complex that was both conflictual and complementary" (6).

encountered this new form of care. In the process of this negotiation, both as the SMS was designed and as it played out on the ground, I argue that these actors wrestled with open political questions related to the provision of medicine. It was back-and-forth that defined the final form of the SMS, and thus, its significance to the various parties involved in the program.

It is one thing to invoke negotiation in a general theoretical sense to extend historiographical arguments about Cardenismo into the realm of health. It is another, however, to show the quotidian realities of negotiation for officials, doctors, students, and patients. Happily, the primary source literature provides some clues as to the mechanics of this negotiation. Over his *sexenio*, Mexican citizens sent letters to President Cárdenas. Sometimes these related to health. In one instance, the president of the ejidal commission in Palizadas, Campeche hoped that the President would intervene on his constituents' behalf:

> We are suffering a lot from malaria and tuberculosis and the doctor paid by the Government will not see us because he is very bourgeois. We need a humanitarian doctor who behaves differently, we beg you to send a doctor who is willing to fight for these poor and forgotten agrarian communities. [31]

This local official felt the President might understand that it was not merely enough to have access to a physician—to be clear, many communities did not even have that. To truly be taken care of, it was necessary for the ejidatarios to have physicians who had a deep, abiding commitment to addressing the suffering of their countrymen. He evidently felt that President Cárdenas was willing to lend an ear to support this form of bottom-up political action.

Even following Cárdenas' departure from office, and a more conservative tide had turned in Mexico, Mexicans retained these feelings toward the President and his form of massified politics. In 1943, during the Ávila Camacho Administration, Czech journalist Egon Erwin Kisch went out to visit communal farmers or *ejidatarios* at La Laguna, Chihuahua to see how they

[31] Cited in Birn, "A Revolution in Rural Health?", 72.

lived eight years after the large land redistribution. In addition to the challenges of dealing with the Ejidal Bank, low commodity prices and low wages attendant with Wartime, reference was made to the recently opened hospital in the city of Torreón. One man remarked "'Yes…the hospital is very nice. But even when somebody is sick, it's not so easy to get in there.'

> 'They don't admit all of the sick people from the ejido?'
>
> 'And if we went to the hospital, who would do the work?'"[32]

Kisch asked if it could be at all possible that the community members were actually better off before Cárdenas' massive land redistribution. There was a "deep silence" that was like "a cry of protest." But one woman was quick to intervene:

> For the love of God, sir! How can you think such a thing? Our hospital alone makes us feel like people. Before, we could never call the doctor for want of money to pay him. My mother gave birth to me in an open field, out among the plants, and my husband died in the fields vomiting blood. Now, when we are sick, we have our hospital.[33]

The woman's enthusiastic defense of Cárdenas—despite limited concrete benefits afforded by the reforms—bespoke a non-materialist rationale for allegiance to the former President. She did not contest the experiences of her neighbors, who found the hospital to be a mere gesture, rather than a material boon to their level of health. For her, the existence of the hospital was symbolic of their personhood. It gave them dignity, because it meant that they could be cared for, rather than suffering and dying amidst their harvest.

These sources suggest that many Mexicans *felt* close to Cárdenas. They felt he cared about them, about their lives, about their fears and their suffering, about their aspirations and their hopes. As Knight has written, "the 1930s were emphatically not an era of bland populism"; rather, the era's politics were colored by "powerful subjective factors—which, with the perverse

[32] Cited in Gilbert Joseph and Timothy Henderson, eds., *The Mexico Reader* (Durham: Duke, University Press, 2002), 448.
[33] Ibid., 449.

benefit of hindsight, are sometimes overlooked or underestimated."[34] It was not merely the fact of Cárdenas' redistribution of lands in the form of ejidos, nor his reorganization of organized labor, nor the establishment of the SMS, per se, which wedded Mexicans to his administration. It was the valence of the way he did these things, the *tone* by which he pursued his policy agenda, that led people to feel a connection to the President:

> the charismatic appeal of the dour, honest, clean-living, frugal, horse-riding, tree-loving, patriotic president; one who travelled the country incessantly, reaching 'well-nigh inaccessible' places, where no president (often no state governor) had previously gone; who hunkered down to talk to peasants in the dusty plazas of remote *pueblos*.[35]

Feeling structured the contours of Cardenismo's negotiated mass politics; Mexicans felt their politics, as much as, if not more than, they thought about them.

Though other scholars have gestured toward it briefly, feeling has—to date—never figured strongly in any accounts of Cardenismo, of the post-Revolutionary Mexican state, or indeed, of the SMS. Opportunities to discuss feeling per se have often subsumed within rationalist arguments about the institutional terms of social and educational reform. For example, Soto Laveaga has written that "some in Cárdenas' administration hoped…for more than an academic shift; they hoped to transform how medical practitioners *felt* about the rural and sickly poor."[36] Rather than engaging with the emotional experiences of pasantes, however, they have focused predominantly on the actions of Mexico City health officials in planning curriculum and altering ideology, leaving this tantalizing concept to be elucidated further. To be sure, institutional and emotional changes are related, but without using an analytic oriented toward observing emotional change, scholars miss one critical element of cultural politics in action, as it were.

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[34] Knight, "Juggernaut or Jalopy," 90.
[35] Ibid.
[36] Soto Laveaga, "Bringing the Revolution," 426.

If we are to better understand how the Cardenista State—with its limited autonomy—enacted its politics, I think it useful to take seriously feeling as a political tool. We can describe an "emotional Cardenismo," if you will, as the medium within which all other Cardenismos that Knight describes—the material, the clientelistic, the situational and self-aggrandizing—were able to crystalize. Emotional Cardenismo had the power to transform land reform from a cynical power grab to a beneficent gift, a distant hospital from a joke to a symbol of care. It also, as I will argue in this dissertation, established the conditions necessary for the crystallization of the SMS: the motivations for its establishment; its curricular ends; the process of negotiation between different Federal offices, the UNAM, and students; and the practicalities of day-to-day life for pasantes. It was the emotional dimensions of the SMS, rather than merely its materialist or policy contributions, which created the conditions of subordination and empowerment by which the Cardenista State formed ties with its constituencies, as historian of the emotions Joanna Bourke would have it.[37] The SMS is thus an ideal case study to show how feeling structured the daily realities of Cardenismo's massified, negotiated politics.

***Political sensibilities***

In an early presentation of this work, one of my peers commented that it was well and good that I explore the emotional dimensions of sources such as speeches, medical student theses, and public health documents, but that I was ultimately missing the point. "Everything students say is influenced by broader political expectations, so what does it really show us when you highlight *the way* they say it? Students were eager to prove their Revolutionary bona fides to their examiners, using their emotions in a cynical, instrumental way. You would be better off

[37] Joanna Bourke, "Fear and Anxiety: Writing about Emotion in Modern History," *History Workshop Journal* 55 (Spring, 2003): 125.

just getting to the politics of health right away and ignoring their performances." My colleague's critique is a legitimate one—indeed, a common one—and demands a good-faith answer:

First, some very basic ground-setting. Both "emotion" and "affect" have a great deal of scholastic baggage, and debates are ongoing surrounding the analytic implications of the "affective turn." In particular, these center on whether feelings are prior to, and thus to some degree independent from, lived experience—broadly, the view of those who prefer "affect"—or whether feelings are constructed, and thus, subject to social, cultural, political, historical forces—the opinion of those who prefer "emotions."[38] Perhaps unsurprisingly, historians prefer the latter concept.[39] In this dissertation, I generally use "emotions" and "the emotional" in a similar manner to these scholars, to demonstrate that feelings were not somehow *a priori* or innate, but rather the product of careful cultivation, consideration, and not-infrequent dispute. I do want to make clear that in making recourse to the concept of "emotion," however, I do not always mean that these actors were describing discrete, specific, fully-formed emotional states such as "fear," "anger," "disgust," or in a more complex manner, something like "gratitude" or "care." To shoehorn behaviors and expressions into specific emotional states would be reductionistic; instead, we can refer to "the emotional" or "emotions" as being a general category referring to "the stuff of feeling," as opposed to "the stuff of thinking."

[38] For a seminal work of affect theory, see Brian Massumi, "The Autonomy of Affect," *Cultural Critique* 31 (Autumn, 1995): 84. Ruth Leys, "The Turn to Affect: A Critique," *Critical Inquiry*, Vol. 37, No. 3 (Spring 2011): 444-452 offers a comprehensive critique of affect theory. Leys contends that affect theorists either implicitly or explicitly argue that affect and thought are fundamentally disconnected, with implications about social/historical change. The literature is extensive—beyond the scope of this dissertation.

[39] For conceptual work, see Barbara Rosenwein "Worrying about Emotions in History," *American Historical Review* 107, 3 (2002): 821-45; Barbara Rosenwein, "Problems and Methods in the History of Emotions" *Passions in Context* I (1/2010): 1-32; Jan Plamper, William Reddy, Barbara Rosenwein, and Peter Stearns, "The History of the Emotions: An Interview with William Reddy, Barbara Rosenwein, and Peter Stearns, *History and Theory* 49, 2 (May 2010): 237-265.

Now, as to my peer's critique, I suggest that it reinforces unhelpful views regarding the emotions. Essentially, the idea that feeling represents a colorful side-show to the "real work" going on in the intellectual or ideological world of politics suggests not only a separation between the feeling and thinking, but a hierarchy in which feelings matter less to the ultimate flow of history than what have been seen as the fruits of intellectual labor—say, organizing a general strike, voting in an election, or drafting a manifesto. The implication is that expressions of feeling are too biased, too particular to explain anything about modern political life. Individual emotional states are somehow unduly influenced by propaganda or subject to the vicissitudes of personal life—read "irrational"—and so can't tell us much about the "real" exercise of power.

The denigration of the emotional has deep historiographical roots. Ironically, its origins are often traced to a 1941 article by *Annalist* Lucien Febvre that advocated for the *greater* engagement with emotional life by the historical field. Febvre cast the "long-drawn out drama" of history as the dominant process by which the emotions are gradually suppressed by intellectual life leading to superior social cohesion, "civilization," and "modernity," with occasional rear-guard "resurgences and resurrections" of labile emotionality, leading to periodic emotional dark ages.[40] According to some historians, "premodern" cultures—often earlier than the eighteenth-century in the North Atlantic, and later in the Global South[41]—were "hotter" than we moderns are, prone to fits of lust and violence. It was the cool heads of the Enlightenment who liberated us from this primitive emotionality. Following after Febvre's telos, seminal

[40] Lucien Febvre, "Sensibility and history: how to reconstitute the emotional life of the past," in *A New Kind of History and Other Essays,* ed. Peter Burke (New York: Harper Torchbooks, 1973), 26.
[41] On "hot" cultures of the Global South, Edward Muir, *Mad Blood Stirring: Vendetta and Factions in Friuli during the Renaissance* (Baltimore: Johns Hopkins University Press, 1993); Thomas Gallant, "Honor Masculinity and Ritual Knife Fighting in Nineteenth-Century Greece," *AHR* 105, no. 2 (April 2000): 359–382.

studies on childhood and the family advanced the argument that the kind, gentle domestic institutions that we now hold so dear are products of modernity and reason, and suppressed humankind's violent, lustful urges.[42] This may be a slight exaggeration of the narrative, but it is not a qualitatively inaccurate summary: fundamentally, the argument here is that "Civilization" (and attendant "Reason," "Modernity," etc.) reins in emotion for the betterment of mankind.

Acceptance of the telos that suggests that civilized life—politics included—is governed by reason has the potential to overstate the power of ideology in determining political allegiance, behavior, etc. The flip side critique is also true: adoption of a Grand Narrative forecloses the possibility that feeling structures political life more than rationalists might like to acknowledge. Rather than going down that conceptual cul-de-sac with its various perils, I suggest following an alternative manner to understand the politics of the SMS: engaging revisionist work in the history of the emotions. Historians have persuasively shown that feeling is *essential* in defining the power relations between the State and the governed. They have argued this across an array of temporal and geographic settings—from Medieval Europe, to the Revolutionary United States and France, to post-WWII United States and Britain.[43] Scholars working in Latin American contexts in particular have effectively traced the role of feeling in the production of political communities in the region, from the colonial period into the twentieth century. They have done

[42] See, for example, Edwin Shorter, *The Making of the Modern Family* (New York: Basic Books, 1975) and Lawrence Stone, *The Family, Sex, and Marriage in England, 1500-1800*, *New Society* 8 (1977): 499-501; Joan Wallach Scott, "History of the Family as an Affective Unit," *Social History* 4 (1979): 509-16; J. H. Plumb, "The New World of Children in Eighteenth- Century England," *Past and Present* 67 (1975): 64-95.

[43] Keith Wailoo, *Pain: A Political History* (Baltimore: Johns Hopkins University Press, 2014) has argued that pain touches "intimately on the problem of how the people of the country [are] bound together," and the question of who suffers—"whose pain matters and occupies center stage"—is paramount (8; 203). Joanna Bourke ["Fear and Anxiety"] has argued, "without emotional exchange, no extent of shared characteristics will create either the group (such as class) or social action (such as class conflict)" (125). For empirical work, see Barbara Rosenwein, *Emotional Communities in the Early Middle Ages* (Ithaca, NY: Cornell University Press, 2006) and Nicole Eustace, *Passion is the Gale* (Chapel Hill, NC: UNC Press, 2008); Joanna Bourke, *Fear: A Cultural History* (New York: Shoemaker and Hoard, 2006).

this in ways that recognize the particularities of Latin American political dynamics, resisting a historiographical Grand Narrative in which the disciplining of the emotions—and the concomitant rationalization of politics—came as a bequest of metropolitan powers. For them, feeling has been constitutive of Latin America's political communities, and thus a critical component of how Latin American politics have been enacted. [44] Across contexts, historians have argued that feeling—pain and suffering, compassion and healing—structures our politics.

Revisionists have not only persuasively argued that the emotions matter to politics, but they have also offered a compelling framework by which that process proceeds. In particular, William Reddy's *The Navigation of Feeling* offers a robust apparatus with which to understand the political dynamics of emotional change.[45] For Reddy, political communities—whether as part of State politics, or as part of social subgroup such as a family, a religion, or a profession—have associated "emotional regimes." These emotional regimes establish a "normative order for emotions," which align and bind citizens together, and channel their feelings in a way that advances the political goals of the regime.[46] Different regimes have different amounts of emotional liberty. Strict regimes demand total adherence to one regime, and do not tolerate

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[44] Bianca Premo, "Familiar: Thinking beyond Lineage and across Race in Spanish Atlantic Family History," *The William and Mary Quarterly* 70, 2 (2013): 295–316. https://doi.org/10.5309/willmaryquar.70.2.0295; Javier Villa-Flores and Sonya Lipsett-Rivera, eds., *Emotions and Daily Life in Colonial Mexico* (Albuquerque: University of New Mexico Press, 2014). See also Jacqueline Holler, "The History of Emotions in Colonial Latin America." *Oxford Research Encyclopedia of Latin American History.* 23 May 2019. Accessed 30 Nov. 2021. https://oxfordre.com/latinamericanhistory/view/10.1093/acrefore/9780199366439.001.0001/acrefore-9780199366439-e-533. For more modern examples, see, for example, chapters in Matthew Karush and Oscar Chamosa, eds., *The New Cultural History of Peronism* (Durham: Duke University Press, 2010), and Julia Fierman, "Peronism Is a Sentiment: Affect and Ideology in Argentine Populism" in *Social and Political Transitions During the Left Turn in Latin America*, eds. Karen Silva-Torres, Carolina Rozo-Higuera, Daniel S. Leon (New York: Routledge, 2021). For a broad review on the contemporary sociological literature on the role played by feeling in Latin American society, see Marina Ariza, "The Sociology of Emotions in Latin America," *Annu. Rev. Sociol*. 47 (2021): 157–75.

[45] William Reddy, *The Navigation of Feeling: A Framework for the History of Emotions* (Cambridge: Cambridge University Press, 2001). Within his extended philosophical discussion, Reddy was evidently most preoccupied with the lack of a stable analytic background in many historical and anthropological studies of the emotions. For Reddy, both the social-constructivist anthropological accounts and the Grand Narrative have meant that historians do not particularly care to attend to the "reality of the emotions." This animates the first par of *The Navigation of Feeling.*

[46] Ibid., 121.

emotional deviance, at the cost of great individual emotional suffering for citizens. Loose regimes are willing to tolerate a greater degree of diversity of emotional expression, serving "as an umbrella for a variety of emotional styles," at the cost of potential subgroups forming.[47] Eventually, the loose regime must respond to these subgroups, because they often "threaten to reshape the existing regime in their own image," serving as foci for political opposition.[48] The broader question is how citizens are to respond to these currents, faced as they are with a potentially wide array of possible emotional regimes with which to engage. That is Reddy's titular concept of emotional navigation, in which citizens, by means of their emotional expressions or "emotives," chart a course across choppy emotional waters. In so doing, citizens establish themselves in the context of other citizens, subgroups, and the State, by their contestation and transformation of the various emotional regimes with which they interact.

If we neglect the ways in which the State and its citizens negotiate the terms of emotional engagement, we stand to miss a critical component of how political power operates. Returning to my initial detractor, then, I would respond that the full richness of the *negotiation* common to histories of post-Revolutionary Mexico cannot be appreciated without a recognition of the emotional *navigation* of various actors whose actions were borne not necessarily of thinking, but of feeling. It is a useful framework to support our exploration of how the SMS subtly reinforced the deep structures of Cardenismo's negotiated, massified politics, as it led pasantes to link ideas about modernization, hygienization, eugenics, and capitalism within an emotional matrix of compassionate care. This is a fertile conceptual area that may help explain Cardenismo's robust legacy within the popular imagination, even as particularly celebrated policies were arrested, "hollowed out" in Knight's argot, and/or reversed even before Cárdenas left the Presidency.

[47] Ibid., 125-6.
[48] Ibid.

As the pasantes awaited their departure from the Mexico City in August 1936, listening to Gustavo Baz' speech at the Club France, the Dean's remarks presented an emotional challenge. The pasantes were certainly confronting the difficult cognitive work of addressing the various maladies of their patients. They were also confronted with particularly turbulent emotional waters to navigate. Emotional displays—not only the ways in which medical students spoke to their professors or patients, but also the way they wrote about their experiences in their receptional theses—became emblematic of the ways they decided to navigate the emotional and thus political debates that they had been inducted into. They did this both as young Mexican citizens under President Cárdenas, and as fledgling members of a powerful social subgroup in Mexican society: Medicine, the Cardenista State's often-unwilling, though not-dissimilar, rival.

***Medicine's feelings***

Power has traditionally made up the deep structure of Medicine's *bildungsroman*: from humble origins, the profession strived for, and achieved, stability and social influence. Paul Starr, sociologist and author of *The Social Transformation of American Medicine,* has described the plot of this narrative pithily: "the rise of medicine…represents one of the more striking instances of collective mobility in recent history," where a disparate group of healers of relatively modest social station in the early modern period came to form a particularly influential social body by the end of the nineteenth century.[49] In the post-War period, revisionist historians of medicine problematized the hagiographic and "heroic" histories of Medicine written by physicians of the nineteenth and early-twentieth centuries. They worked to explain in a more

[49] Paul Starr, *The Social Transformation of American Medicine* (New York: Basic Books, 1982), 79.

nuanced, less teleological manner how, over the course of about a century, Medicine amassed a vast amount of "its particular source of wealth and status—its authority."[50]

The historiography of Medicine has traditionally operated with certain *a prioris* regarding the constitution of the profession's power and social influence. For many, it has been attributed to Medicine's embrace of a standardized, scientific rationalism. Prior to the "disappearance of the sick man" from medical knowledge-making by the end of the early modern period,[51] the doctor/patient relationship was best characterized as "horizontal," "a contractual relationship between persons of equal status."[52] Doctors were but one healing authority of many that sufferers could turn to when concerned about their health, given the "self-diagnosing, self-help" medical culture that existed among any sort that could afford the nostrums, elixirs, and snake-oils hawked on street-corners in London or Paris.[53] With the advent of newer, more empirical and scientific clinical paradigms in the late-eighteenth and nineteenth centuries—such as those emerging from the French medical tradition, for example—doctors began to distinguish themselves "from the vulgar 'empirick' by means of micromechanistic physiology."[54] Innovations in surgical care (such as anesthesia and antiseptic technique), pathological

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[50] Ibid.
[51] Norman Jewson, "Disappearance of the sick man from medical cosmology 1770-1870," *Sociology* 10 (1976): 225-244.
[52] Gianna Pomata, *Contracting a Cure: Patients, Healers, and the Law in Early Modern Bologna* (Baltimore: Johns Hopkins University Press, 1998), 127.
[53] Roy Porter, *Disease, Medicine and Society in England, 1550-1860* (Cambridge: Cambridge University Press, 1995), 42. Studies by Porter, *The Greatest Benefit to Mankind: A Medical History of Humanity from Antiquity to the Present* (New York: Norton, 1999); Roy Porter and Dorothy Porter, *Patient's Progress*: *Doctors and Doctoring in Eighteenth-Century England* (Palo Alto: Stanford University Press, 1989) and Lucinda McCray Beier, *Sufferers and Healers: The Experience of Illness in Seventeenth- Century England* (London: Routledge, 1987) offer rich descriptions of the kaleidoscopic array of medical options open to early modern consumers.
[54] Steve Shapin, "Trusting George Cheyne: Scientific Expertise, Common Sense, and Moral Authority in Early Eighteenth-Century Dietetic Medicine" *Bulletin of the History of Medicine* 77, 2 (Summer 2003): 270. See both Michel Foucault, *Birth of the Clinic* (London: Routledge, 2003) and Edwin Ackerknecht, *Medicine at the Paris Hospital* (Baltimore: Johns Hopkins, 1967) for two perspectives on the clinical changes undertaken in Paris at the turn of the nineteenth century. See Mary Fissell, *Patients, Power and the Poor in Eighteenth□Century Bristol* (Cambridge: Cambridge University Press, 1991). Her work emphasizes the social stakes associated with making Georgian bodies. The gradual denigration of vernacular medicine elevated physicians and marked poor bodies, "denying the poor ownership of themselves" (15).

knowledge, hygienic interventions borne of germ theory, and radiology yielded good outcomes for patients.[55] These innovations were amplified by the establishment of new institutions. The emergence of the modern hospital and of medical laboratories allowed Medicine's successes to be centralized and operationalized as part of this "Therapeutic Revolution."[56] International professional societies gave physicians a space to share scientific knowledge as well as standardize and spread best practices; and aspiring physicians regularly travelled internationally to acquire clinical and laboratory experience. Commentators continued to observe the power of Medicine's rationalization into the twentieth century, with the advent of the "Golden Age" of Medicine, so-called for the broad confidence that patients had in the profession's putative "magic bullets," symbolic of the benefits of Medicine's scientific ways of knowing.[57] Even those critical of Medicine's "gifts" have not challenged the idea that the profession's power has depended upon its scientific and clinical knowledge, describing Medicine as eager to use its reason to make people sick, or less insidiously, to wield the judgmental power that the Church once did over human conduct, to justify its continued existence.[58]

Histories of medical education in nineteenth-century Europe and the United States also illustrate the influence of this historiographical current. The training of medical students has been seen as essential to the "restoration of professional control," as Starr had it, against

[55] See relevant sections in Porter, *Greatest Benefit to Mankind*; W.F. Bynum, *Science and the Practice of Medicine in the Nineteenth Century* (Cambridge: Cambridge University Press, 2006) for changes in Medicine during the era. Chapters in *Medicine in the Twentieth Century,* Roger Cooter and John Pickstone, eds. (London: Routledge, 2015) explore social, cultural, political, and technological changes in the "Golden Age of Medicine."
[56] Morris Vogel and Charles Rosenberg, *The Therapeutic Revolution: Essays in the Social History of American Medicine* (Philadelphia: University of Pennsylvania Press, 1979).
[57] Allan Brandt and Martha Gardner, "The Golden Age of Medicine," in *Medicine in the Twentieth Century*, 21-35.
[58] See for example, Ivan Illich, *Medical Nemesis: The Expropriation of Health* (New York: Pantheon Books, 1976) or, to a lesser degree, I.K. Zola, "Medicine as an institution of social control." *Sociological Review* 20 (1972): 487-504. For a more contemporary response, which challenges this monolithic paradigm, see Nikolas Rose, "Beyond medicalization," *The Lancet* 369, 9562 (2007): 700-702.

competing systems of providing care.[59] The implication of this scholarship is that "modern" or "reformed" medical education has required students to be molded within carefully controlled environments, monitored by professors and administrators.[60] Medical education has thus often been understood as inextricably linked to the increasingly influential array of standardized institutional spaces established in the nineteenth century such as "the Clinic," "the Hospital," and "the Laboratory." By carefully molding students' cognition, transforming them from private citizens into professionals, Medicine has guaranteed both the quality of its product and its continued cultural authority and thus, its independence.

While the general historiography of medical professionalization has drawn principally on European and American contexts, similar narratives regarding the rationalization of Medicine in Latin America have been advanced in subspecialty literature in studies by Claudia Agostoni, Ana María Carillo, Luz Maria Hernández Sáenz, Marcos Cueto, Stephen Palmer and others.[61] Over

[59] Starr, *Social Transformation.* This narrative informs the sociological import of medical education, casting it thus as a top-down, "disciplining" endeavor by which the profession both regulates the quality of its product and reinforces its disciplinary boundaries as against other, competing healing fields. More recently, Mary Jo Delvecchio Good, *American Medicine: The Quest for Competence* (Berkeley: University of California Press, 1995).

[60] As well-reviewed in Susan Lawrence, "Medical Education" in *Companion Encyclopedia of the History of Medicine,* Vol. II, eds. R. Porter and W. Bynum (London: Routledge, 1997), 1151-78. Martin Kaufman, *American Medical Education: The Formative Years, 1765-1910* (Westport, CT: Greenwood Press, 1976) is one particularly clear example of this sort of narrative: the book's chapter proceed from "The Heroic Age" through "The Situation Deteriorates Further," to "The Reformers Gain Allies," and ending with "Flexner Report and its Aftermath." C.D. O'Malley, ed., *The History of Medical Education* (Los Angeles: UCLA Press, 1970) offers essays on different temporal and international contexts. For US contexts, this critical period is commonly considered a post-Civil War trend, present in its final form by the 1910 Flexner Report. See, for example, Shauna Devine, *Learning from the Wounded* (Chapel Hill: University of North Carolina Press, 2014) and John Harley Warner, *Against the Spirit of the System* (Princeton: Princeton University Press, 1998). See also Kenneth Ludmerer, *Learning to Heal* (New York: Basic Books, 1985) and Ludmerer, *Time to Heal* (Oxford: Oxford University Press, 1999).

[61] Claudia Agostoni, "Médicos científicos y médicos ilícitos en la ciudad de México durante el Porfiriato," *Estudios de historia contemporánea y moderna de México* 19, 19 (2000): 13-31; Ana María Carillo, "Profesiones Sanitarias y Lucha de Poderes en el México del Siglo XIX," *Asclepio* 50, 2 (1998): 149-168; Steven Palmer, *From Popular Medicine to Medical Populism: Doctors, Healers, and Public Power in Costa Rica, 1800–1940* (Durham, NC: Duke University Press, 2003), 17–66; Ann Zulawski, *Unequal Cures: Public Health and Political Change in Bolivia, 1900–1950* (Durham, NC: Duke University Press, 2007), 25–36; and David Sowell, *The Tale of Healer Miguel Perdomo Neira: Medicine, Ideologies, and Power in the Nineteenth-Century Andes* (Wilmington, DE: SR Books, 2001), 25–31. See chapters in Diego Armus, ed., *Avatares de la medicalización en América Latina 1870-1970* (Buenos Aires: Lugar Editorial, 2005).

the nineteenth century, medical doctors lobbied crystalizing governments to permit them to use their scientific acumen to gather data on populations and to regulate hygiene. States were eager to oblige, as medical professionalization went hand and glove with nations' eager pursuit of a positivistic, scientistic agenda of "order and progress." As States acquired greater political authority by means of centralization, they interceded on behalf of medical doctors against the broad array of empiric healers who characterized the syncretism of the colonial era. In cities like São Paulo, Buenos Aires, and Mexico City at the end of the nineteenth century, the ground was set for "cohering medical elites," as doctors joined each other in professional societies and the regularization of medical education.[62] Cosmopolitan physicians also participated in regional and international professionals and meetings, lending credence to the historiographical narrative of a transnational process of medical professionalization with broadly conserved mechanics.

In sum, revisionists have persuasively argued that the development of Medicine's authority has rested in part upon rationalization, standardization, and the embrace of science. In our contemporary lives, there are myriad examples to support the idea that Medicine wields authority as a product of its rationality: physicians enjoy special social, cultural, intellectual, and economic status based upon their knowledge of the body; health care is a mammoth industry and a major concern of States; facets of our daily lives are medicalized; medical education is expensive, exclusive, and prestigious. While physicians do enjoy a large amount of cultural authority, it is important to emphasize that Medicine does not have *carte blanche* to pursue its desired ends. In this dissertation, I hope to complicate the historiography in two related ways:

[62] In terms of Latin American approaches to medical education, see, for example, Julyan Peard, *Race, Place, and Medicine: The Idea of the Tropics in Nineteenth-Century Brazilian Medicine* (Durham, NC: Duke University Press, 2000) and Steven Palmer, *From Popular Medicine to Medical Populism*. Analyses of Latin American medical schools and medical education per se seem, in general, to be relatively underrepresented. There are exceptions in the Mexican case: Luz María Hernández Sáenz, *Carving a Niche: The Medical Profession in Mexico, 1800-1870* (Montreal: McGill-Queen's University Press, 2018) is a notable exception, in addition to Cueto and Palmer, *Medicine and Public Health,* "Chapter 2: National Medicines and Sanitarian States" and works addressing the SMS.

one, by emphasizing Medicine's vulnerability and two, by understanding Medicine's authority not by recourse to its embrace of reason, but rather its navigation of feeling.

In a similar way that I understand Cardenismo, I understand Medicine to be a polity with limited autonomy. Physicians across time have often had to contend with contestation, competition, and limitations to their scope of autonomous action. "Conflict itself," as Starr wrote, "is one of the legacies of the development of health care," and he has made a clear distinction between the social authority that Medicine lacks—a more robust, coercive power that the State, in general, possesses—and the cultural authority that it does possess—a relatively constrained one.[63] Given real limitations in Medicine's autonomy and authority—coercive public health powers belong to the State; physicians wrestle with insurance structures, health systems, licensing requirements, and hospital guidelines; patients make recourse to alternative diagnostic and therapeutic regimes; etc.—the profession struggles to preserve as much of its independence as it can. It deploys strategies as part of a process of what could be referred to as dynamic professionalization to parry assaults on its independence, as context dictates: pitched resistance, ambush, strategic retreat, Trojan horses to better respond to demands from the State, etc. Many of Medicine's professional structures thus serve "as a basis of solidarity for resisting forces that threaten" the profession's "social and political position."[64]

In this way, Cardenismo and Medicine are interesting analytical doppelgängers. I argue that a critical component of what creates, sustains, and structures Medicine's authority, independence, and identity in the face of real constraint is feeling. Scholars like Starr and sociologists of the professions have granted explanatory power to the influence of feeling on normative behavior within the profession, and on the dependence that patients have on

[63] Starr, *Social Transformation*, 493.
[64] Ibid., 27.

Medicine.[65] I hope to harness and historicize that analytical impulse, as against trends within the historiography that have tended to subsume explanations of Medicine's authority under intellectual, economic, political, and social considerations.[66] Using the SMS as a case study, we may expand our understanding of how feeling sits at the heart of Medicine's politics, serving as an essential scaffold for both professional identity and practice, and changing over time in response to an array of complex interactions between politicians, bureaucrats, educators, physicians, and the diverse body of patients. As can perhaps be appreciated, Reddy's "emotional regimes" will be useful in this effort. During the SMS, the local encounters between patients and pasantes contributed bit by bit to constructing the dynamic boundary between Cardenista Society and Medicine, not merely by crystalizing the political dimensions of the doctor/patient relationship in ways congruent with Cardenista priorities, but also by expanding the authority of

[65] There is an extensive corpus of medical sociology that I cannot fully engage with here. It is worth noting, that virtually its first and one of its most prominent texts, Talcott Parsons, *The Social System* (London: Routledge, 1991), originally published in 1951, devoted an entire chapter to elucidating the contours of the doctor/patient relationship. In it, he highlighted an important *emotional* component that undergirded the social role of the physician. In Parson's functionalist view, doctors were expected to perform their role with "affective neutrality…to treat an objective problem in objective, scientifically justifiable terms." Given his "collective-orientation" and the intimate nature of his work, however, a doctor must inevitably manage the "'penumbra' of emotional reactions of patients and their families," as well as "his own emotional reactions to such things as severe suffering and imminence of death" (435). Starr, *Social Transformation*, an influential book, cited Parsons' work, arguing that Medicine's sustained independence has had "both material and psychological dimensions" (25), dependent upon the ability of professionals "to judge the experience and needs of clients," including and encompassing the satisfaction of their "emotional needs" (15). Clearly, medical sociology has developed a great deal since 1951, but the fact that emotional considerations were central in that seminal work established them as part of the field space.

[66] This narrative is also a la Foucault's *Birth of the Clinic*, in which a cognitive change begat an interpersonal one. John Harley Warner, too, has a forthcoming book that explores the historical changes in American medical records from the end of the nineteenth into the early twentieth centuries. He is still wrestling with exactly the nature of this change, but I contend that emotion may provide a useful analytical apparatus. See John Harley Warner, "Narrative at the Bedside," *Youtube*, October 21, 2021, https://youtu.be/E-D3gdVVu_A. There are certainly a few exceptions that see a central role for feeling in medical practice and professionalization: for an early example, see George Rosen, "People, Disease, and Emotion: Some Newer Problems for Research in Medical History," *Bulletin of the History of Medicine* 41, 1 (1967): 5-23, who bases his commentary on emotions on Febvre's contributions. More recently, see Fay Bound Alberti, "Bodies, Hearts, and Minds: Why Emotions Matter to Historians of Science and Medicine." *Isis* 100, no. 4 (2009): 798–810; Michael Brown, "Surgery and Emotion: The Era Before Anaesthesia," in *Handbook of the History of Surgery*, ed. Thomas Schlich (London: Palgrave Macmillan, 2017), 327–48; and Agnes Arnold-Forster, "The Social and Emotional World of Twentieth-Century Anglo- American Surgery: The James IV Association of Surgeons," *Bulletin of the History of Medicine,* 96, 1 (Spring 2022): [pages pending].

and guaranteeing the independence of the profession in the face of real threats to its autonomous status and social and cultural position.

### *The Global, the Regional, and the Mexican*

In general, the historiography of Mexico has tended to advance—either explicitly or implicitly—a narrative of nationalistic exceptionalism. Indeed, the historiography of medicine in Mexico, including that which has treated the SMS, often seems to contend that medical innovations of the 1930s were uniquely or indelibly Mexican. This is likely borne of the perspectives of historical actors themselves to some degree: in the 1930s, Mexican physicians and bureaucrats did their utmost to present ideas such as the SMS as *sui generis* model for the social renovation or redemption of the profession of Medicine. In constructing a public health apparatus, officials understood their actions as articulating a uniquely Mexican version of modernity. Even though Mexico was part of the same international system of Medicine that American, French, German, etc. physicians circulated in, Mexicans saw a unique path forward for Mexico. It was thought that programs like the SMS would allow Mexico to be the envy of Latin American peers. Their ambitions were wider still: from their advocacy for the socialization of the medical profession, officials at the DSP offered a signal to the rest of the world that Mexico could trace a third way and to offer a compelling alternative to the dominant social and political paradigms of the 1930s—Soviet Communism, Italian and Nazi Fascism, and American liberalism. They also shared their reform plans at these meetings with a note of pride. In his later years, Gustavo Baz Prada, Director of the *Facultad* and putative architect of the SMS, argued that the SMS served as a model for China's barefoot doctors.[67] Thus, public health *a la*

[67] On Chinese innovations, see Xiaoping Fang, *Barefoot Doctors and Western Medicine in China* (Rochester, New York: University of Rochester Press, 2012).

*Mexicana* had high stakes, related to international issues of scientific progress, social politics, and institutional modernization, important to Mexico's identity on the international stage.

The SMS was surely a creative program, and unique in some ways, but the Cardenista State's relationship to its constituents, and the emotional relationship that Mexican doctors had toward their patients, cannot be said to have been instantiations of Mexico's particularity. Though most of this dissertation focuses on Mexican events and Mexican actors, and on the ways in which the SMS contributed to the political dynamics of post-Revolutionary Mexico, it is important to keep in mind that regional and global influences informed the political, emotional, and intellectual context surrounding Mexico's SMS.

From a regional perspective, the SMS fits comfortably within the wider constellation of public health infrastructure developed by Latin American nations in the early decades of the twentieth century. Scholars have demonstrated that science and medicine played a central role in State-building projects in Latin America, with both domestic—through hygienic reform oriented toward developing a sanitary "modernity"—and international facets—through dynamics of scientific diplomacy, hemispheric cooperation, and occasionally colonialist intervention and neoliberal austerity.[68] States in the region experimented with new forms of relating to citizens, with the organization of government and economies, the rendering of services to citizens, and the larger philosophical status of "entitlement" programs such as health. Older forms of social and

[68] See Claudia Agostoni, *Monuments of Progress* (Boulder: University of Colorado Press, 2007); Marcos Cueto, *Cold War, Deadly Fevers: Malaria Eradication in Mexico 1955-1975* (Baltimore: Johns Hopkins Press, 2007); Marcos Cueto, *Excelencia científica en la periferia: Actividades científicas e investigación biomédica en el Perú, 1890–1950* (Lima: Tarea, 1989); Marcos Cueto, *The Return of Epidemics: Health and Society in Peru during the Twentieth Century* (Burlington, VT: Ashgate, 2001); Sidney Chaloub, *Cidade Febril: Cortiços e epidemias na corte imperial* (São Paolo: Companhia das Letras, 2018); Mariola Espinosa, *Epidemic Invasions: Yellow Fever and the Limits of Cuban Independence, 1878-1930* (Chicago: University of Chicago Press, 2009); Diego Armus, *The Ailing City: Health, Tuberculosis, and Culture in Buenos Aires, 1870–1950* (Durham: Duke University Press, 2011); Diego Armus, ed., *Disease in the History of Modern Latin America: from Malaria to AIDS* (Durham: Duke University Press, 2003) to name a few.

medical welfare, such as the decentralized federated state-based system in Brazil, or the charity-based system in Argentina, underwent transformation in the interwar period, as nations were able to centralize health administration more effectively under the auspices of State.[69] Administrative change came with a concomitant shift in the valence of health-care provision from the beneficent gift of *noblesse oblige,* to a political right of citizens during the 1930s, to an economic "rent" distributed to state clients by the 1950s, changes attributable in part to political (and emotional) changes in the region trending toward populistic engagement with citizens.[70] The SMS was surely of a piece with these trends, concerned with the Cardenista government's engagement with its more isolated and vulnerable populations, in service of an economic modernity with a hygienic (and often eugenic) valence and "modern" form of political administration.

These tendencies cannot be said to be purely Latin American impulses, either: they were regional responses to global currents. It would be a mistake, however, to suggest that Latin America represented a passive periphery, merely adopting conceptions of health and policy as dictated by foreign metropolitan powers.[71] As historians of medicine in Latin America have well-demonstrated, nations adapted international programs to suit their unique social, political, and historical realities. In the 1930s, Cárdenas' Secretary of the DSP José Siurob and other

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[69] See Gilberto Hochmann, *A era do saneamento*: *As Bases Da Politica de Saude Publica No Brasil* (São Paolo: Hucitec, 2012)*;* Karina Ramacciotti, *La política sanitaria del peronismo* (Buenos Aires, Argentina: Biblos, 2009); Cristina M. Oliveira Fonseca, *Saúde no governo Vargas (1930–1945): Dualidade institutional de um bem publico* (Rio de Janeiro, Brazil: Fiocruz, 2007).

[70] Here, some of the issues of the politics of health in Latin America relate directly to work done above on the emotional/affective dimensions of the region's politics, as discussed above.

[71] Within the history of science, George Basalla, "The Spread of Western Science," *Science* 156, 3775 (1967): 611-622 is perhaps the most prominent exemplar of this narrative. This paper can be said to have animated a current within historiography of science/medicine/technology in response, challenging the diffusionist and imperialistic narrative of Basalla by showing indigenous epistemological traditions. Indeed, Soto Laveaga's work on the SMS seems to have been influenced by this anti-imperialist historiographical tradition, as she has described the SMS as a sort of internally imperialistic/colonialist modernization program, informed by Warwick Anderson, *Colonial Pathologies: American Tropical Medicine, Race, and Hygiene in the Philippines* (Durham: Duke University Press, 2006) and David Arnold, *Colonizing the Body: State Medicine and Epidemic Disease in Nineteenth Century India* (Berkeley: University of California Press, 1993). For more, see Chapter Four on the racial dimensions of the SMS.

Cardenista bureaucrats clearly referred to Soviet socialization of the medical profession.[72] Latin American nations often enjoyed technical support from the United States and global organizations, with organizations like the Rockefeller Foundation (RF) and the Pan American Health Organization (PAHO) playing a key role in coordinating and sponsoring hemispheric public health activity. Latin American health programs have been seen as the offspring of "Marriages of Convenience" between local governments and global, often-US sponsored organizations.[73] Health institutions "at the periphery" can be understood as "the product of polycentric networks and a creative interplay between metropolitan and peripheral actors," shaped by processes of "reception, adaptation, eclectic redeployment, and hybridization."[74]

The framework of negotiation also allows us to understand how the global intellectual current of social medicine impacted Mexican developments. Social medicine, an intellectual tradition often traced to the work of the nineteenth-century German pathologist Rudolph Virchow, was the trend to understanding human disease as a polysemous phenomenon, the product of social, cultural, political, and economic forces—indeed, Virchow believed this to such a degree that he was resistant to the germ theory for its tendency toward monocausal explanations for illness. One of most prominent maxims of the movement, deployed by socially-minded physicians to this day, pithily argues for the centrality of social organization in determining the conditions of sickness and health: "Medicine is a social science and politics is nothing else but medicine on a large scale." As social medicine spread over the course of the nineteenth century and into the twentieth, this not only widened the capacity for clinicians to

[72] For more on the Soviet dimensions of "socialization," see Chapter One.
[73] Birn, *Marriage of Convenience*; Marcos Cueto, *Missionaries of Science* (Bloomington: Indiana University Press, 1994). See Marcos Cueto, *Value of Health: A History of the Pan American Health Organization* (United States: Pan Amer Health Org, 2007). Gilberto Hochmann's current project is also related to RF work in the region.
[74] Cueto and Palmer, *Medicine and Public Health*, 9. See also, for instance, Jaime Larry Benchimol, *Dos microbios aos mosquitos: Febre amarela e a revolucão pasteuriana no Brasil* (Editora Fiocruz, Rio de Janiero, 2009).

understand the etiology of established illnesses but also permitted them to render social problems such as poverty as squarely within the purview of physicians. The interwar period—with its dislocations and devastations, labor and social unrest, and the Great Depression—became a particular heyday for social medicine in Europe, based on the efforts of Belgian René Sand.[75]

Again, we must emphasize that Latin Americans developed their own understandings of social medicine.[76] In Chile, pathologist Max Westenhofer adapted social medicine to local needs. His student was future president, Salvador Allende, who in 1939 penned *La Realidad Médico-Social Chilena*, which advanced social propositions to resolve medical problems. Advancement of medical insurance and social welfare remained an important element in Allende's politics throughout his later political career as Senator and President, until his murder in the 1973 coup. Ernesto "Che" Guevara had a similar trajectory: he began medical training in Buenos Aires in 1948. During his medical training, and two long continent-spanning motorcycle trips, Guevara became radicalized by observing

> poverty, hunger and disease; with the inability to treat a child because of lack of money; with the stupefaction provoked by the continual hunger and punishment, to the point that a father can accept the loss of a son as an unimportant accident, as occurs often in the downtrodden classes of our American homeland.[77]

As Guevara later reflected, in a speech delivered to a Cuban militia in 1960 titled "On Revolutionary Medicine," "there were things that were almost as important to me as becoming a famous or making a significant contribution to medical science: I wanted to help…people."

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[75] For background, see George Rosen, "What is Social Medicine? A Genetic Analysis of the Concept," *Bulletin of the History of Medicine* 21, 5 (1947): 674-733; Roy Porter and Dorothy Porter, "What was Social Medicine? A Historiographical Essay," *Journal of Historical Sociology* 1, 1 (1988): 90-109; Dorothy Porter, Introduction to *Social Medicine and Medical Sociology in the Twentieth Century*, ed. Porter, 1-31 (Atlanta: Rodopi, 1997); Dorothy Porter, "How did social medicine evolve and where is it heading?" *PLOS Medicine* 3, 10 (2006): 1667-1672.
[76] Cueto and Palmer, *Medicine and Public Health,* 168-75. See also Howard Waitzkin, Celia Iriart, Alfredo Estrada, and Silvia Lamadrid, "Social Medicine Then and Now: Lessons from Latin America," *American Journal of Public Health* 91, 1592-1601, https://doi.org/10.2105/AJPH.91.10.1592.
[77] Ernesto Che Guevara, "On Revolutionary Medicine," 19 August 1960 https://www.marxists.org/archive/guevara/1960/08/19.htm

As such, principles of social medicine—whether formally learned or arrived at by means of experience—impacted the region's politics throughout the twentieth century. In Mexico, through the late 1920s and into the 1930s, social medicine informed public health and medical practice. The *Academia Nacional de Medicina* established a subgroup on social medicine in 1929. The work increased throughout the 1930s: throughout the *Academia*'s journal, the *Gaceta médica de México,* numerous articles appeared lauding a social approach to medical care and advocating for its expansion across the nation's clinics and hospitals. The Mexican State also encouraged physicians to embrace social medicine, first in a 1932 address by President Pascual Ortiz Rubio, in which the Ortiz argued that physicians "should not act only in an individualistic manner," but rather in a collective effort for the benefit of the nation.[78] At the level of medical education, curricular changes in the late 1920s and early 1930s at the *Facultad* exposed students to social medicine principles. Rhetoric celebrating the guarantees of the Mexican Revolution and the dictates of social medicine melded nicely: among physicians, professors, and administrators, associated with the *Facultad* or the Cárdenas Administration, regular reference was made to how the "spirit" of the Revolution mirrored the "spirit" sweeping medicine globally, which promised to inspire physicians to care more deeply about patients' social lives. The SMS was product, in part, of this spirit of social medicine.

Within Cardenista-era medical literature, the use of language such as "spirit" of care is interesting. From reading literature of the epoch, it becomes evident that ideas about service and care within medicine often held a spiritual, even religious, valence. This is yet another thread to consider: the role played by Catholicism in structuring ideas about medical care. In general, traditional historiography in both medicine and science has followed the "conflict" thesis, which

[78] Enrique Cárdenas de la Peña, *Historia de la Academia Nacional de Medicina* (Mexico City: Consejo Nacional de Ciencia y Tecnología, 2014), 63.

argued that Christianity was inherently hostile to scientific progress. In recent years, revisionists have challenged that narrative, arguing that ideas about healing have often travelled closely with ideas about the Divine, whether that Divinity consisted in polytheistic deities, spirits, or the Abrahamic God, whether healers expressly mentioned religious concepts.[79] Indeed, in other Latin American contexts, medicine and Catholicism have been understood as mutually reinforcing—whether in the colonial era, the early twentieth century, or in the Cold War-era, as liberation theology and social medicine productively informed each other.[80]

The analysis of Catholic belief and medical care in Cardenista Mexico, however, becomes a rather more complex endeavor. The Cárdenas *sexenio* came just a few years following a period of intense religious violence in Mexico. Known as the *Cristiada,* the roughly three-year period (1926-1929) saw Federal troops and rural militias engaged in bloody combat over President Plutarco Elías Calles' policies of State Jacobinism.[81] In 1928, Álvaro Obregón, a Revolutionary leader, former president, and then-president-elect, was assassinated by a Catholic extremist. Eventually, with mediation by US Ambassador Dwight Morrow, the *Cristeros* and the Portes Gil Administration reached a détente, but not before some 100,000 people had died. Despite that settlement, conflict over Catholicism persisted. In a July 1934 address in Guadalajara, Jalisco, *jefe máximo* Calles promulgated socialist education. He saw this as a new phase of the Revolution: the "psychological Revolution or of spiritual conquest":

> We cannot turn over the future of the *Patria*, the future of the Revolution, to enemy hands. With all treachery…the clerics affirm that the child belongs to the home and the youth belongs to the

[79] Gary B. Ferngren, *Medicine and Religion: A Historical Introduction* (Baltimore: Johns Hopkins Press, 2014) has a good summary of the historiography of this topic, both in ancient and modern contexts.
[80] Discussed in Waitzkin et al., "Social Medicine Then and Now." For examples on how Catholic faith informed public health, see Jadwiga Pieper Mooney, *The Politics of Motherhood: Maternity and Women's Rights in Twentieth-Century Child* (Pittsburgh: University of Pittsburgh Press, 2009); Sarah Walsh, *The Religion of Life: Eugenics, Race, and Catholicism in Chile* (Pittsburgh: University of Pittsburgh Press, 2021); Marius Turda and Aaron Gillette, *Latin Eugenics in Comparative Perspective* (London: Bloomsbury, 2014); among others.
[81] See Jean Meyer, *La Cristiada* (Mexico: Fondo de Cultura Económica, 2007) for a comprehensive account of this conflict. Relevant chapters in *Lázaro Cárdenas, vol. 3* describe Catholicism during Cardenismo.

> family. This is an egotistical doctrine because the child and the youth belong to the community, belong to the collectivity and it is the Revolution that has the indispensable right to attack that sector, to seize consciences, to destroy all prejudices and form a new national soul.[82]

If the Revolution was to survive its infancy, Calles believed the State was obligated to intervene in the emotional development of young people. In place of piety, Mexicans would need their eyes trained on the here and now, most intently upon on the suffering of their fellow citizens.

One could thus read innovations at the *Facultad de Medicina*, including the SMS, through *this* prism: as mechanism to cleanse young doctors of their reactionary faith. One cannot help but feeling that this mode of understanding the SMS is inadequate in the face of the numerous passages in which Mexican physicians of the 1930s describe young doctors as evangelizers or cite Catholic teachings as justifications for social medical engagement, or in which students describe their time *en servicio* in spiritual—though admittedly, not religious—terms. Clearly, there is something going on beyond simple congruence or explicit antipathy. It bespeaks a unique role played by Catholicism in post-Revolutionary medicine, given the obvious correspondences in emotional regimes favored by the faith and profession, respectively. This is suggestive of an interesting dynamic within post-Revolutionary politics surrounding more subtle emotional expressions of belief, even in conditions of relative anticlericalism. While a deep dive into issues of Mexican religion and medicine are beyond the scope of this dissertation, it is worth mentioning, both as important context and as a fascinating topic for future inquiry.

In sum, there is a historiographical benefit to framing the SMS as a Mexican avatar of global and regional intellectual currents, including social welfare and public health, social medicine, and Catholicism. The conversations in Mexico about how doctors should feel about

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[82] "Palabras de Calles al pueblo de Jalisco," *El Informador* (Guadalajara, Jalisco, Mexico), July 21, 1934. Cited in Mary Kay Vaughan, *Cultural Politics*, 34-5. As discussed in *Cultural Politics,* though the relations with the Church improved somewhat with Calles' departure, this did not mean that conflict about faith ceased with Cárdenas' assumption of power: some describe a second *Cristiada* beginning in the early 1930s and continuing into the Cárdenas era, often coextensive with anger surrounding socialist education.

their patients, and how State institutions should be organized to provide adequate care for patients, were part of a broader, transnational intellectual and emotional conversation. After all, physicians in other nations were peers, published in each other's journals, attended international conferences, and shared best practices for developing modern clinical and hygienic techniques. Rather than viewing the SMS as uniquely Mexican, then, we can productively frame it as the product of the "interconnected complex" of global and regional currents prevailing in the early twentieth century, which were "both conflictual and complementary."[83]

***"How to undertake a dignified labor"***

Before beginning, I think it useful to offer a few comments to orient the reader. First, a comment on organization. This dissertation is organized into two parts. Part One focuses on the broader debates between Cardenistas and Medicine surrounding emotional issues in the years leading up to the origins of the SMS. In Chapter One, I describe the state of Medicine in Mexico in the years prior to the advent of the SMS. In the early 1930s, thinkers from various groups seemed to come to the consensus that there was a "lack of spirit" among physicians, and officials in the Cardenista public health apparatus were keen to change that by means of "socializing" doctors. Physicians watched with concern the overtures made by Cardenistas to encroach on Medicine, with the specter of "full socialization," namely the transformation of Medicine into a branch of state a la the Soviet Union, on the table. In Chapter Two, I explore the ways in which the ongoing debate described in Chapter One affected medical education at the *Facultad de Medicina,* giving attention to the motivations of Dr. Gustavo Baz Prada, and to the broader context of the politics of emotional engagement in higher education during the period.

[83] Cueto and Palmer, *Medicine and Public Health*, 6.

Throughout Part One, the central thematic feature is the interaction between two "polities" with limited autonomy—Medicine and the State—and how they negotiated their relative debilities to find some stable resolution in the realm of feeling.

Simply because two weak "polities" negotiated some stable consensus, however, did not mean their plans were deployed exactly as prescribed. Part Two focuses on how students navigated the complex emotional, social, and political waters of the era at their placement sites. Chapter Three explores upon how medical students voiced their commitment to the new emotional regime, and thus a new politics of health, as students creatively responded to the common health problems they encountered across Mexico's rural environs. Chapters Four and Five examine this effort among two unique populations. In Chapter Four, I focus on pasantes' encounter with indigenous Mexicans. Pasantes subsumed racist and eugenic attitudes toward indigenous people within a framework of compassionate paternalism, justifying their interventions in indigenous peoples' lives as for their "improvement" and for the betterment of the Mexican race. Chapter Five focuses on how pasantes who served in labor and industrial settings resolved what was sometimes a complex dual role—as advocates for the vulnerable worker, but also as votaries for the economic modernization of the Mexican nation—by means of compassionate capitalism. These chapters show that "local historical actors had a more autonomous role than previously imagined" in the politics of health in Cardenista Mexico, as students gave form to novel social, political, and clinical realities.[84]

As can be appreciated, these two parts explore different dynamics associated with the SMS. It should not be a surprise, then, that the two parts also draw upon distinct primary source bases, to adequately capture the complexities of emotional navigation in the social and

[84] Ibid., 9.

geographic spaces treated in those sections. It is my hope that by through consulting this array of sources, a richer understanding of the SMS may emerge, one that recognizes the role played by the State, as well as by Medicine, but that also recognizes the work done by students in enacting this manner of providing care to vulnerable Mexicans.

As Part One is devoted to understanding the state of the profession of Medicine in the mid-1930s, and the extent to which emotional concerns influenced medical education, both from the perspective of Cardenista politicos and from physicians themselves, the argument rests predominantly upon internal DSP documents and DSP propaganda material, on articles printed within the *Gaceta médica de México,* and on documents internal to UNAM and to the Facultad more specifically, including syllabi and study plans. Archival materials have come from both the *Facultad's* archive, as well as that of the DSP.

As Part Two is devoted to understanding the emotional navigation of students on the ground beyond of the eye of Mexico City, these chapters rest heavily on pasante theses. In general, to describe the role of Cardenismo in defining the emotional regime expected of pasantes, special attention has been given to cite theses from between 1936 and 1940. Hundreds of bound student theses from decades reside in the Nicolas León Library at the old *Facultad* building. As pasantes themselves recognized, there has been a great deal of information there, simply waiting to be read. Pasante theses allow us to see how students carefully navigated the complex political and emotional context of Mexico's massified politics of the 1930s —and indeed their own discomfort as budding professionals. These theses are not without their limitations, however. For one, it is hard to fully understand how *patients* experienced illness, understood treatments, or their encounters with pasantes: we must recognize that pasante perspectives are just those, rather than universalizable claims about conditions of health and

hygiene in rural Mexico, its indigenous communities, or its industrial contexts. There is a rich history of local healing that informs the context here, but it is not the central focus of this dissertation. The other limitation about these theses is that they are but glimpses into long lives and careers of medical students: they do not give us insight into the details of their personal experiences, nor do they tell us much about social dynamics or demographics of the student body. There seem to be some autobiographies that may enhance our understandings of who pasantes were, and who they became, but investigation of those is a work in progress.[85]

At the end of her service in Cuautepec de Hinojosa, Hidalgo, pasante Adela Islas Escárcega reflected upon the farewell address of Dr. Baz prior to her departure from Mexico City a few months earlier. After the weighty cognitive and emotional labor of the SMS, she had gained additional perspective on Dr. Baz' remarks. He, "on that memorable day, bid us farewell with his words of encouragement, telling us, 'He who triumphs in the *servicio social*, will have triumphed in life and in their profession.' And now I understand the meaning of this task that has influenced our future lives so much."[86] Islas hoped that the process by which *Facultad*, and thus students, had approached the *pueblo* would be passed down throughout the generations,

> That the enthusiasm that animated me in the small labor that I undertook during the *servicio social* be continued by future doctors who ever year leave our *Facultad de Medicina* and, filled with optimism, know how to undertake a dignified labor, putting the knowledge that they acquired to the service of the needy and placing the name of the University in the place that it deserves.[87]

For students like Islas, the path to both civic and professional success lay along a path defined by physicians like Dr. Baz. Triumph in the SMS—triumph in managing the daily emotional trials of death and deprivation, illness and inequality, as a young trainee—portended a successful career in providing for vulnerable patients and healing the Mexican nation.

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[85] Soto Laveaga, "Bringing the Revolution," 426 mentions that there exist "dozens" of these.
[86] Adela Islas Escárcega, "Exploración medico sanitaria y sociológica del municipio de Cuautepec de Hinojosa, Hidalgo," UNAM, 1939, 37.
[87] Ibid, 38.

# *—PART ONE—*

## CHAPTER ONE:
## In need of a new orientation

In July 1935—just a few weeks following President Cárdenas' break with former President and *jefe máximo* Plutarco Elias Calles—changes were afoot within the public health bureaucracy. Manuel Cárcamo Lardizabal, Chief of the Unified Sanitary Services in Ciudad Anahuác, Nuevo León, circulated a memorandum titled "The *Departamento de Salubridad Pública* (DSP) as Revolutionary Institution." After years of institutional instability, Cárcamo was eager to finally set the tone for a new, socially-conscious public health apparatus. To establish a foil for Cardenismo, Cárcamo described health in the era before the Revolution. The old public health authority, the *Consejo Superior de Salubridad* (CSS), was "born in the heart of a dictatorship…[it] could not show any Revolutionary sprouts": it had been a "conservative organism, grinding on… a cloister…hermetic, governed by our old sages…[where] the field of research and the activities of youth did not find a propitious environment."[1] Out of that "era of obscurantism," Cárcamo acknowledged the great strides that Mexico had made since then: "*La Revolución* on the march has gone breaking the old walls and…has injected young blood into the aged organism." The benefits that came from the destruction of the old modes of public health administration had been obvious, "giving life to laboratories, clinics, and sanatoria."[2] These were clearly steps in the right direction. They were not enough, however. The nation's doctors continued to constitute "a privileged caste, exercising a monopoly, perhaps the most immoral of them all," concerned principally with securing honoraria for medical services rendered, as they

[1] AHSSA, *SP*, Servicios Jurídicos, vol. 42, exp. 119, fs. 1-2, 10 July 1935.
[2] AHSSA, *SP*, Servicios Jurídicos, vol. 42, exp. 119, fs. 1-2, 10 July 1935.

had been in the pre-Revolutionary era. While the Revolution had deposed one tyrant, the nation "could not escape the tyranny of the physician."[3]

In this chapter, I explore the concerns that officials like Cárcamo had about Medicine in the 1930s. In the first part of this chapter, I describe the antecedents to the situation addressed by Cárcamo, describing the emotional dimensions of the coalescence of Medicine during the Porfiriato. What had been a useful emotional regime for physicians during initial professionalization had become a particular source for friction between physicians and the post-Revolutionary State by the 1930s, however. In the second part of this chapter, I describe the diverse array of public officials who identified deficiencies in realm of feeling as the basis for the nation's continued health woes. For many Cardenistas, the lack of will, "spirit," "intensity," among doctors sustained the suffering of the *pueblo*. A truly effective DSP—and by extension, Medicine—should only be "ruled by outstanding revolutionaries, by those who know the hunger of the *pueblo*: hunger for liberty; hunger for health."[4] To get there, bureaucrats discussed the prospect of "socializing" Medicine to train physicians closer in line with the Cardenista agenda.

Physicians watched these conversations with interest and concern. In the final part of the chapter, I discuss the perspective from within Medicine, as represented by the *Academia Nacional de Medicina*. The profession came to recognize that the independence of Medicine was under threat. Though some physicians pointedly criticized Cardenistas for driving a political wedge with its talk of what we can refer to as "full socialization" on the model of the Soviet Union, many doctors saw an opportunity in partial retreat. By renegotiating the terms of professionalization with a "partial socialization," based on the adoption of the emotional reforms demanded by Federal officials, Medicine hoped to gain at least political détente with the

[3] AHSSA, *SP*, Servicios Jurídicos, vol. 42, exp. 119, f. 5, 10 July 1935.
[4] AHSSA, *SP*, Servicios Jurídicos, vol. 42, exp. 119, f. 2, 10 July 1935.

Cardenista State. By altering the contours of its emotional regime, some hoped that Medicine could even *enhance* its social position in the new era of massified politics.

### *Porfirian Precedents*

Before embarking on the story of Medicine and Cardenismo in the mid-1930s, I think it important to offer background on the history of Medicine in Mexico from its initial period of professionalization. By exploring the dynamics by which Medicine in Mexico coalesced during the Porfiriato as a professional body, with shared epistemologies and social and political commitments, we are better suited to understand how and why that emotional regime had to be altered when Cardenismo later arrived on the scene. To date, historians have traced how professionalization was intimately linked with liberal political movements during the early years of Mexico's independence from Spain. The mid-nineteenth century was challenging both socially and politically for Mexico: years of political turbulence under various regimes headed by the infamous Antonio López de Santa Anna, a disastrous war with the United States that led to the amputation of over half the national area, disruptive civil wars between liberals and conservatives, an invasion by French forces and the imposition of a foreign monarch. Through these trials of the early nineteenth-century, the ideological lodestone of Mexican politics and society changed—away from a corporative colonial society and toward a liberal, independent republican one. Attendant with these social and political changes came changes in Medicine. Away from the traditional intellectual and institutional structures that underwrote Colonial Medicine—namely, a conception of medical care as an "'art' often linked to superstition, religion and even magic"; a system of Church hospitals; and the *Protomedicato*, a Royal board overseeing licensing and practice of various practitioners and administering the public health—

physicians of the early Republican period made a concerted effort to move Medicine toward a liberal, rationalist model "based on scientific principles, careful observation, and experimentation that produced visible results."[5] In 1831, the fields of medicine and surgery were formally joined as a single professional body. In 1833, Mexican medical education was reformed along the French *officiat* model. In 1842, the *Consejo Superior de Salubridad* (CSS) was founded, which would serve as the core sanitary authority for Mexico in a mostly uninterrupted manner until the Revolutionary Constitution established a new body in 1917. These institutions marked an increase in the social and political *caché* of Medicine, but the process was hard-fought: an array of conflicts impeded (and influenced) their development.

During the period, allopathic professionalization was not expanding to fill a vacuum. The medical marketplace of nineteenth-century Mexico had a wide diversity of options available for sufferers looking to find healing. Most commonly, the ill would self-treat in the home, making recourse to oral folk knowledge, or using *recitarios*—recipe books—or home treatment manuals. If these did not help, the sick could leave the home in search of aid. Many sought succor from Christ the healer, heading to the local Catholic church for spiritual help from the parish priest. Others turned to empiric apothecaries and salesmen selling botanical formulations and tonics, often based upon traditional indigenous remedies. *Curanderos*, or local healers who favored syncretic interventions based in African, indigenous, Catholic custom, were often a popular option. By the mid-nineteenth century, homeopathy became an additional source of medical authority with which allopathic medicine had to contend, whether that meant patients being attended by a homeopathic professional, or by the deployment of homeopathic remedies as

[5] Hernández Saenz, *Carving a Niche,* 4-5; Carillo, "Profesiones Sanitarias"

part of a domestic aid kit.[6] If the sick ever made recourse to allopaths, it would often only be after alternative methods had proven ineffective.

Within the historiography, the government of Porfirio Díaz (1876-1911, known as the Porfiriato), has been seen be especially propitious for the development of allopathic authority. Thanks in large part to a broader culture of rationalization, centralization, and social elevation under Díaz—and concomitant sense of stability referred to as the *Pax Porfiriana*—Mexico City was awash with a spirit of modernization and industrialization along European and American models. It was a political system in which social status, education, and cultivation were key elements of authority. As in other areas of cultural renovation during the period, hygiene and medicine became Europhilic; diffusion of Pasteurian and Kochian knowledge was instrumental in the establishment of bacteriology in the country.[7] Great waterworks projects in the capital ensured citizens were protected from sewage and swampland, even if the common man could not possibly fathom the finer points of fluid engineering. The hygienic fate of the city was tied to the rationalization of its wild streets—to the point that officials in the public health department were obsessed with keeping count of the number of wild dogs caught on Mexico City's streets and exterminated.[8] In this social and political context, allopaths seized an opportunity to cement their monopoly over medical knowledge and practice. They worked to definitively "differentiate themselves from healers without formal training." To Porfirian allopaths, who fashioned themselves as learned cosmopolitan elites trained in London, Paris, and New York, *curanderos*

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[6] Jethro Hernández Berrones, "Homeopathy 'for Mexicans': Medical Popularisation, Commercial Endeavours, and Patients' Choice in the Mexican Medical Marketplace, 1853-1872." *Medical history* vol. 61, 4 (2017): 568-589. doi:10.1017/mdh.2017.59; Ana María Carrillo, "¿Indivisibilidad o bifuración de la ciencia?: La institucionalizacion de la homeopatía en México," in *Continuidades y rupturas: Una historia tensa de la ciencia en México,* Francisco Javier Dosil Mancilla and Gerardo Sánchez Dıaz, eds. (Morelia, Michoacán: IIH, UMSNH, FC, UNAM, 2010), 277–310; Cueto and Palmer, *Medicine and Public Health,* Chapter 1.

[7] Birn, *Marriage,* 5-6*;* 41-44. See also Natalia Priego, *Ciencia, historia, y modernidad: la microbiologia en México durante el Porfiriato* (Madrid: Consejo Superior de Investigaciones Cientificas, 2009).

[8] Mauricio Tenorio, *I Speak of the City* (Chicago: University of Chicago Press, 2012).

represented "plagues of humanity" and an affront to those hoping to bring Mexico into the modern world.[9] They also expected the "rapid fall" of homeopathy in the battle for market share.[10] As contemporaries alleged, homeopaths were "dishonest," "immoral speculators," "charlatans" who engaged in "robbery."[11] The allopathic profession made a concerted effort to distance itself from alleged quackery, and use a mode of negative definition to create its own professional identity.

While physicians criticized curanderos, empirics, and homeopaths for their lack of medical training or allegedly acquisitive motives for providing care, their critique was not merely of an intellectual or economic variety. Professionalization was also supported by an emotional regime that structured the way licensed doctors *related* to patients, society, and each other. Agostoni has well-described the flamboyance with which irregular healers hawked their goods and services on Mexico City streets into the Porfirian period: one Dr. Rafael Meraulyock, a Polish physician who arrived in Mexico in around 1864, was an ostentatious practitioner who wore a large tunic "between Greek and Oriental," advertised an oil of St. Jacob to cure all manner of ailments, and would remove teeth "with musical accompaniment" in full view of the public. [12] Such was Meraulyock's notoriety in the Capital that his name gave rise to a word to describe all manner of charlatans: *merolicos*. Physicians heaped scorn on the charismatic, colorful performativity of empiric physicians on Mexico City's streets, denigrating "the spectacular and festive aspect of iterant doctors, underscored the dangers that faced the people who came to them, and emphasized their dubious, exotic, or false origin."[13] In contrast,

[9] Agostoni, "Médicos científicos," 14. For discussion of the racialized dimensions of resistance to curanderismo, see Chapter Four.
[10] Carillo, "Profesiones Sanitarias," 163.
[11] As cited in Hernández Berrones, "Homeopathy 'for Mexicans,'" 586.
[12] Agostoni, "Médicos científicos," 24.
[13] Ibid.,

rationalistic physicians were intent to create a doctor/patient relationship that was quiet, deliberate, reasoned, and *respectable*, as for them, Medicine was "an activity that should be undertaken in a private exam room, in a clinic or hospital, or even in a patient's bedroom."[14] If professionalization was about the monopolization of knowledge and practice, then it was certainly an activity that "could not be achieved in the street."[15]

As Medicine came in off the street, however, it seemed to have left many patients out in the cold. In recent work, scholars have emphasized that as allopaths aligned themselves with the ideological *and* emotional dimensions of Porfirian modernity, the doctor/patient relationship often suffered. Jonathan M. Weber has described how the Porfirian era's interest in rationalization and modernization altered the ways in which the State and Medicine managed death.[16] The pervasiveness of death in *fin de siècle* Mexico City—the stacks of bodies on city streets, occasioned by the poor hygiene and poor working conditions of the unequal, rapidly-industrializing nation—"threatened the image of progress and health that state officials had constructed."[17] In response, the State developed new funerary technologies to manage decay, such as crematoria or embalming techniques, the latter of which redounded to the benefit of medical students, who were enrolled in new anatomy courses developed by CSS Chief Dr. Eduardo Liceaga. Modernization was thus instrumental in changing the way that Porfirian officials and physicians understood and encountered death. But these modern technologies put them in tension with lower-class citizens who continued "living their lives in ways that made sense to them," who continued to handle their dead as they saw fit.[18] Historian Cristina Rivera

[14] Ibid., 26.
[15] Ibid.
[16] Jonathan M. Weber, *Death Is All around Us: Corpses, Chaos, and Public Health in Porfirian Mexico City* (Lincoln: University of Nebraska Press, 2019).
[17] Ibid., 221.
[18] Ibid., 224.

Garza has also observed this dynamic in changing views of psychiatric illness during the Porfirian period. The "ascending modernization of the regime and trends of increasing popularity such as criminology and eugenics," which permitted "punitive understandings of mental illness" to take root by the end of the Porfiriato. "Psychiatry played a crucial role in the construction of Porfirian hegemony," and thus, it was a field in which broader social politics and the emotional politics of the exam room interacted. [19]

As such, the politics of health came to be configured in the service of the Porfiriato's rationalist modernization project, and as a consequence, Porfirian professionalization widened the social distance between doctor and patient.[20] I argue that Porfirian Medicine's emotional regime—associated with the technological, institutional, and ideological changes of professionalization—underwrote that growing distance. Cold, dispassionate objectivity allowed *fin de siècle* allopaths to distinguish themselves from allegedly unscientific charlatans on Mexico's streets, as they indefatigably pursued a monopoly in the diverse ecosystem of Mexico's healing world. This mode of professionalization carried with it a certain way of engaging emotionally (and thus politically) with the ill, transforming patients from coequal subjects into passive objects ripe for medical intervention.

***Treating the real heart of Mexico***

By 1920, the Porfiriato was no more. Its disappearance, however, had a high human cost. Casualties from the decade of civil war is referred to as the Mexican Revolution (1910-1920) would chart at about one million lives lost or displaced. In addition to surviving the ongoing

[19] Cristina Rivera Garza, "Dangerous Minds: Changing Psychiatric Views of the Mentally Ill in Porfirian Mexico, 1876-1911," *Journal of the History of Medicine and Allies Sciences* vol. 56, no. 1 (2001): 43.
[20] Agostoni, "Médicos científicos," 29.

military conflict between the social-revolutionary Conventionalist forces of Pancho Villa and Emiliano Zapata and the liberal faction of Venustiano Carranza, armies and citizens alike had to combat invisible enemies. The conflagrations of the Revolution had destroyed Mexico's health infrastructure, and epidemics ran rampant. In 1917, to respond to this reality, public health powers for the newly-formed *Departamento de Salubridad Publica* (DSP) were enshrined in the Mexican Constitution. Article 73 of the Constitution allowed Public Health administrators to operate under the direct control of the President's office, with supremacy over state and municipal administrative offices across the country. This would serve as the juridical basis for the establishment of new hygienic institutions under post-Revolutionary governments.

The establishment of a new governmental order in Mexico did not mean that the deficiencies of the *ancien régime* had been magically wiped away, however. Despite the legal changes with the new Constitution, there were intellectual continuities from the pre-Revolutionary era. Many physicians who served the post-Revolutionary State trained before the Revolution, and their understanding of the role of physicians in society was influenced by lessons learned during the Porfiriato. For example, General José María Rodríguez, Medical Chief for the Constitutionalist Forces, reminded the attendees at the Constitutional Convention as to the vital role that health—and doctors—had to play in creating a modern nation. A Francophile, Rodríguez did this by citing hygienist Jules Courmont: "The grade of civilization of a nation is now measured by the perfection of hygiene."[21] The General agitated for a medical authority so stringent, so centralized, and so absolute under men of cultivation and education,

[21] José María Rodríguez, "Federalización de la salubridad," in *50 Discursos doctrinales en el Congreso Constituyente de la Revolución Méxicana, 1916 – 1917* (Mexico City: Instituto Nacional de Estudios Históricos de la Revolución Mexicana, 1967), 315.

that he referred to it as "sanitary dictatorship."[22] Unity in hygienic practice was the necessary catalyst to revitalize bonds of national unity more generally. This unity would be created by capitalist development and civilizing impulses, centered in Mexico City, as it was always in the capital "where with the least difficulties the rectifications or ratifications of proceedings found in other countries can be made, before performing the practical application of them among us."[23] A national hygienic program, would lead to the "regeneration of our sick race" and stimulate a great economic boom for Mexico after so many years of war.

Cárcamo's frustrations with disinterested Medicine in 1935 thus reflected the stubborn persistence of this institutional and ideological status quo in the 1920s and early 1930s on issues of health. Throughout the period, much of the health agenda—indeed, the broader social agenda—remained similar to that of the late Porfirian era: efforts centered around urban populations, and "in an effort to guarantee the well-being of the economy, on the export-related regions," as the Mexican government through the 1920s favored "foreign investors, Mexican capitalists, and landowners" as key to their version of political representation and modernity.[24] While the technicians and politicians of the Porfirian era (and to some degree, of the Sonoran Dynasty, named for the common place of origin of Presidents Álvaro Obregón and Plutarco Elías Calles) had been keenly interested in transforming Mexico City into a modern, hygienic, cosmopolitan urban peer of London and Paris, reformist thinkers by the mid-1920s began to alter their priorities to see the vast rural interior of Mexico—left behind by Porfirian modernization—as key to the nation's success. In 1926, the post-Revolutionary State promulgated its first

[22] See Ernesto Aréchiga Córdoba, "Educación, Propaganda o 'dictadura sanitaria': estrategias discursivas de higiene y salubridad públicas en el México posrevolucionario, 1917-1945," *Estudios de historia moderna y contemporánea de México* 33 (2007): 57-88 for a balance-sheet of Rodríguez' plans.
[23] Rodríguez, "Federalización," 313.
[24] Ana Maria Kapelusz-Poppi, "Rural Health and State Construction in Post-Revolutionary Mexico: The Nicolaita Project for Rural Medical Services," *The Americas* 58, 2 (2001): 263.

Sanitary code, establishing the dimensions of Federal power on issues of health, emphasizing the importance of sanitary services and medical education, and arguing for the systematized resolution of issues of rural health.[25] DSP Director Bernardo Gastélum implemented this by the development of municipal health units, in addition to the establishment of campaigns against infectious diseases such as smallpox, malaria, and tuberculosis.

The incipient public health infrastructure developed during the Maximato—the years between 1928 and 1934 when former President Calles dominated Mexico's politics as a shadow president or *jefe máximo*—further reflected these shifts. The effort to address rural health expanded in 1928, with the establishment of cooperative units in Minatitlán and Puerto Mexico, Veracruz—the coastal state being vital for international shipping and the oil industry. By 1929, the city of Veracruz had been included, thanks to the cooperation of the Federal Health Department, the State Health Direction, municipal government, and the International Health Board of the Rockefeller Foundation.[26] In 1931, a Rural Hygiene Service was established under DSP authority. As historian Ana Maria Kapelusz-Poppi has noted, the programs of the early Maximato "still left most of the rural dwellers with no modern medical services."[27] By the later years of the Maximato, however, the spirit of reformism began to have concrete effects on institutions. In the early 1930s, bureaucrats worked to establish a Rockefeller-inspired coordinated public health service that organized state, municipal, and Federal authorities in a collaborative effort. In 1933, the DSP created a Federal Health Service in the States to facilitate

[25] Both Aréchiga Córdoba, "Dictadura Sanitaria," and Claudia Agostoni, "Public Health in Mexico, 1870–1943," *Oxford Research Encyclopedia of Latin American History.* 5 Aug. 2016; Accessed 25 Feb. 2022. https://oxfordre.com/latinamericanhistory/view/10.1093/acrefore/9780199366439.001.0001/acrefore-9780199366439-e-24 have an excellent review of this period. See Chapter Four for a discussion of the eugenic character of some of the Federal public health interventions of the 1920s and 1930s.
[26] See Birn, *Marriage of Convenience* for information about the delicate negotiation between the Rockefeller Foundation and the Mexican Health Department.
[27] Kapelusz-Poppi, "Rural Health," 263.

this coordination; the following year, program went national with the passage of the "Law of coordination and cooperation of sanitary services in the Republic," which established the process by which the government and state or municipal health offices would enter into cooperation and information-sharing.[28] In May 1934, coordination agreements existed in Nuevo Léon, Jalisco, Guanajuato, Puebla, Morelos, and parts of Nayarit, Veracruz, and Querétaro.[29] To respond to geographic diversity, boards were created to adapt individual units "to the particular conditions due to educational, psychological and economic factors prevailing" in the region, and states and municipalities were to determine the funding necessary to provision for health.[30] That is, the project was primarily designed to ensure the uniform quality of public health practice across the nation and improve access for rural dwellers, with the Federal government as the supreme arbiter upon which the system rested. In 1934, too, a new Sanitary Code reinforced the ideological commitment that the Revolutionary State had for resolving issues of rural health.

Perhaps the individual most emblematic of this reformist spirit was Dr. Miguel Enrique Bustamante. In 1918, Bustamante began his medical career at the Medical School of the *Instituto de Ciencias y Artes de Oaxaca*. During his first year, however, he observed that the School was in a difficult condition—an operating room had been set up in an old convent garden. He concluded that it would be better for his training to relocate to Mexico City and the *Facultad*, which he did in 1919, completing his training in 1924.[31] Upon completion of his medical degree, he continued his education abroad, earning his doctorate in hygiene from Johns Hopkins School

[28] "Ley de Coordinación y cooperación de servicios sanitarios en la República," UNAM, Accessed 25 Feb. 2022. www.juridicas.unam.mx/publica/librev/rev/rap/cont/69/pr/pr41.pdf.
[29] Miguel E. Bustamante, "La coordinación de los servicios sanitarios federales y locales como factor de progreso higiénico en México: Contribución al estudio de la higiene en la República Mexicana," delivered to the *Academia Nacional de Medicina*, 1934 in Héctor Hernández Llamas ed., *La atención médica en el medio rural mexicano, 1930-1980* (Mexico, DF: Instituto Mexicano del Seguro Social, 1984), 70.
[30] Idem., "Local Public Health Work in Mexico," *American Journal of Public Health,* Vol. 21, (Jul. 1931): 730.
[31] R. Lozano and R. Tapia-Conyer, *Miguel E. Bustamante: Un pilar de la salud pública moderna en México* (México: Editorial Clío, Fundación Carlos Slim, Sociedad Mexicana de Salud Pública, 2016), 28-30.

of Hygiene and Public Health. In the late-1920s, while in the Health Department, Bustamante had collaborated with the Rockefeller Foundation to create sanitary units in rural areas.[32] In 1930, Bustamante was appointed assistant director at the Bureau of Communicable Diseases in the government public health administration. By 1940, he would receive an appointment at the Institute of Health and Tropical Diseases, serve as a professor of hygiene at the *Facultad*, director of Veracruz' Cooperative Health Unit, and administrator of the Rural Health Services at the Federal level.[33]

Bustamante's publications across this era vividly depict reformists' preoccupations. In 1930, Bustamante solicited support from the international readers of the *American Journal of Public Health* to help Mexico become a more hygienic, civilized nation. The Revolution's promise to extend the benefits of modernity to more Mexicans was clearly a work in progress in 1930: a decade after the supposed end of the Revolution, Mexico was still plagued with rural concerns like impure water; uneven modes of communication, a lack of professionally licensed doctors in rural places, where most of the Mexico's population lived. More than these practical considerations, in Bustamante's view, Mexico lacked a "spirit" of health and hygiene, and consequently, rural denizens had been excluded from the benefits afforded by modern science, medicine, and technology. Bustamante hoped that his readers appreciated "the amount of energy, the intensity of effort, and the greatness of the ideal" that had been required to carry Mexico "through a task of centuries in a score of years."[34] Mexico deserved credit for its accomplishments, considering "the difficulties of creating at the same time—parallel to the

[32] Kapeluzs-Poppi, "Physician Activists," 37.
[33] Miguel E. Bustamante, "Local Public Health Work in Mexico," *American Journal of Public Health* 21 (Jul. 1931): 725. See also Miguel E. Bustamante, "Public Health and Medical Care," *The Annals of the American Academy of Political and Social Science*. 208 (Mar., 1940): 161.
[34] Ibid., 727.

cooperative health organizations—a public spirit, comprehensive enough to ask for the services of sanitary organizations of an apparently complicated type."[35] Bustamante was optimistic that, with the inculcation of "enough civic spirit,"

> the present generation will see passing forever from our statistics thousands of preventable deaths, the coming of healthier citizens, and medical science not only the consolation of the sufferer and cure of the sick, but the teacher and provider of a healthier and happier life.[36]

Bustamante concluded his essay with a paean to the great hygienic heroes that had cleansed Latin America of malaria, of yellow fever, of cholera and tuberculosis, of bubonic plague, and of Oroya fever: "Pasteur, Koch, Ross, Gorgas, Finlay, Liceaga, Ferrán, Cruz, Carrión, heroes of humanity, have passed from hand to hand the torch of light for us to follow."[37]

A few years later, in 1934, Bustamante described the social and political developments of the intervening years to the *Academia Nacional de Medicina.* As an ardent defender and intellectual architect of the broader effort for rural health, Dr. Bustamante must have been pleased by the trajectory of Mexican public health through the 1930s. There were deficits, however, that meant that the nation still could not make good on the Constitutional promise of health for its citizens. These were problems of "rurality":

> All Mexican hygiene has aspects of the rural. From hygiene in the cities where there is a lack of provisioning of water and drainage, where they infant hygiene is not known and the contamination of milk is ignored, to the most far-flung agricultural town where malaria and intestinal parasites have the laborer doubled over with his anemia and weakness; everywhere, rural hygiene is urgent.[38]

Bustamante used the term "rural" not as a geographic descriptor—defined by low population density or distance from urban centers—but rather as a pejorative—which described a system of health and hygiene characterized by a lack of the resources or knowledge that would make a nation "modern" from an epidemiological, sanitary, or economic perspective. Aside from

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[35] Ibid., 726.
[36] Ibid., 736.
[37] Ibid.
[38] Bustamante, "La coordinación," 55. Specific issues related to geographically-rural health will be discussed in further detail below, in Chapters Three and Four.

signaling a certain disapproval of traditional life in Mexico—a condemnation with racialized dimensions discussed in Chapter Four—rhetoric of "the rural" allowed Bustamante to link the health concerns of Mexicans across the nation's geographies, from tropical Campeche to industrial Monterrey. It allowed him to argue that poor health and hygiene were not merely the concern of geographically-isolated communities, but rather an issue of national interest.

Bustamante deployed two distinct arguments to make this point. For those of interested in supporting Mexico's economic progress, premature deaths—of Mexicans of any age, but most acutely, of children and infants—"represented, outside of any sentimental consideration, truly lost capital." The nation's GDP would be hobbled until such a time as its rates of morbidity and mortality for preventable disease were brought under control. By Bustamante's calculations, this lost capital amounted to 2.8 billion pesos each year.[39] Research and development were stunted by poverty, in terms of capital both real and human. For the more "sentimental" readers, Bustamante mourned the loss of the human knowledge represented by this great economic figure. With the "rural" state of the nation's health, the nation was missing "mature men," who, "with their experience and knowledge," represented "the solid portion of the collective."[40] Just as Mexico's citizens gained enough wisdom to be able to give back to their nation, they would succumb to disease and "disappear without completing their social mission." "With every early death," Bustamante continued, "the mathematician, the archaeologist, the biologist, the astronomer, the thinker die early, leaving their work without maturing and their school without those to continue their work."[41] A high mortality rate due to unhygienic practices promised

[39] Ibid., 51.
[40] Ibid., 52.
[41] Ibid., 55.

"constant turnover," a malignant feedback loop in which hygienic backwardness yielded more death, which led to further hygienic deficits, further death, and so on.

Whether the reader was sentimental or practical, Bustamante hoped they could appreciate the magnitude of the problem at hand. If Mexico did not arrest the disappearance of its citizens' wisdom and productive capacity by saving it from its "rurality," as he put it, the country would be condemned to economic and intellectual stagnation, if not outright degeneration. Bustamante's thesis, an encapsulation of his rural health efforts, was articulated in a single sentence: "By our lack of activity on issues of rural and municipal hygiene, we are losing civilization and money."[42] Notable are its similarities to the Courmont quote shared by General Rodríguez in 1917; just as notable was his change in focus away from Mexico City and toward rural environments as the site where progress toward economic modernization would take place.

With the stakes of the problem established, Bustamante offered a few reasons for Mexico's "rurality" problem. First was the issue of finance. According to the Sexennial Plan of the Revolutionary Party, the national budget earmarked for health amounted to 3.4% in 1934. The Plan budgeted an increase for the next five years, planning for an allotment of 5.5% of the national budget in 1939. This was a marked increase from the 1926 budget, which had set aside 1.93%, and evidently, the Federal government was willing to provide the states some level of financial support for health infrastructure and administration consistent with the wishes of incoming President Cárdenas.[43] Even with Federal support, however, Bustamante noted that it would be up to states and municipalities to determine how much money they would invest in health. Unfortunately, "many city governments" were "still indifferent" to issues of health,

[42] Ibid.
[43] Miguel E. Bustamante, "La coordinación de los servicios sanitarios federales y locales como factor de progreso higiénico en México," *Gaceta médica de México* 30, 5 (1988): 748.

meaning their budgets did not devote much money to issues of health, if they devoted anything at all.[44] Though urban environments may have fared better budget-wise than geographically-removed ones, economic anxieties reduced the quality of medical practice even in cities.

In addition to economic concerns, the nation also struggled to find professionals devoted to protecting the health of its citizens. "One hears talk of the great need of doctors in the provinces," Bustamante wrote. In this, he was referring to the problem of uneven physician density.[45] This problem was understandable. Based on social and financial incentives, physicians were not eager to relocate away from the opportunities for enrichment. As discussed above, much of the activity of professionalization, and the institutions devoted to advancing the medical profession, grew in urban environments during the Porfirian era. This meant that far-flung practice-settings lacked a draw for cosmopolitan physicians. During the era, Mexico had 4520 physicians, of which about 3500 practiced in Mexico City and seventy smaller cities. The result was that there was about one doctor for every 21,000 peasants.[46] The result was low physician density in areas outside of the nation's biggest urban centers. In cities, there was a complementary problem of *excess* density. As Bustamante observed, "the agglomeration of professionals in the cities…created, without a doubt, the medical proletariat."[47] This "proletariat" worked to scrape together a living based in the meager honoraria that their working-class patients could provide them in the face of intense competition.

While Bustamante clearly considered issues of financial investment and physician density to be key facets of the problem of "rural hygiene," he thought them to be symptoms of a deeper problem. Bustamante attributed lagging health indicators to a more ephemeral, abstract concern,

[44] Ibid.
[45] Ibid., 745.
[46] González, *Historia de la Revolución,* 279.
[47] Bustamante, "La coordinación," 745.

variously referred to as a lack of "energy," "intensity of effort," "greatness of ideal," "public" or "civic spirit" on the part of physicians. Without a passion for social service, without pride in his craft, the indifferent physician inflicted suffering on the public. By his uninspired work, he conveyed to the populace that the medical profession did not care about them, and that the physician's *raison d'etre* was self-enrichment, rather than social service. This led Bustamante to conclude that physicians lacked the compassion necessary to care for the Mexican people.

Doctors' lack of compassion took different forms depending on the context within which they practiced. "In our villages," Bustamante argued, residents "labored in the completest social, scientific, and cultural isolation" due to the neglect and disdain of medical professionals. There was "complete ignorance about what constitutes contemporary medicine and hygiene. They speak and even write about 'miasmas' and 'spontaneous generation.'" Away from the watchful eye of medical professionals, patients fell victim to preventable infectious diseases such as malaria, yellow fever, amebic dysentery, and parasitosis. The absence of licensed physicians in *pueblos* meant that residents were easy prey for charlatanism:

> It is not rare for druggists with economic roots …to ask for doctors [to form a professional relationship], to exploit them as unsalaried dependents of their drugstores; or, being curanderos in addition to druggists, [they] attack and persecute physicians who come [to town] with the intention to freely exercise their profession.[48]

Urban patients were also ill-served by municipal doctors. Cities were filled with "egotistical and disillusioned doctors" who were not motivated to serve Mexicans who lacked access to medical care.[49] These doctors were indifferent, acquisitive, or both:

> Often, one hears that the only job entrusted to the poorly-named "municipal doctor"—who might not even be a physician—is to weekly perform a defective medical exam of women involved in prostitution. He receives a payment—prohibited by the Constitution that abolished personal fees (impuestos)—and establishes a pernicious custom that does not reduce venereal diseases, which does not benefit the examined woman, which demoralizes the physician, [and] denigrates the public service that he is intended to perform…This doctor has no interest in public hygiene, nor

[48] Ibid.
[49] Bustamante, "La coordinación," 57-58. See also Agostoni, "Médicos rurales," 759.

> remuneration as an official (really, he is an employee of the prostitutes), nor stability in his position, nor encouragement in his work that he himself neglects and despises.[50]

Whether in a small village or one of Mexico City's neighborhoods, then, Bustamante's point was clear: the nation was filled with absent, avaricious, ineffectual physicians. There was an epidemic of indifference among Mexico's physicians. The "work of defending and protecting public health," Bustamante argued, "should not be in the hands of people without preparation, without knowledge, without care for their occupation."[51]

There was one potential for a cure: profound change, both in the structures of Medicine—its public institutional face, its modes of education and practice, etc.—as well as in the deeper emotional structure of the doctor/patient relationship. The physician—far from being the technician who performed a solitary and perfunctory gynecologic exam—had to be intimately involved in every facet of their patient's life: "collective pain and misery can only be known one looks for them," he wrote, "and social necessities are noticed by those who study, analyze, and cover the whole."[52] In reforming Medicine along these lines, Bustamante believed that socially-minded physicians could be the vital glue to join community members together. With the right "spirit," doctors had the potential to become the "evangelizers of health" that the nation so desperately needed, leading citizens on a march toward a healthier, more productive Mexico.[53]

Despite this glimmer of hope, Bustamante made clear that the prognosis was grave. "It is not probable," Bustamante despaired in 1934, "that in this moment, one would find a sufficient environment of sympathy and understanding."[54]

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[50] Bustamante, "La coordinación," *Gaceta*, 747.
[51] Ibid.
[52] Ibid. 746.
[53] Ibid., 747-8; Bustamante, "La coordinación," 57-58.
[54] Ibid.

***"Socializing the professions"***

Bustamante's 1934 remarks to the *Academia* came at what was to be a unique moment in Mexican politics. A new President was assuming office, the former governor of the state of Michoacán, Lázaro Cárdenas del Río. At that time, it may have been reasonable to assume that Mexican political life would go on as it had for the previous few years, with Cárdenas the latest of a series of puppet presidents governing at the behest of *jefe máximo* Calles. By April 1936, however, it was clear things were going to be different: Calles had been sidelined and exiled to the United States, with President Cárdenas' hands firmly on the levers of power. Cárdenas now articulated a unique vision for the agenda of the Mexican State. With a recentering of politics away from Mexico City and toward less-developed areas of the country and their vulnerable populations, a new mass politics came into being, with unique guarantees and expectations about how various sectors of society would relate to each other and to the Federal government.

Though the ascendancy of Cárdenas had several important consequences for Mexican politics, progress on health was perhaps one of the most notable. As historian Ana María Carillo has noted, during Cárdenas' Administration, the government spent a total of 80 million pesos on sanitary services. The 182 public health units that existed in 1934 when Cárdenas assumed the presidency had multiplied into 716 by 1940 when he left. Average mortality rates over the sexenio fall from 25 per 1000 during the 1920s to 22 per 1000 by 1938; deaths from smallpox fell from 9500 to 1700.[55] The rate of "mal definida" causes of death, a proxy for the spread of diagnostic and pathological knowledge, fell from 29.8 to 17 per 1000 over the sexenio.[56] In 1936, President Cárdenas put through a statute formalizing the terms of health services in ejidos.

[55] Carillo, "Salud pública," 177.
[56] Dirección general de estadistica*, Anuario estadístico de los estados unidos mexicanos* (Mexico, DF: Dirección general de estadística, 1938), 178-79.

Thirty-six ejidal units were opened, and administered by the Rural Health Division, representing five percent of the Federal Health Department budget, but also supported jointly by state and municipal contributions as well as ejidatario contributions of three pesos per hectare. The pot of funding was split between preventative and curative medicine, depending upon the locality's mortality rate, creating a flexible care system to bring mortality rates across the country down and keep them down. By 1941, these ejidal medical units served around 300,000 people.[57]

Cárdenas' commitment to spreading health did not begin upon assuming the presidency, however. As governor of Michoacán from 1928 to 1932, Cárdenas had demonstrated his commitment to extending health resources to isolated communities. As Kapeluzs-Poppi has argued, work undertaken on healthcare during the Cárdenas Governorship was "an early example of the way in which the Cardenista regime merged medical goals, social concerns, and political needs."[58] It also demonstrated the future President's capacity to find willing allies to advance his political projects. For example, throughout his gubernatorial administration, Cárdenas enjoyed the support of both the students and faculty at the *Universidad Michoacana de San Nicolás de Hidalgo*. The Nicolaitas, as they were called after *San Nicolás,* had been a vital force in Michoacán's social reformism during the prior gubernatorial administration of General Francisco Múgica. The former governor had been a committed radical, devoted to "end social injustice and modernize what [he] regarded as the backward practices of the peasantry."[59] He also happened to be a friend to Cárdenas. Given the close personal friendship between Múgica and Cárdenas, and the former's commitment to extending the watchful, yet caring, eye of the State into

[57] Kapeluzs-Poppi, "Physician Activists," 44.
[58] Ibid., 41.
[59] Ibid., 38.

Mexico's neglected corners, it was only natural that the Nicolaita influence should continue when Cárdenas took over as governor.

The close relationship between Governor Cárdenas and the Nicolaitas proved to be a productive one. In 1928, in the first year of his governorship, Cárdenas had opened a hospital at Apatzingán. As much as this was a beneficent move, this was also a strategic gambit, meant to establish State authority in a former stronghold of the conservative Cristero forces who had challenged Federal authority under Calles. This set the tone for Cárdenas' health agenda. In 1932, the Nicolaitas created an experimental clinic in Zacapu, consisting of a few beds and a pharmacy. With support from Governor Cárdenas, the Zacapu clinic became the model for a nation-wide program of ejidal medicine that emerged in 1934, with a second ejidal clinic established at Ciudad Anahuac in Nuevo Léon organized by Dr. Bustamante himself.[60]

Governor Cárdenas and the Nicolaitas nourished these institutional reforms by regular philosophizing. On August 1, 1931, Governor Cárdenas held a tea in Morelia, the capital of Michoacán, at his house. In attendance were over sixty professors and students from San Nicolás de Hidalgo, including the rector of the University, Dr. Jesús Díaz Barriga. The tea was part of an initiative sponsored by the University itself, allowing students to come together in a sort of symposium every two weeks to discuss serious issues in an informal setting. "During the conviviality," Cárdenas wrote in his journal, "impressions are exchanged, people sing, people joke, and at the end, a series of topics are covered that are interesting to everyone." That day, the talk was centered on "the participation that the student body should take in imparting cultural education to the working masses and the farmers." At the meeting, student committees were formed, each one devoted to a topic of "ideological diffusion and modes of economic

[60] Ibid., 43-44.

improvement." Among the various resolutions presented that day, one was particularly notable: advocacy for the introduction of a bill "socializing the professions." That bill would require to all professional students at San Nicolás to "offer their services for a specific period of time in the regions that the State indicated (this will be extended to normal schools)."[61] Concern about Medicine's emotional regime was something shared by Governor Cárdenas and his allies.

This interest continued when Governor Cárdenas became President Cárdenas. Indeed, Barriga continued to serve as advisor for Cárdenas as he ascended to the Presidency. The "socialization of the professions" came to be an integral part of the Cárdenas Administration's broader push to transform the traditional power-wielders in Mexican society into allies and agents of state. It provided a framework for the work undertaken by the DSP during Cárdenas' tenure, furthering the shift in the locus of political power in public health away from Mexico City and toward Mexico's rural corners. In November 1935, Morelia, Michoacán hosted the First National Congress for Rural Hygiene, an effort undertaken by Dr. Barriga and his student, Dr. Enrique Arreguín Velez, by then, rector of the *Universidad Michoacana* himself. A panoply of health care professionals and officials attended the Congress, offering proposals for the reform of Mexico's system of health care administration.[62] This included advocacy for greater focus within medical education on issues of rural health per se, in addition to various proposals for the socialization of Medicine on a Soviet model. Indeed, one of the proposals presented shared a strong resemblance to the ultimate form the SMS would take.

Overall, President Cárdenas' health policies—chief among them the "socialization of the professions"—had their origins in Cárdenas' earlier years in Michoacán, part of his collaboration

[61] Lázaro Cárdenas, *Obras: I – Apuntes 1913-1940*, vol 1 (México: Universidad Nacional Autónoma de México, Dirección General de Publicaciones, 1986), 184; Soto Laveaga, "Bringing the Revolution," 400.
[62] Agostoni, "Los viajes de higiene," 322-3; Kapelusz-Poppi, "Rural Health." See Chapter Two below.

with the Nicolaitas to assist the state's vulnerable citizens. From experience, Cárdenas understood that the successful massification of politics would depend upon cultivating professional allies sympathetic to this vision of politics. The exam room could become another venue for the negotiation of political power, but it would require vigorous reform to make that aspiration a reality. Physicians would thus be essential to President Cardenas' vision of radicalism, massification, and centralization.

***Against "the health trafficker"***

President Cárdenas established his independence from *jefe máximo* Calles in Summer 1935, triggering the entire Callista cabinet to resign on June 15. Cárdenas was thus empowered to make a cabinet reflective of his social and political priorities. In the realm of health, his choices were perhaps unsurprising: Cárdenas selected two men who by Cárcamo's standards could only considered "outstanding revolutionaries." For the DSP's second-in-command, Cárdenas selected Dr. Barriga, his longtime Nicolaita ally from Michoacán. For the top position at the DSP, that of Secretary, Cárdenas selected General and Doctor José Siurob.

Cárdenas' appointment of Siurob was a canny one. Over his entire career, Dr. Siurob vividly demonstrated that being a successful physician was perfectly congruent with sustained, meaningful political advocacy and organization. Born in Querétaro in 1886, Siurob ultimately made his way to the *Facultad de Medicina* in Mexico City to study Medicine at the end of the first decade of the twentieth century. Siurob arrived at the capital at a particularly turbulent time in Mexican political life: the swan song of Porfirio Díaz' regime. As a medical student, Siurob was intimately involved in coordinating student protests of the Díaz regime, and in favor of Francisco Madero, the wealthy, liberal candidate from Northern Mexico who ran to oppose Díaz'

stranglehold on the executive. As he recalled in a 1963 autobiography, during their protestations against Díaz and his Department of Public Education, Siurob and his fellow students often clashed with police, which sometimes led to injuries. Siurob helped provide basic medical care to the injured, which "increased [his] popularity" among members of the movement.[63] The pro-Madero clubs appreciated the work of Siurob and his fellow students; they were considered to be "the bravest elements" of the Revolutionary group. Siurob parlayed this reputation into a central position in Madero's campaign, particularly following Díaz' imprisonment of Madero. As Madero's operations against Díaz escalated following his escape from prison and the promulgation of the *Plan de San Luis Potosí*, Siurob came to focus on Revolutionary activity entirely, putting his medical education aside as he returned to Querétaro to rally pro-Madero forces. They ultimately succeeded in May 1911, as Díaz resigned and fled for France.

Though the victorious President Madero requested that Siurob assist him put the new administration together, Siurob decided the time was now appropriate to complete his medical training. He studied at Hospital Juarez in Mexico City to become a surgeon with expertise in the gastrointestinal and genitourinary systems. He ostensibly had quite a steady hand, as he recalled that his attending physicians had "trusted [him]," totally on his own, "to operate on some patients when they didn't have time or didn't want to operate."[64] Siurob finished his medical training in 1912. At that time, he again returned home to Querétaro, this time to practice another form of politics: building a medical practice.

As he had in Mexico City, Dr. Siurob distinguished himself a prominent citizen and organizer in Querétaro. From a clinical perspective, his talents permitted him to develop a successful practice. He collected "a complete arsenal of instruments and autoclaves" to permit

[63] Jose Siurob, *Memorias de una vida revolucionaria* (Mexico City, 1963), 9.
[64] Ibid., 13.

him to perform a wide array of procedures, and as the sole surgeon in Querétaro, his colleagues brought him a steady stream of cases. This clinical success went hand-in-glove with continued political participation. In advancement of his earlier pro-Madero activity, he founded the Liberal Party, "very strong with the factory workers and the farmers, many of whom were longtime friends." Indeed, many of his friends and allies in Querétaro were his patients, "who I always treated for free, as I knew their miseries, their low wages, and the illnesses that they were exposed to." By this marriage of clinical care and political engagement, Siurob became "*líder máximo*" of this area of the state.[65]

As conflict again expanded following the assassination of Madero in 1913, Siurob was once again called to return to Revolutionary activity. He joined the Constitutionalist cause and served in the Army of the Northwest as a physician in the Medical Corps. By 1915, he was granted the rank of brigadier general. He continued his public service for the Constitutionalist cause as Governor of his home state of Querétaro from 1914-1915, and of the state of Guanajuato from 1915-1916. Over the next fifteen years, Siurob was intimately involved in supporting the unstable peace that gelled with the triumph of Carranza's forces, in both political and military roles. In 1917, he served as a deputy to the Federal Constitutional Convention in Querétaro, then served as a federal deputy for his home state from 1918 to 1925. In 1928, Siurob was tapped to serve as Governor of the territory of Quintana Roo in the Yucatán, where he served until 1931. In the years prior to the beginning of the Cárdenas Administration in 1934, Siurob had commanded the 17th Military Zone centered in his native Querétaro. Evidently, Cárdenas saw Siurob as a public servant particularly well-suited to advancing his priorities. Initially, Siurob was appointed Director of Military Health in 1934 upon Cárdenas' election. He

[65] Ibid., 15.

served in this capacity until June 19, 1935, when, following Cárdenas' consolidation of power, he was selected to serve as Secretary of *Salubridad Pública*.[66]

From his personal history, Siurob was clearly the ideal representative for President Cárdenas' vision for a newly socialized medical profession. As soon as he was appointed, Siurob wasted no time in identifying key problems with the DSP and addressing them. Prior to his appointment in 1935, the DSP existed "in name only," its various activities "relegated to its offices in Mexico City" and unable to much good in the lives of Mexicans. Much of the real labor of preventative care was undertaken by the Rockefeller Foundation, as local governments "complained that [the DSP] budget did not permit [them] to attend to the sanitary issues" that plagued them.[67] During his tenure, Siurob ushered in an array of policy changes to make the DSP more active across Mexico: including the establishment of the Service of Infant Hygiene, the expansion of vaccine production capacity, the intensification of campaigns against infectious diseases, and the diffusion of "social medicine with hospitals and services in great labor centers like La Laguna," a prominent site of ejidal redistributions.[68] Consistent with Cárdenas' agenda, Siurob reorganized health services to serve those who had historically been neglected by the Federal government.

In addition to the real material successes that characterized his tenure as Secretary, Siurob articulated a robust ideological framework for Cardenista public health. He justified the State's intervention in what could be considered private affairs, and advertised Cardenistas' interest in caring for the nation's vulnerable citizens as central to its vision of a massified politics. In the Winter 1935-1936 issue of the newsletter of the DSP, *Salubridad*, Siurob offered a broad vision

[66] Roderic Camp, *Mexican political biographies, 1884-1935* (Austin: University of Texas Press, 1991), 206.
[67] Siurob, *Memorias*, 50.
[68] Ibid., 51.

for the "new orientation for the public health services" in Mexico. The DSP was entering "a new era of social action, consequent with the postulates and tendencies of an eminently revolutionary Government and placed at the service of the lively forces of the country, just as the modern sociological concept of the State required." [69] The Secretary noted that the newly-socially-aware DSP would have to attend to the "actual social conditions" of Mexico, after having arrived "at the firm conviction that more than half of the labor that it perform[ed], rest[ed] in the work of education, and the rest…to economic betterment of the population and to the technical work that, with the limited resources that the Department possess[ed]," would clear a path "slowly, but firmly, toward the conquest of its high conclusion"[70] Clearly, Siurob was eager to make profound changes in public health and medicine in Mexico. Key to the success of this project would be for clinicians to recognize their duty to compassionately serve the Mexican people.

Later in 1936, once better situated in his Secretariat, Siurob more thoroughly elucidated the contours of the "new orientation" in a pamphlet titled "*Tendencias Modernas de la Salubridad en la República Mexicana*."[71] The cover of the booklet revealed the Herculean task confronting health care providers in Mexico: a muscled Adonis, whose robust—but strangely white—hands struggled to keep a viper at his feet from lunging in for a fatal bite. The publishers evidently viewed the challenges of the inculcation of "modern tendencies" in health as comparable to Hercules' great wrestling match against the river god Achelous. In the original myth, when Hercules confronted the beast, the god first went after Hercules as a snake, but quickly changed form. Like the river deity, issues of health were always protean—today, typhoid; tomorrow, venereal disease—and they were always destructive. The narrative

[69] José Siurob, "La nueva orientación de servicios de Salubridad Publica," *Salubridad: órgano del Departamento de Salubridad Pública,* vol. vi, no. 1. (December 1935-January 1936): 5.
[70] Ibid., 6.
[71] José Siurob, *Tendencias Modernas de la Salubridad en la República Mexicana* (Mexico City: DSP, 1936).

resonance between the myth and the task at hand for the DSP did not stop there. Through his brawn and cunning, Hercules snapped off one of the god's horns and defeated him, saving the residents of the area from the river's capricious flooding. After slaying this foe, Hercules won the hand of Deianeira. He also received a blessing from the goddess of Plenty, who transformed Achelous' fractured horn into a Cornucopia. By defeating this mythic adversary, Hercules saved the people and guaranteed peace and prosperity for the future. He was an aspirational model for Mexican Medicine.

Siurob's text—part political treatise, part policy paper—outlined the State's position on the independence of the profession of Medicine. Throughout, Siurob wrestled with how Mexico as a society could reconcile individual achievement—a topic of particular interest to physicians who enjoyed free exercise of their profession—with Cardenistas' push for social amelioration. To set basic terms, Siurob offered a definition of Health/Wellness that did not have a scientific or biological definition, but rather had "its origin in the recognition that the individual and society make as to their mutual obligations and that reveal themselves through society's laws, rules and dispositions, authorized in the exercise of its sovereignty."[72] This was what was to be unique about Mexican society. To this point in human history, no state in the history of the world, Siurob noted, not those of classical antiquity—those of Herculean myth—nor the liberal states of Revolutionary France or the American Republic—liberal touchstones—nor the Soviets, nor the Fascists—fledgling socialist societies—had enshrined health within their political systems.[73] The experience of the Revolution and its aftermath demonstrated the need to establish health and wellness of persons as an "enumerated right," as vital to the functioning of a society as the right

[72] Ibid., 3.
[73] Ibid., 3.

to vote. It was Mexico's time to lead. The map to a modern conception of citizenship need not lead through Washington, Berlin, or Moscow, but could very well proceed through Mexico City.

The rights of individuals were not to be without some sensible restriction, however. Individual right was to be balanced against the welfare of larger society: "The collective has the right to oblige the individual to care for its own health and submit itself to all those dispositions that would guarantee that it not be a threat to the rest of the social conglomerate, and indeed, to the contrary, a force of work and of professional activity."[74] In a pivot away from liberal language regarding the rights of individuals to health, Siurob employed a rhetoric of communalism through eugenic connection. As if to demonstrate his Revolutionary credentials, he argued that individuals had the responsibility to the race to allow for State authority over their personal health; for it was "from the great mixing of peoples come the strongest races, as has happened in the very country to which I now refer, which owes its name precisely to the conjunction of races that give birth to it."[75]

Through this focus on racial amelioration, Siurob was able to rhetorically transition into an extended discussion of features of health that transcend the narrower, liberal definitions of "health." According to Siurob's research, 80% of the overall health of the nation could be traced to the quality of social well-being. To make progress, Siurob emphasized the future importance of "hygienic education of citizens and especially of women," for women would be critical allies "in the fight against vices as well as in technical and administrative labors."[76] Alcoholism and venereal disease were racial toxins that poisoned the population. Infant mortality needed to be eradicated to guarantee increase for the Mexican people. Educational work and active

[74] Ibid.
[75] Ibid., 4.
[76] Ibid., 5.

engagement in indigenous communities needed to be undertaken in indigenous vernaculars, to permit the crystallization and transmission of knowledge to enhance the enlightenment of the Mexican people. This work would ensure that the DSP could guarantee a chance at health for Mexico's people and articulate a "modern doctrine for the organization of Sanitary systems."[77]

Siurob's writings about Health/Wellness, individual rights, and State interest offered a high-minded intellectual justification for Cardenismo's version of interventionist public health efforts. It had a second function: a direct address to physicians jealously guarding their professional privileges. Here, Siurob engaged directly with issues of related to the deficiencies of Medicine's emotional regime. In announcing his "new orientation," Siurob argued for a rupture from the preexisting intellectual—and emotional—course of public health and medicine. The members of the conservative "aged organism" that Cárcamo had referred to would, at best remain ensconced in their privilege and at worst contribute to the further alienation of Medicine from the *pueblo*, were changes not made. After all, even with "socialized" institutions in place, the State's efforts could become tainted by the egotism of clinicians and researchers if the appropriate reforms were not adopted. To right the ship, Siurob argued that the Liberal Doctor—gelled amid the professional conflicts of the Porfirian era—needed to be "socialized," transformed from "the health trafficker"—whose economic and social interests were linked to the persistence of illness as a commodity—"into an agent actively maintaining health itself."[78] This new orientation would require emotional commitment on the part of physicians; this would necessitate they "abdicate some of [their] privileges and respond with specialization,

[77] Ibid.
[78] Ibid.

coordination of collective services…with sentiments of high moral rectitude and responsibility to the trust that society places in its transcendental functions."[79]

If the profession was unwilling to reform internally, a different path would have to be followed. The new orientation would be affected by putting doctors "at the service of the state," involving the total erasure of the profession's independence, as had happened in the Soviet Union.[80] Some sort of "socialization"—whatever that might operationally mean—was the only curative to the moral and scientific ossification of the discipline that Cardenistas would accept. This was a shot across the bow of the profession of Medicine. "Full socialization" was an alarming prospect, if not existential threat for many physicians. As a physician himself, Siurob offered the advice that his peers ought to cooperate and collaborate with the DSP as much as possible, rather than pitched resistance. "Instead of fortifying ourselves in our old privileges," he suggested that doctors should instead "retain moral force and effectiveness" in their various activities.[81] The ambiguity of the final clause was perhaps a veiled threat. While it could certainly have represented idealistic talk about doing the good work of medicine, it could also be read as what physicians would be giving up were Cardenistas to fully socialize the profession: their social caché and their independence. Siurob was telling physicians that the DSP would allow the profession to make the next move. The path Medicine chose would determine how far the Cardenista officials would go to better align the profession with their political goals.

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[79] Ibid., 6-7.

[80] See Kate Schechter, "Soviet Socialized Medicine and the Right to Health Care in a Changing Soviet Union," *Human Rights Quarterly,* 14.2 (May 1992): 206-215 and B. Goldman, "Medicine in the Soviet Union," *Cand Med Assoc. J*, Nov 1, 1983; 129(9): 1023–1028. Following the October Revolution, the Bolshevik regime deprofessionalized medicine to "strip…the profession of its elitist elements" (207). In the 1920s and early 1930s, medical school admissions were preferentially oriented toward training those of humbler origins. By 1935—as the SMS got off the ground—proletarianization in the Soviet Union had ironically abated. In the UK and US, observers wrote volumes describing this socialization with enthusiasm: among them were Sir Arthur Newsholme and John Adams Kingsbury, Red Medicine: Socialized Health in Soviet Russia (Garden City, NY: Doubleday, Doran, 1933) and Henry Sigerist, *Socialized Medicine in the Soviet Union* (New York, NY: W. W. Norton; 1937).

[81] Siurob, *Tendencias*, 8.

After this threat, Siurob concluded with conciliation. If Mexico was able to address these issues of social indifference, Siurob was optimistic that the nation would be quite fit indeed. Its people would be healthy, and as a result, the nation—and its noble, socially-conscious physicians—would be a model for the rest of the world to follow. Siurob closed his pamphlet on a note of Pan-American fraternity. Latin America, "these twenty sister republics, can reach their high destinies, carrying, as they do, constructive Science as the eternal guide of man and of civilizations on this continent."[82] The region stood at a crossroads. Mexico could distinguish itself as the *avant garde* of socially-minded medical care for the rest of the world. Other nations, suffering under social inequality, could follow Mexico's example.

***"Renew or die"***

On October 1, 1932, Dr. Tomás G. Perrín, a pathologist and incoming President of the *Academia*, delivered a speech to open the 119th Academic Year of the *Academia Nacional de Medicina*. Ostensibly, Perrín and the members there assembled were under no illusions about the social and political challenges of the 1930s: Mexican Medicine had to contend with a global current of social medicine that challenged both its ideology and its daily practice. Perrín rose to speak that day to convey to physicians that despite these changes in social and political life, the profession of Medicine was worth defending, and that it was willing to stand athwart some of society's greater excesses to defend what it perceived to be its noblest endeavors. "A group of honest and hardworking men," he began "who discuss scientific, literary or artistic issues, in a desire for improvement, unrelated to all profit and protected from all vain exhibition, must deserve, if not admiration, respect, at least, of the advised people. "[83] It was evidently

[82] Ibid., 37.
[83] Tomás G. Perrín, "Discurso del Dr. D. Tomás G. Perrín," *Gaceta Médica de México* 63.10 (1932): 478.

challenging for him to understand exactly how critics could reasonably accuse Medicine of monopolistic clique indifferent to the needs of real Mexicans. He acknowledged that it was possible that, because of physicians'—and in particular, the *Academia*'s—interest in research that sometimes did not have direct application for patients' lives, that doctors began to engage in navel-gazing haughtiness. "It could be…that the work is developed in a plane of a certain moral elevation," he wrote, given the goodness of their efforts as men of science to understand truth. "But it must never be the academic," he continued, "who believes himself placed in [that plane]; to that plane, despite little pious intentions, he carries the same zeal of whoever taunts him."[84]

Perrín evidently believed that physicians as men had a vital social role to play in serving the needs of the people. Doctors, for all their lofty intellectual work, were still men. It was worth it for them to reflect upon their vulnerabilities, even if the self-reflection was a relatively infrequent activity. On these broad terms, Medicine and the Cardenista State could agree. Though both physicians and State officials in Mexico may have seen the value of "social medicine" as a concept, this did not mean they had the same ideas about to practice it, however. While Medicine was clearly engaged in self-reflection regarding what exactly it meant to "approach the *pueblo*" prior to the advent of Cardenismo, the concerns of high-ranking Cardenistas regarding the lack of emotional engagement by physicians put clinicians on edge. Their promises of "socialization" left doctors pondering what exactly that might mean for them.

In his 1932 remarks, Perrín defined "approaching the *pueblo*," a "somewhat hackneyed phrase." If by this, critics meant "to be interested, or to watch over, their physical and moral health," then the problem was a misunderstanding because the *Academia*'s Advisory Board had been doing just that for "more than ten decades," treating patients of all sorts, and participating in

[84] Ibid.

public health projects "with fidelity and with loving interest to the people…in most of their functions."[85] If commentators meant by that the Academy should open its doors to common folk, or that Academics ought to go to speak to "worker and peasant communities," however, Perrín argued that this was "an absolute ignorance of our duties" as physicians. Yes, physicians were "passionate about the tasks of scientific dissemination—to describe complex matters of our specialties with simple words and with trivial examples." To totally throw open the doors of the *Academia* to the *pueblo*, to "even partially compromise in academic tasks would gradually lower our culture to a lamentable mediocrity."[86] Perrín was evidently hip to prevailing social winds that he stated that it was surely some "just compensation" that the Mexican people should be the ultimate source of social and political power in the country. He was committed enough to professional independence, however, that he argued that Medicine ought to resist an obsequious "flattery of the powerful," as he put it, which would lead the *Academia* and the profession to compromise on its commitment to excellence. Despite this firm stance against what he viewed as a demagogic retreat to please the *pueblo*, Perrín ended his address with a return to deference to prevailing political realities. He hoped that "all the excitement of today to hear the voice of the *Patria* to call us to work, may grant the enthusiasm tomorrow to obey it."[87]

The basic features of Perrín's 1932 address—a defense of Medicine's goodness and beneficence, a critique of demagoguery, some level of deference to political reality—seemed to be common to physician commentaries on the amorphous concept of "socialization," particularly as the issue became more pointed during the Cárdenas years. In 1936—the year of Siurob's pamphlet—the *Academia* held its annual essay competition on the topic of "The concept and

[85] Ibid., 479.
[86] Ibid., 480.
[87] Ibid., 482.

scope of the socialization of medicine." The winning submission, written by Dr. Everardo Landa, former President of the *Academia* from 1926-1927, exemplified the profession's attitudes toward the impatient demands coming from public health officials. As seen above, there was an "or else" that was hanging over discussions of the "new orientation" of health services: the adoption of the Soviet model, abrogating the traditional autonomy of the profession and placing physicians under the direct authority of the State. In his essay, Landa pushed back on this threat, signaling the profession's willingness to reorient itself, provided that Cardenista public health officials demonstrate their good faith collaboration with Medicine. In keeping with the theme of spiritual renewal and transformation, Landa submitted the essay under the *nom de plume* "Igne Natura Renovatus Integra." The significance of the pseudonym acted as an interesting marker of the argumentative ground that the author aimed to stake out: the phrase could be roughly translated as "He who nature made whole by fire," a play on the phrase "Igne Natura Renovatur Integra," or "Nature made whole again by fire." The phrase had alchemical associations, and was suggested to represent an alternative meaning for the Catholic acronym *INRI*, the abbreviation of "Jesus of Nazareth, King of the Jews." It was a unique choice, given Mexico's history of anticlericalism, but allowed Landa invoke the concept of spiritual healing.

Indeed, in the essay, Landa agreed with the critics' basic premise that Medicine, as it stood, needed renovation. The necessary renovation wasn't the one the critics expected: "in this movement of the transformation of 'values,' the physician has delayed with disdain by means of his free action"—so said critics like Cárcamo or Bustamante.[88] Landa argued that far from the stereotype of the indifferent or hostile physician that some reformers deployed, the crisis of values within Medicine was not due to an intrinsic egotistical or exploitative streak. Rather,

[88] Everardo Landa, "Concepto y alcance de la socializacion de la medicina," *Gaceta médica de México* 67 (1937): 582.

Landa encouraged the reader to consider that physicians were distant in the era of the "new orientation" was because they were, in fact, the real victims:

> The doctor, an individualist personage by intellectual or moral inheritance, by tradition, by custom bordering on instinct or routine, by the environment where he operates, by the human material that constitutes the object of his professional activities, by the character of the clinic, by his fights against pain, always subject to the proprieties (*conveniencias*) of privacy that the profession obliges him, by his disappointments, becomes pessimistic and not only retreats, but hides under the cover of this abstract being that they call 'the unknown doctor." But superficial people judge him to be an egotist, and the senseless, an exploiter. And we are also bourgeois and retrograde.[89]

The physician, "apostle of a humanitarian purpose," was hostage "in an 'Ivory Tower" of his [own] isolation." Mexican society had so thoroughly cast the "proletariat" as perpetual victim, it had transformed physicians into the villain. As a result of the wedge between doctors and patients, physicians had "almost lost that faculty of altruism that was inherent to the quality of our title."[90] When this was taken with the fact that physicians had to compete with unlicensed charlatans, leading to a gradual economic immiseration—what some like Bustamante referred to as a "professional proletariat"—the demoralization was complete. Pithily and provocatively, in an invocation of the 1930 work of Spanish author Francisco Polo y Fiayo, *The physician ruling by the privileges of the people,* Landa suggested that the physician was "a great slave."[91]

The above was not to say Landa suggested that the status quo was adequate, or that Medicine need not make any changes. Landa pragmatically argued that the political moment demanded physicians change some of their practices. Although the task might be "grueling," and though it may provoke discomfort, it was "indispensable that we adapt. 'Renew or die.'"[92] To that end, Landa offered an extensive list of possible reforms that might improve the situation of health in the nation:

[89] Ibid., 427.
[90] Ibid., 577.
[91] Ibid., 427.
[92] Ibid., 428.

First, an extensive overhaul of the regulatory system was vital to the survival of Medicine. Landa suggested that Article 4 of the 1917 Constitution—which enshrined a right to "health protection" for citizens, and thus established the Federal government's regulatory power over issues of health provision—could be reformed to some degree to permit greater protections for the health of citizens. Landa was careful to note that changes ought not compromise the free exercise of Medicine. The public health apparatus' best bet would be to strengthen its organs of public aid and charity, offering provisions for the needy, while also allowing the physician to exist independent of the bureaucracy, permitting him to develop emotional ties to the patient organically. The Federal government would thus support the beneficent activities that Medicine established for the Mexican people, rather than leading them. Landa's enthusiasm for liberal principles of free professional exercise clearly had a limit, however: principles of labor solidarity *en vogue* in Cardenista circles had some appeal for the old Academician. Even though collective action was "not the appropriate" form of action "for the free spirit of the physician," Landa suggested that physicians had to acknowledge the benefits of unionization as a "mode of inevitable resistance" against unlicensed practitioners who harmed patients and the profession of Medicine alike.[93]

Second, medical education at the *Facultad* needed reform. He acknowledged the material investments that the medical school had undertaken in the wake of Director Ignacio Chávez' 1933 Centenary campaign (discussed in Chapter Two). Even so, he stated his concerns on two fronts: "encyclopedism" and the frequent changes to curricula. By encyclopedism, he evidently meant a curriculum geared toward didacticism, a practice that he found "anachronistic and almost harmful." In its place, he advocated for practical specialty training. While Landa

[93] Ibid., 586. Gabriela Soto Laveaga's forthcoming book focuses on physician strikes and collective action.

suggested that the curriculum was plagued with what we might describe today as "fluff"—he suggested that some of the semester-long courses were "mere pedagogical illusion" and suggested that the semesters could be reduced by up to a half—he maintained the importance of social medicine to the students' professional formation. "To complete the doctor that modern society requires," Landa wrote, it was necessary to teach the students "all the details that make up Social Medicine."[94] Even for Landa, some level of "socialization"—for him, the adoption of the principles of social medicine—was not a bad thing: in fact, was vital to the ability of medicine to adapt to the new political climate. Again and again, Landa emphasized that he did not think that full socialization—which he defined in terms like what the USSR had done—was the right thing to do, for Medicine or for Mexico. By what we could refer to as a "partial socialization," Landa hoped that the State would break off its siege and allow Medicine to protect the "autonomous spirit of the physician"—the vital spark that underwrote the physician's imperative to care—that "full socialization" would certainly abrogate.[95] *That* form of socialization would be equivalent to transforming "the Temple of Hippocrates" into "a beehive," the metamorphosis of a thinking and feeling free professional into a drone.[96]

As author of the *Academia*'s winning submission in 1936, Landa spoke to the anxieties that Mexican Medicine had about what might happen should the profession's response to Cardenista demands for socialization be inadequate. There was clearly some resentment at being put upon by those outside the profession. Cannily, however, it appears that much of the language deployed by physicians and the *Academia* in the era of the "new orientation" seems to

[94] Ibid., 435.
[95] Ibid., 587.
[96] Ibid., 586.

have been less oriented toward casting the profession as the real victim a la Landa, and instead, toward finding opportunities for collaboration/cooperation with Cardenistas.

Often, these overtures toward détente came from physicians who were educators, had connections to the DSP, or held other leadership positions within the *Academia*. For instance, at the VII Pan-American Congress of the Child in October 1935, Dr. Ignacio Chávez was pleased to "open the door of the old house" to physicians and hygienists from across the Western Hemisphere.[97] He wanted to disabuse the delegates of any conception that the Academy they visited was an ossified, "hermetic" cloister. Though the *Academia* was the oldest of its kind in Mexico, it was not "a walled house where problems of pure science and austere and rigid research" were "the only topics of interest." Chávez instead emphasized the openness and breadth of the *Academia*'s mission. It was through "wide windows onto the world" through that "the winds of all concerns and the throb of all human necessities enter our enclosure."[98] In that statement, there was no doubt that Medicine would retain its authority.

Authority did not necessitate aloofness, however: Chávez emphasized that—contrary to Cárcamo— Medicine was eager and willing to attend to the needy outside the profession's bastions.[99] Indeed, Medicine recognized that he world outside its ramparts was rife with distress. The social ferment, the "sometimes-anguished restlessness" of the 1930s, as Chávez put it, may have given the impression that humanity was slumping toward "collapse." Physicians, from their comfortable position, needed not fear the turbulence of this "era of the masses," however. Chávez stated, "humanity [was] attempting to build a new form of life." This instability provided Medicine with a real opportunity to build something new: doctors had an important role

[97] Ignacio Chávez, "Palabras de salutación a los miembros del VII Congreso Panamericano del Niño," *Gaceta médica de México* 66 (1935-1936): 424.
[98] Ibid.
[99] Ibid.

to play in the social world that they "ought not shirk." "Tradition" did not mean "routine," nor did "mental superiority" mean "disdain," nor did it "authorize incomprehension."[100] Every day physicians did not engage with the social world, they ran the risk "divorcing" themselves "from the reality that surrounds us." The "transcendental mission" that lay at the feet of doctors and their allies could not be understood—"much less lovingly served by"—professionals who would conduct themselves based on an archaic professional code. In addition to—or more cynically, behind—this beneficent reason for engagement, Chávez identified a practical one: doctors were not going to win this fight with Cardenistas. Doctors jealous of their privilege or afraid of "the mob" simply couldn't outlast the siege outside their gates. The only way for Medicine to salvage anything at all would be to compromise. The era's physicians needed "to adjust [their] step to the rhythm of the times," but needed to be sure they could do that "without losing…the best of [their] essence."[101] They would bend, but not break.

What would make massification easier to swallow was the emphasis that physicians did not need to change their way of *thinking* to reform their way of *feeling*. Tactical retreat did not necessitate physicians to abandon scientific rigor or the professional culture to which they had become accustomed, despite what Perrín had warned a few years prior. Commentators argued that Medicine's monopoly on medical knowledge—and the power attendant with the exercise of that privilege—was not fundamentally at stake in this dispute with the State. To shore up this important rhetorical position, it was regularly pointed out that it was not laboratory medicine that was to blame for physicians' blasé attitude toward the *pueblo*. As Siurob had argued in his pamphlet, doctors need not dumb down their practice to feel empathy for their patients. In the *Gaceta*, Dr. Gonzalo Castañeda, a surgeon and professor at the *Facultad*, further elucidated this

[100] Ibid., 425.
[101] Ibid.

position in an article supposedly centered around a narrowly clinical topic: how to manage "disagreements and contradictions between clinic and clinic, between clinic and laboratory, and between laboratory and laboratory." Castañeda acknowledged that the "chaos and anarchy of views and opinions is a scientifically profound and professionally serious subject, and merits reflections and steady study; this situation is bothersome and disturbing."[102] Essentially, Castañeda's advice was to accept that fact as a vital part of the successful functioning of the scientific enterprise: "Our science injects doubt, our art is equivocal, our intelligence is finite and fallacious."[103] Despite man's destiny to always err, Castañeda did suggest there were ways to be proactive about improving certainty. "The clinic should accept as true, and not doubtful or false, the report, the data that it receives; if he thinks it false, he should test it."[104] If there was persistent disagreement between lab and clinic, Castañeda suggested that preference be granted to the laboratory, for "in reality, the clinic makes more errors than the man in the cabinet" as his instruments "discover things that escape the senses."[105] In a final shot against the vainglory of doctors skeptical of laboratory work, Castañeda insisted that "the fallible is inseparable from man…Our spirit is not disposed to admit that which it does not conceive, and yet exists and is true."[106] It was difficult to confront one's own hubris, especially for physicians whose livelihood depended upon being certain. Castañeda argued that it necessary to consider one's own role as a physician in the social world:

> if one does not meditate, if one does reflect upon one's actions, if they don't submit their acts to healthy critique, man becomes a machine that always repeats the same thing; he who labors without discernment, he who moves like an automaton, does not reform himself, does not perfect himself,

[102] Gonzalo Castañeda, "Discordancia y Contradicciones entre la Clínica y la Clínica, entre la Clínica y el Laboratorio, y entre el Laboratorio y el Laboratorio," *Gaceta médica de México* 66, 3 (1935): 172.
[103] Ibid.
[104] Ibid., 174.
[105] Ibid., 175.
[106] Ibid.

> does not evolve; one must concern themselves not only with knowing, but also, how to apply and take advantage of the awareness.[107]

These "modest considerations" to fellow doctors, again, on an ostensibly narrowly-clinical topic, revealed the subtle ways in which the new orientation might alter everyday clinical practice.

In this way, reformist physicians constructed an argument regarding socialization that preserved physicians' social cache as guardians of "modern," "objective" techniques of say, pathology or microbiology—fields that had been essential to the process of high professionalization—while also permitting them to open their spirits to the possibility of changing the way they felt about their patients. Across the publications of physicians in the *Academia*'s orbit, one thus sees an idea gestating: that broadening the scope of Medicine might not represent a surrender, but rather a way to guarantee the profession's continued independence and perhaps, to even find an opportunity for it to enhance its social position. Massification did not have to be a dirty word: with the right attitude, it could provide a resource for Medicine to cement its influence in the new era.

***"Are you assiduously devoted to your patients?"***

There was perhaps no more effective apologist for the "new orientation" than Dr. Alfonso Pruneda. Born in Mexico City in 1879, in the first decade of the Porfirian regime, Pruneda benefitted from the educational reforms of the era. He completed his secondary school education at the *Escuela Nacional Preparatoria*, the Comptean secondary school of Gabino Barreda's design. In 1897, at age 18, he began his professional degree at the *Facultad.* He was able to complete his medical training in 1902, with a completed thesis titled "Incipient pulmonary tuberculosis: symptomatology and diagnosis." This thesis on tuberculosis—social disease *par*

[107] Ibid., 176-177.

*excellence*—revealed a strong intellectual passion for issues of hygiene and social engagement. Over the following decades of his public service, Pruneda time and time again demonstrated that this was not a mere intellectual interest, but rather a true passion for addressing the needs—broadly construed—of other human beings. During the Mexico City typhus outbreak of 1915, Dr. and General José María Rodríguez had placed Dr. Pruneda at the head of the campaign. While General Rodríguez' approach may have been—quite literally—scorched earth, Dr. Pruneda's approach revealed his sophisticated understanding of public health and hygiene, favoring the diffusion of hygienic education by means of the free distribution of 70,000 leaflets published by the newspaper, *El Demócrata.* A few years later, Pruneda served as Secretary of the DSP under President Obregón beginning in 1920, during which he was integral to the diffusion of campaigns against diseases such as plague and yellow fever. During this time, he also served as the vice president of the First Meeting of Public Health Directors of the American Republics in 1924 and represented Mexico at the Interamerican/Pan-American conference in 1924, where he signed Mexico on to the Pan-American Sanitary Code. As an ally of the President, based upon their shared commitment to the expansion of hygienic services no doubt, Pruneda served as physician in the Office of Rural Inspection, chief of the Office of Hygienic Education, and Director of the newly-formed Health Department of Mexico City in 1939-40.[108]

Several times in his life, Pruneda faced real challenges. At age 18, Pruneda's father died, leaving him responsible for continuing his medical education and bringing home money for the family. This he accomplished by means of offering classes in biology and piano, in addition to earning some salary as an intern at the Hospital Concepción Béistegui, about a mile from the *Palacio de la Inquisición*. His tuition was supplemented by a scholarship from the Ministry of

[108] Claudia Agostoni, "Alfonso Pruneda," in Leonor Ludlow, ed., *200 emprendedores mexicanos: la construccion de una nacion* (New York: LID, 2010).

Justice and Public Instruction, as well as support from a professor and mentor, Dr. José Terrés. In 1913, Pruneda was in an accident with an electric trolley that mangled his left leg. According to one latter-day commentator (a Pruneda herself, though her relation is unclear), it was one of Dr. Pruneda's medical students at the Hospital Juarez who came upon him, in a pool of his own blood. Supposedly, she fainted at the sight of him; it fell to Pruneda himself to create a tourniquet with his handkerchief to stanch the bleeding from his leg. He was able to make it to the hospital. For several days, attempts were made to save the limb, but his condition grew more severe until ultimately, the decision was made to amputate the limb. Despite having to deal with heavy prostheses for years, Pruneda had a sense of humor regarding his disability: he was liable to saying that he "stepped in it" anytime he blundered.[109] While for some of lower social station, these events may have been ruinous, Pruneda was able to avoid their most pernicious effects by means of his resourcefulness, his social and professional opportunities, and the kindness of benefactors and supporters.

Across his entire career—perhaps due to the importance of his mentors in higher education—Pruneda was an indefatigable advocate for education. He offered clinical instruction to medical students and nurses alike in courses such as anatomy, physiology, and ethics at multiple hospitals and schools across Mexico City. In 1936, as will be discussed below, Pruneda created courses in hygiene, workers' health, and social medicine at the *Facultad*. Pruneda's commitment to education extended beyond the professional training for educational elites, however: Pruneda had a deep and abiding passion for education for the Mexicans least likely to have any higher education at all. During the Revolution, Pruneda took part in the discussion

[109] Elvira Pruneda, "La permanencia de la Universidad Popular Mexicana durante la Revolución. 1912-1920," *Pacarina del Sur,* http://pacarinadelsur.com/home/amautas-y-horizontes/72-la-permanencia-de-la-universidad-popular-mexicana-durante-la-revolucion-1912-1920. Accessed 23 January 2021.

about the establishment of the *Universidad Popular Mexicana* meant to educate the working public on issues as diverse as philosophy, economics, civics, and of course, hygiene. Though this project petered out, Pruneda did not abandon his project educating Mexico's more vulnerable populations. From 1924 to 1928, Pruneda served as rector for the *Universidad Nacional* (forbearer of the UNAM), during which time the University established the Department of University Extension, as a mode of outreach to the working classes.

Personally and professionally, Pruneda was a renaissance man. In addition to being a dedicated physician and educator, Pruneda demonstrated a passion for the social and cultural world. He was an accomplished pianist. In 1927, he wrote a bibliographical work on Beethoven, published a book titled "Three Great Mexican Musicians." He also had an interest in the history of medicine. For the 1910 commemoration of the Centenary of Mexican Independence, Pruneda organized an exhibition on Medical History in Mexico, showcasing a few dozen medical devices invented or improved upon by Mexican citizens. He was also author of works on the contributions of the mythic infectious disease doctors of the late 19th century—Robert Koch, Ronald Ross, and Louis Pasteur. Pruneda was also consummately a man of the *Academia Nacional de Medicina.* Beginning with his induction in 1923, Pruneda was a dedicated member, serving as perpetual secretary until his retirement in 1951. Over his career, Pruneda published over seventy articles in the *Gaceta*. Pruneda's prolific publishing in the *Gaceta* was not merely due to the quality of his contributions. As director of the journal between 1936 and 1951, Pruneda established the publication's socially-minded voice from the 1930s on.[110]

In 1931, for example, in an article titled "The Doctor and Health," Pruneda offered a strong argument that doctors begin to take seriously their responsibility to provide preventative

[110] Ibid.

care and hygienic advice to Mexico's citizens. In the minds of some physicians at the time, a doctor's job was to offer curative care for sick patients in exchange for an honorarium. But for Pruneda, the role of the physician did not end at the clinic door. Rather, responsibilities extended to the city streets. Pruneda argued that doctors were "personally obligated, if not to be a true example of observance of hygiene (because this is maybe impossible to find) than at least to demonstrate in his person and in his acts, that he believes in it and that he practices it."[111] The preventative care charge meant that doctors had to perform educational work and indeed, some of those services would be "given free by the doctor." Physicians ought not worry too much about lost income. They *should* have been acting "animated by a spirit of service and cooperation that all doctors worthy of this name should have," to "always find occasions to put himself, even without material recompense, to the service of the rest."[112] For those not wholly motivated by service, Pruneda was confident that eventually, a generous spirit among physicians would be financially rewarded soon. He anticipated the arrival of an era of "justice" that would guarantee "the remuneration that justice [dictates] corresponds to this sort of work."[113]

Pruneda evidently believed that hygiene was to be a key element in precipitating a greater level of social engagement on the part of physicians. In a 1933 article for the *Gaceta*, "Hygiene and Social Medicine," he used the successes of hygiene as a field as an object lesson for Medicine. "Despite the fact that the care and conservation of health had been preoccupations of humanity since its origin," Pruneda began, it was only in recent times that hygiene had reached "its highest splendor."[114] Persistent economic inequality and "social unrest" would surely be remedied thanks to the aid of physicians, "hygienists in particular," who assisted in the effort

[111] Alfonso Pruneda, "El medico y la salubridad," *Gaceta médica de México* 62 (1932): 305.
[112] Ibid., 311.
[113] Ibid.
[114] Alfonso Pruneda, "La higiene and la medicina sociales," *Gaceta médica de México* 64 (1933): 122.

"with the valor of their scientific wealth and the force of their social consciousness."[115] For Pruneda, hygiene had a certain transcendent character. It was the special lens that permitted "the double character of science and art" instantiated in the practice of medicine to be made manifest. Pruneda suggested that the secret to the hygiene's successes in the twentieth century could attributed to the "development of consciousness," more than the "magnitude and quality of technical and scientific advancement of hygiene."[116] The rigor of science was easy to see in the exacting nature of clinical practice, preventative care, and sanitary design. The "art" could only be seen by careful examination of the extent to which those scientific ends were "most adequate for the conservation of those valuable human elements."[117] The "development of social consciousness…among authorities, in physicians, in the professions, and among citizens in general" permitted hygiene to "provide for the most pressing social necessities."[118]

Pruneda used this recent history to argue forcefully for Medicine to be more purposeful in its social commitments. He pointed to the new institutions that had developed over the early 1930s, which had emerged "as a consequence of class conflict and as the result of State intervention" as paradigm cases for the sort of effort this would take. The efforts and programs of State and Medicine alike needed to be "more and more socialistic" to respond to the demands of the realities of the 1930s, however.[119] Doctors would need to accept that their role in the social architecture would have to change somewhat. Socialization demanded "cooperation from all," but especially required "out of necessity and justifiably, the vigilance, the intervention, and

[115] Ibid.
[116] Ibid., 123.
[117] Ibid.
[118] Ibid., 126.
[119] Ibid., 133.

the direction of the State."[120] If Medicine was to succeed, a "progressive socialization" was in order.

Like other commentators, Pruneda wanted to assuage concerns of physicians concerned about their social position. While socialization may have meant the surrendering of certain functions to the State traditionally maintained by the profession of Medicine, it did not mean that the entire portfolio of Medicine would be seized. In fact, by carefully reforming the "professional preparation" to "put it to the service of social interest," Pruneda argued that doctors could stand to "to define and strengthen their professional situation."[121] Social medicine opened a wide array of new horizons that would have been unthinkable for the cold Porfirian sealed in his cabinet. Pruneda enumerated quite a few options for this new generations of physicians:

> forming medical unions, associating in cooperatives of production and professional exercise; setting rules of professional ethics and seeing that they are followed; signaling the norms of its relations with its clientele and the State; duly establishing the natural limits of the practice of nursing and obstetrics; trying to avoid student plethora in medical schools and the other circumstances that explain the professional proletariat; proposing reforms that should be made for high schools, preparatories, and medical schools, with the goal of adapting them to the new social conditions; combating charlatanism of the untitled and of licensed, etc. etc.[122]

Indeed, this wide range of action—both including both social and intellectual work—was fundamental to the profession: "Medicine… evolves ceaselessly," Pruneda wrote, "Its incessant progress allows it to adapt with singular efficacy to the multiple needs of Humanity."[123] This included the needs of the Mexican people in the era of Cardenismo.

There is perhaps no better example of Pruneda's defense of self-socialization for the *Gaceta's* readers than "A test of conscience," a 1934 article. Ever the educator, Dr. Pruneda wanted to share with the *Academia* an article he had read in the *Bruxelles-Médical*. In it, the

[120] Ibid., 128.
[121] Ibid., 135-6.
[122] Ibid., 134.
[123] Ibid.

original author—Professor Pierre Maurine—found inspiration in the evening orations of the Church. As Maurine reminded his readers, the doctors of 1932 were not "little saints" and as such, they were not above such a regular exam of conscience. If doctors spent their waking hours "vainglorious" about their accomplishments, it would be difficult to take a harder look at their excesses when the day was done. Professional—and moral—sins would "run the risk of converting themselves into habits without consequence and little by little, coming to be considered as inevitable negligence."[124] It would be "very beneficial" to undertake this enterprise," not only for individual physicians—young and old—but for the profession as a whole to confront the sin of pride.[125]

The most efficacious way to force this self-reflection was with a series of yes-or-no questions. Luckily, Maurine had uncovered a "venerable book," written by Priest, Prior, and *Seigneur* of St.-Marc-Les-Vendome, Messire A. Blanchard, published in Paris in 1736. In it, Maurine had discovered a series of 49 questions formulated to force doctors, surgeons, pharmacists and others in the helping professions to probe their own conduct. The ethics checklist for doctors and surgeons included questions such as:

> 1.—Are you devoted assiduously to your patients, with the goal of knowing their illnesses and using convenient remedies to heal them?
>
> 6.—Have you ever caused the death of someone ill, by having ordered remedies counter to their ailment, due to lack of attention or foresight?
>
> 10.—Have you ever ordered dubious treatments, where there were other, safe ones offered to the patients, and which you rejected due to pride, because they had been suggested by someone other than you?
>
> 11.—Have you ever prolonged illnesses, treating them with slow cures, when you had other, quicker remedies, to multiply your visits?
>
> 19.—Have you ever demanded as an honorarium more than what you were due?

[124] Alfonso Pruneda, "Un exámen de consciencia de los medicos," *Gaceta Medica de Mexico* 65, 5 (May 1934): 121.
[125] Ibid.

> 21.—Has your profession ever been the next occasion of mortal sin with respect to certain sexual diseases?[126]

It was at this point that Pruneda lent his own voice to support the Prior's formulations. The venerable doctor regretted the fact that his reproduction of the questions in the *Gaceta* had prevented him from seeing the responses on their faces upon reading them. Why should physicians in the year 1932 possibly entertain the idea of following recommendations based upon Church tradition? In particular, references to Catholic practice and the emphasis on sacramental conformity and moral rectitude seemed quite out of place in post-Revolutionary Mexico. Evidently, Pruneda anticipated this skepticism from his readers. Surely, he insisted, the "congenital fragility of human nature" was the same in 1736 as in 1932 and was without a doubt relevant to those who "wanted to embrace our accidental and dangerous profession."[127] Ever the rationalist, he reminded them that the good Catholic Blanchard had been a vital part of the overall medical enterprise in Bourbon France. The prior anointed the sick, celebrated mass for the dying, and administered to the spiritual needs of his flock just has physicians were administering to their humoral needs. As a "sagacious observer and a man filled with love for those who suffered," *pere* Blanchard took note of how doctors practiced.[128] Blanchard made well-reasoned arguments that doctors were not as beneficent as they could be. His Catholic faith was no reason to dismiss legitimate critiques.

If this line was insufficiently persuasive for more committed Jacobins, Pruneda exhorted his readers to extract the "sentiments of justice" that clearly inspired Blanchard's questions. If people were unwilling to remember their Catechism, at least they could look at the 49 questions to discover that the extensive list of questions offered "material sufficient to write at least as

[126] Ibid., 122.
[127] Ibid., 125.
[128] Ibid., 126.

many aphorisms of deontology, which would be quite beneficial to inform the restless and disoriented youth who, here as in the rest of the world, craves precise norms of conduct."[129] Though Pruneda was concerned with Mexico in particular, he was evidently aware of progressive currents sweeping the world.

> Medicine, like all human activities, is suffering the consequences of the disordering of the modern world…It gives the idea that it is mechanizing. The same progress that science and art have reached has often obligated medicine to forget the personhood of the patient, with the force of studying the patient with such thoroughness, making them forget the concept of the "sick man," of the individual who suffers throughout their whole being with great danger that with the help given to it, with the force of being so scientific, stops being "human."[130]

The epistemological activities of doctors had led them to become blasé about suffering; professionalization had caused healing to lose its soul.

Without a moral center, medical practice had principally become about money. "These days," Pruneda continued, "no longer do we speak of the priesthood of medicine," for medical practice had been subject "to the ever-more intense pressure of economic forces."[131] Indeed, proving his point was the fact that in the *Gaceta*, if a reader tired of Pruneda's paean to moral renovation, they could turn their eyes to the opposite page to see ads by Eli Lilly for Lextrón—an anti-anemia drug—and Vitacampher, a "cardiotonic, blood pressure elevator and respiratory stimulant" soap whose active ingredient was made within the organs of dogs. In neither ad were real people depicted. Pruneda acknowledged the power of commercial medicine and of pharmaceutical expansion. His was not a demand for the abandonment of private practice, or the toppling of economically-interested medicine. It was instead a call for balance, for "whatever may be the energy of [economic] forces, it is not impossible to neutralize the power of the moral forces, which have always been fundamental in the correct exercise of medicine."[132]

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[129] Ibid.
[130] Ibid., 126-27.
[131] Ibid., 127.
[132] Ibid.

Recourse to the work of Blanchard—written a century and half earlier, an ocean away, and dedicated to his God—was how Pruneda sought to bring values back into a profession that had lost its way. While the test of conscience was certainly an important activity for current practitioners to undertake, to ensure that their practice was oriented toward beneficent ends, working to improve the emotional commitments of the profession of Medicine as a whole would require reform from the bottom-up. He urged readers of the *Gaceta "*not to forget that [our young physicians] and even more, our medical students, need to know the art of proper conduct with the sick."[133] The future of medical practice—and of the standing of the nation—was at stake. The aged body of Medicine needed a transfusion of youthful compassion.

***Conclusion***

Evidently, by the 1930s, health officials within Mexico had grown skeptical of any health system that did not integrate the social realities of the Mexico people into its clinical calculus. Many of them recognized that liberal clinical practice—and its associated epistemological conceits predicated upon European, gentlemanly status—had led to disparities of health outcomes between rural and urban environments. They were concerned that Mexico's physicians were emotionally unfit to address these issues, concerned as they seemed to be with self-enrichment at the expense of patriotic self-sacrifice. Members of the Cárdenas Administration's various organs of health administration were often strident in their commentaries about the problem, and pointed with respect to their proposals for remediating Medicine's deficient emotional regime. While Siurob offered the profession a way out of the

[133] Ibid.

predicament that did not demand "full socialization" a la the Soviet model, it was clear that one way or another, professional reform was coming.

For its part, Medicine was also of the mind that the doctor/patient relationship needed reform to be viable in the 1930s. Through publications and remarks of some of its members, the *Academia* articulated a clear vision of its members believed to be the best—in both moral and practical senses of the word—path forward for the profession. They were willing to support a collaborative, partial self-socialization to seek consensus with the Cardenista public health bureaucracy, and in so doing, steer the profession away from the perils of "full socialization." If the Federal government was willing to demonstrate its commitment to preserving Medicine's autonomy over clinical practice, physicians were more than willing to engage in a gradual reformation of the profession's emotional regime. Physicians hoped to do some of this work by means of *Academia* support for social medicine and the vocal defense of a "new orientation" within medical education.

## CHAPTER TWO:
## A theoretical obligation made practice

At the VII Pan-American Congress of the Child, which ran between October 12 and 19, 1935, Mexico was a gracious host for its peers in the Western Hemisphere, from the perspective of a contributor to the American *Social Service Review*. The American delegates had "returned enthusiastic" about Mexico City: they were "heartened by the courage and enthusiasm with which the chiefs of health"—Conference President José Siurob and Secretary Alfonso Pruneda—"education, and labor departments of Mexico [were] attacking the basic problems of poverty, illiteracy, and a high death rate." American delegates, in the final days of the conference, were "glad to be informed" that the DSP was "being vigorously pushed by the present government and will have a very much larger budget next year."[1] At one of the final sessions, evidently as part of the Mexican delegation's charm offensive, Dr. Ignacio Chávez described how Mexico was engaging with the principles of social medicine to the benefit of its many vulnerable citizens. Chávez argued that in many regions of the world—and indeed, in some more conservative corners of Mexico—Medicine was currently suffering through a long, though ill-advised, siege against the forces of progress. Rather than continuing that self-inflicted suffering, hiding from the currents of social change challenging the status quo, Chávez suggested that instead, Medicine should throw open its windows to allow the heady breeze of the *pueblo en marcha* to refresh the moldering profession. In Mexico's case, Chávez argued that a "new form of judgement" was necessary for Mexico's clinicians, to make the most of the opportunities offered by the massification of society under President Cárdenas.

[1] "The Seventh Panamerican Child Congress," *Social Service Review* 9, 4 (Dec. 1935): 774.

Chávez' major focus that day—and indeed the focus of many of his peers commenting on the crisis within Medicine—was on developing of "strong formation" of its young physicians, with "a comprehensive and generous vision for social necessity."[2] Irrespective of whether Mexico's physicians were "true believers" as to the beneficence of the socialization of Medicine, or whether they had seen the writing on the political wall and understood that some level of socialization was a political necessity in the 1930s, physicians of all stripes fundamentally agreed on the central role that was to be played by the *Facultad* in accomplishing the broader goals of the profession. Medicine would not dig itself out of its indifference hole principally by means of modifying the thinking and feeling of physicians already stuck in their ways. Rather, a change would have to be "incubated" in Mexico's medical schools. Each generation of conservative physicians who retired promised the licensing of a crop of new blood to introduce into the moribund body professional, to borrow Cárcamo's imagery. In time, and without shocks to its system, Revolutionary society would be well on its way to comity and health.

In this chapter, I describe the intellectual currents that converged in the early years of the Cárdenas *sexenio* to alter the terms of medical education. In the first part of the Chapter, I describe how the administrators at the *Facultad* navigated the often-fractious debate discussed in Chapter One, regarding Medicine's emotional regime. In general, the result was that, throughout the 1930s, the *Facultad*'s curriculum became more responsive to the dictates of social medicine and to the unique needs of Mexico's vulnerable populations. At the same time as the *Facultad* attempted to navigate the emotional conflicts regarding the practice of medicine simmered, the UNAM was embroiled in conflict regarding its perceived distance from vulnerable Mexico. The *Facultad*, as one of the schools at the UNAM, thus found itself embroiled in two sieges at once.

[2] Chávez, "Palabras," 426.

Rather than leading to two irrevocable breaks, however—between the Cardenista State and its two autonomous rivals, the UNAM and the profession of Medicine—the moment of crisis offered a prime opportunity for a type of grand compromise for the wide array of interested groups in Cardenista society. A negotiated peace was struck. The product was the SMS. This political win has often attributed to the special insight and acumen of the Director of the *Facultad* at the time, Dr. Gustavo Baz Prada. In this chapter, however, I reframe the origins of the SMS, understanding it less as the product of a single mind, and more as a negotiated settlement that worked to resolve—or at least, ameliorate—the disputes smoldering in the mid-1930s regarding the perceived deficiencies of the emotional regimes of higher education and medical practice.

***Determining paternity***

In 2018, a group of physicians at the UNAM *Facultad de Medicina* Office for the Coordination for *Servicio social* put together a historical document describing the origins of the SMS. As part of this document, they added a few "authorized opinions about the *servicio social*" from physicians who had been young men at the time of the SMS' establishment in 1936. In their later recollections, they had fit the SMS into a coherent historical narrative in which the *Facultad*, and its head, Dr. Gustavo Baz Prada, shrewdly established the SMS to establish a détente between the State and the University, bringing an end to years of political agitation by leftwing students, and by extension, the Mexican State. Dr. Norberto Treviño Zapata argued that Baz had been able "to rescue the university from the situation of official rejection that it had been victim to for not having permitted the Institution [to adopt] the dogmatic, socializing

posture that [the state] was trying to impose.[3] Dr. Fernando Quijano Pitman offered a pithier assessment: the SMS was Baz' response "to the demagogues who were accusing the University of being elitist and were crying out about a supposed divorce between the University and the *pueblo* of Mexico."[4] For these older physicians—offering their own history of origins of the SMS—the program was born amid struggles for the autonomy of the UNAM against forces of radicalism, and the profession of Medicine more broadly, as it asserted its professional independence, continuing to train professionals in the manner that it saw fit. These are but two of the avowedly conservative orthodox accounts of the origins of SMS. To what extent is this lay historicizing polemic versus an earnest reflection of things "as they really happened"?

Academic historians have had difficulty articulating a definitive, unitary description of the origins of the program. Gabriela Soto Laveaga has argued that the initial institutional plan for the SMS emerged during the administration of President Emilio Portes Gil, "with the goal of coordinating all the curative and preventative measures in the fight against all manner of social ills."[5] The 1935 plan seemed to be an outgrowth of work undertaken at the First International Conference of Social Work in Paris in 1928, which Mexican officials attended with delegates from several dozen other nations. This 1928 Conference had been many years in the making, supposedly borne of European and Japanese delegates to the 1919 and 1923 National Conferences of Social Work; in 1923, none other than René Sand submitted a proposal to the League of Red Cross Societies, who lent their support. Further reinforcing the global character of the Conference was the fact that funding came from the Carnegie Foundation, the

[3] Mazon, "El servicio," 4.
[4] Ibid.
[5] Soto Laveaga, "Bringing the Revolution," 409. See "Reglamento del Servicio Social" AHSSA, SP, SSJ, 27, 24, 1931. The document to which Soto Laveaga refers was perhaps less of a concrete plan and more of a memorandum advocating for a plan in the future. Whichever is the correct reading, Soto Laveaga's point is well-taken: Mexican officials had been observing social service internationally since at least the late 1920s and liked what they saw. See Chapter Two.

Commonwealth Fund, the Laura Spelman Rockefeller Memorial, and the Milbank Foundation, in addition to an array of national welfare organizations.[6] Anne-Emmanuelle Birn, meanwhile, has traced the origins of the SMS to the contributions of a Rockefeller Foundation fellow, Dr. Pilar Hernández Lira, who attended the Morelia Rural Hygiene Congress of 1935. At the Congress, Dr. Hernández had proposed that a law requiring health care professionals to serve for a period of two years in rural environments prior to graduation and licensure. In her remarks, she emphasized that the success of any rural health interventions would demand "self-denial, firmness of character, loyalty and benevolence" so as to "create confidence and sympathy" among the rural dwellers encountering Medicine in an organized way for the first time.[7] Finally, Ivonne Meza Huacuja has argued that the original framework of the SMS is attributable to work undertaken by Manuel Pacheco Moreno, a Catholic medical student at the *Facultad*, who offered a proposal to the XII National Congress of Students in July of 1935.[8] She has argued that Gustavo Baz' contribution to the SMS' development was in using his "authority" as Director of the *Facultad* and his closeness with President Cárdenas to shepherd the plan into existence.

Evidently, within both lay and academic historiography, there has been an interest in elucidating a definitive paternity, if you will, for the SMS. This is an impulse that should not be denigrated. It is thanks to these various narratives that we may step back and take a broader perspective on the program's start, to move toward understanding the interpretive issues surrounding process and structure that have, to date, been of secondary importance. I argue that at this stage, it is less useful to identify a definitive progenitor of the SMS than it is to explore the social and political dynamics that established the conditions favorable to its development, related

[6] "Ancestors of the International Conference of Social Work," *Social Service Review* 40, 2 (1966): 205–7. http://www.jstor.org/stable/30020164.
[7] As cited in Birn, *Marriage of Convenience,* 220.
[8] See Meza Huacuja, "De la Universidad," 623-625 for discussion of Pacheco Moreno's plan.

to global, regional, and national currents discussed in the introduction. Rather than working to assign credit for the origins of the SMS, we should attend to the context within which the SMS crystalized, and the processes used to bring it into existence. In so doing, we may recast the SMS a complex, multifaceted (and indeed, ongoing) process, which advanced various political projects—institutional, ideological, emotional—under construction.[9]

### *The "new orientation" at the Facultad*

As discussed in Chapter One, in February 1933, Dr. Alfonso Pruneda published an article in the *Gaceta médica de México* titled "Hygiene and Social Medicine." In it, Pruneda synthesized national priorities to work undertaken in the *Academia* and at the medical school, in particular, the role social medicine was to play in medical education. In keeping with his arguments elsewhere, Pruneda emphasized the fact that reforming the practice of medicine would require physicians to kindle a fire in the belly. Social medicine would need to be "varied in its proceedings and unitary in its tendencies and in the spirit that animates it…tenacious in its aims and intelligent in its fundamentals… animated by a profoundly human impulse and a righteous understanding."[10] The next generation of physicians needed a "frankly social attitude,"

> humane in the widest sense of the word; comprehensive and filled with sympathy; attentive to all aspects of the situation; able to find its varied and sometimes complex antecedents, and apt, for the same reason, to formulate or counsel the appropriate remedies, be they medical or otherwise.[11]

The task ahead would require the appropriate intellectual and emotional framing, which would permit physicians of this new generation to "intervene…with their enlightenment, their scientific and biological judgment…with rational norms of conduct and adequate orientations, born of the

[9] Broadly, this is the approach taken in Octavio Gómez-Dantés, "Precursores, promotores, y artifices," who sketches "various efforts headed by different actors" (282). Meza-Huacuja, "De la universidad," discussed "the distinct elements" in Mexican society who benefitted from the SMS' politics (639).
[10] Pruneda, "La higiene and la medicina sociales," 127.
[11] Ibid., 132-3.

experience granted by spending every day in contact with human suffering."[12] Doctors with a social mind were "crusaders of a noble cause," and Pruneda promised physicians that these contributions to society would not go unnoticed: "All serve society, and while they make it better, better too will be the place that Society grants them and the consideration that it offers them."[13] Pruneda signed the article and rendered the date and time of his submission: "Mexico, 1 February, 1933. Centenary year for the *Facultad de Medicina*."

Pruneda's contribution was evidently part of a broader push by the *Facultad* in 1933 to emphasize themes of progress in medical education to a broader public. To mark the august occasion of the hundred-year anniversary of the founding of the national medical school, Director Ignacio Chávez had organized an array of festivities. Mexico's prominent physicians and international guests came to the school to deliver addresses, the school offered classes for alumni, and faculty members regularly engaged in editorial work, such as the article submitted by Pruneda. It was also an opportunity to raise money for the needs of the school's next century. Director Chávez organized a nation-wide collection drive: the Director was able to raise 400,000 pesos, of which about 20,100 were donated by physicians at the *Facultad* and 51,000 were given by *jefe máximo* Calles.[14] With this haul, Chávez had raised enough to be able to make material changes at the *Facultad* to improve the quality of education at the school. With the excess, Chávez was able to pay for a new 75-seat auditorium, library renovations, new classrooms and labs fully kitted out with the instruments necessary for cutting edge work in chemistry, physiology, and experimental pathology; a dissection theatre with refrigerator and freezer.[15]

[12] Ibid., 133.
[13] Ibid., 136.
[14] Maria Teresa Gomez Mont, *Manuel Gómez Morín: La lucha por la libertad de cátedra* (Mexico City: UNAM, 1996), 369.
[15] Ibid.

Evidently, the Centenary of 1933 had been an important opportunity for the *Facultad*'s officials to articulate their vision for the next century of medical education at the School. In remarks addressing celebrants, Dr. Chávez had expressed what he hoped would be the agenda for the *Facultad*'s next century in the service of the nation:

> A school does not merely teach, research, and create: we also want to be the school who forms professionals who are conscious of their social mission, imbued with the powerful obligation to service. We want to put an end to the sordid sort of selfish physician, who makes of his profession only an instrument for self-enrichment, if not a letter of marque.[16] We want to make our School an institution in which each teacher serves as an archetype of citizen virtue and spiritual integrity and where each student is the hardworking cultivator of his own life. Forged in the strong discipline of work, but without shackles on his mind; restless, but with that noble restlessness of that which ever seeks a better path; rebel against all sorts of dogmatism, but respectful of all superiority in talent or knowledge; eager to adapt to the future that is his, but without the fatal flaw of arrivism…the insane eagerness to arrive too soon, to triumph without effort, to supplant without right.[17]

For Chávez and his colleagues, the aspirations for medical education at the *Facultad* were lofty. They were intent on training physicians well-versed in scientific knowledge and familiar with cutting-edge laboratory and pathological techniques. In this new century of instruction, it was not enough to produce doctors who were animated by "culture and scientific discipline." The *Facultad* now aspired to train clinicians with "clear social vision." "As much the doctor-sage," Chávez concluded, "we want to create the doctor-man, with all the nobility of its meaning."[18]

Like their peers in the *Academia,* administrators at the *Facultad* by the mid-1930s embraced social medicine principles. Mexican medical educators were neither so naïve as to believe talk of socialization to be a passing phase, nor so sanguine in their ability to keep the invaders at bay by crouching behind their privileges. For physicians associated with the *Facultad*, the general approach to the threat posed by "full socialization" ran broadly consistent with Landa's more strident critiques of the proposition, if not rhetorically—claiming the mantle

[16] The contract offered to buccaneers, essentially permission to engage in piracy.
[17] Chávez, "Palabras," 425. These words are cited in Chávez' speech at the VII Panamerican Conference on the Child.
[18] Ibid.

of victimhood—then certainly structurally. Medical educators, in their various publications and public comments, made it clear that it would not be necessary for Cardenistas to intercede beyond reasonable regulation because physicians were perfectly willing and able to socialize themselves. They would accomplish this by the introduction of medical students into an emotional regime, which encouraged them to engage with their patients as people.

These priorities were reflected in the curriculum at the Facultad in the years prior to the rollout of the SMS. In 1934, medical students at the *Facultad* were trained based on the most recent findings in basic scientific fields, from their first arrival until their internships at the Hospital Juarez. First- and second-year curricula were largely unchanged from both the Porfirian and Revolutionary Period, given as both years were predominantly devoted to basic science instruction across the period. First years had instruction in human anatomy, with hands-on dissection sessions, histology, general physiology, and embryology. Second-years also had instruction in microbiology and parasitology, medical chemistry, and advanced physiology as further building blocks of basic science.[19] As third years, students began to expand upon their knowledge of normal physiology and basic sciences by beginning instruction in pathological processes, both in lecture halls and in the wards of the teaching hospitals. Third-years had classroom training in medical, surgical, and anatomical pathology. To complement this pathological knowledge, students also had introductory courses in clinical medicine and surgery, with a particular emphasis on semiology, or the study of symptoms and signs—both physical and laboratory—of pathological processes. To illustrate how these knowledges fit together, let us say the subject for the day was lymphoma. In pathology classes, students may have observed gross anatomical specimens of malignant lymph nodes or spleens, while processing tissue

[19] AHFM, *FEMyA*, caja 1, exp. 2, fs. 44-5, 1934.

samples from biopsies with stains, and then examining these stained slides under the microscope to look for hallmarks of malignancy. In their semiology courses, they could discuss the symptoms—for example, night sweats or fatigue—or the signs—swollen nodes in armpit or neck, swollen spleen—or the lab findings—elevated lymphocyte count—of a patient with lymphoma. In that way, third years acquired a wide array of pathophysiological knowledge that would permit them to integrate their basic scientific knowledge with the building blocks of the clinical encounter: the patient history and physical exam. Students would also be able to see this integration in action as they began to have practicals in the hospital, twelve hours a week. Fourth years had similar experiences, with the further addition of pharmacology, medical therapeutics, and instruction in surgical techniques in cadaveric and animal specimens, which would permit students to begin thinking in terms of treatment for the pathophysiology they learned the previous year.[20]

As fifth years, medical students saw an increase in the level of complexity of their instruction, and a qualitative difference from the instruction of their Porfirian peers. In addition to building on the basic tenets of clinical pathophysiology and therapeutics learned over the previous two years, fifth-years received more specialized clinical instruction in radiology and physiotherapy, obstetrics, and neurology.[21]

After training in basic science, broad exposure to clinical pathophysiology and pathology, sixth-year medical students were ready to serve as hospital interns. This meant that most of their responsibilities were in the hospital, taking care of patients, spending seven hours every day with inpatient hospital services, while also performing external consults and lab work. In addition to their inpatient work as interns, sixth-years were also exposure to various specialties: all sixth-

[20] AHFM, *FEMyA*, caja 1, exp. 2, fs. 34-5, 1934.
[21] AHFM, *FEMyA*, caja 1, exp. 2, fs. 36-7, 1934.

years spent two hours a day working in clinics in psychiatry, neurology, pediatrics, urology, dermatology, ophthalmology, otorhinolaryngology, and clinical microscopy (which could be considered exposure to specialty care in clinical pathology).[22] All students also spent one hour at the end of every day working in the obstetric clinic. Specialty exposure generally requires expertise with specialty-specific domains of knowledge likely heretofore not covered in detail in the first few years of medical training: novel physiology (say, in pediatrics or obstetrics), unique anatomy (say, the eustachian tubes and sinuses), specialized exam techniques (features of the neurological physical exam), or novel treatments or conceptions of disease (psychotherapy). The thought was that by the time students finished their intern year, they would be well-suited to make a choice to practice specialty care or general medicine.[23]

As can be appreciated, the curriculum included all the cognitive training that students might need to make diagnoses, select treatments, and make educated guesses about prognosis. Evidently for administrators at the *Facultad*, this knowledge was necessary to being a good physician, but it was not sufficient. The comments offered by Chávez and Pruneda as part of the Centenary Celebration in 1933 reflected a reform impulse that had taken root at the *Facultad*, one that saw the benefit of exposing students to the tenets of social medicine, ostensibly in the hopes of inculcating a spirit of empathy among students for the plight of many of their fellow countrymen. In the 1930s, this took the form of socially-oriented courses for fifth-year students to complement what might otherwise have been a quite clinical affair.

First, students received instruction in Hygiene from Drs. Salvador Bermúdez and Francisco Valenzuela. This semester-long course met for six hours a week. The professors were

[22] It is a little unclear from the Plan of Studies whether these specialty experiences were simply classroom instruction, whether they were full clinical experiences, or some combination thereof.
[23] AHFM, *FEMyA*, caja 1, exp. 2, fs. 38-41, 1934.

both intimately involved in hygiene and public health at the hemispheric level. In the mid-1920s, Bermúdez had trained in the US and Europe studying public health science, thanks to a fellowship sponsored by the International Health Board in New York, had received a PhD in Hygiene and Public Health at Johns Hopkins.[24] Valenzuela had been an active member of the American Public Health Association, delivering an address on an anti-yellow fever campaign undertaken on the Isthmus of Tehuantepec in 1909. According to their 1929 syllabus, the Professors taught a broad understanding of hygiene; the goal of the first one or two lectures of the course was defining hygiene's "relations with sociology, biology, political economy, law, psychology, etc." in addition to the sciences offering more "direct support," such as microbiology, chemistry, physics, statistics, etc.[25] Later topics included:

- "Urban Hygiene," discussing issues of safe placement of housing, septic tanks, city planning and zoning, and cemeteries and cremation
- "Communal Dwellings and Hospitals," discussing asepsis and antisepsis in medical settings, theaters, hotels, and boarding houses
- "Rural Hygiene," in 1929, only meriting one class
- "Infant Hygiene, Puericulture and Eugenics," addressed "manners of combating maternal and infant mortality, causes of infant mortality, and the protection of pregnant women"
- "Industrial and Professional Hygiene," including "the initial medical exam and period exams for workers," "poisons and solid, liquid, or gaseous caustic agents," "prophylaxis against professional illnesses and accidents".
- A unit on the "Study of the Epidemiology and Prophylaxis against Particular Illnesses": diseases spread by "Flügge Droplets" such as tuberculosis, influenza, poliomyelitis, and epidemic meningitis[26]; diseases "probably transmitted by simple proximity" like measles and chicken pox; sexually transmitted infections, and vector-transmitted diseases like plague, yellow fever, and rabies. Reflecting Mexico's epidemiological reality in 1929, the doctors noted they would offer only a "shallow study of cancer epidemiology."[27]

Students were also expected to attend a few practical sessions covering topics of meteorology and ventilation (Hippocratic echoes here), chemical and bacteriological analysis of water and milk, a session on water purification, and some clinical training on the screening of infectious

[24] "Mexico City (From our Regular Correspondent)," *JAMA* 81. 22 (1923): 1893. The International Health Board was a funding organ of the Rockefeller Foundation, who granted fellowships to hygienists from Latin America to study in the United States. Birn, *Marriage of Convenience* treats this subject at some length.
[25] AHFM, FEMyA, leg. 197, exp 1, f. 88, 1929.
[26] COVID-19 would be considered to be spread by Flugge Drops.
[27] AHFM, FEMyA, leg. 197, exp 1, fs. 89-93, 1929.

disease (the Schick test for diphtheria, the Dick test for scarlet fever),[28] vaccination, and two propaganda film screenings on subjects of hygiene. They could look forward to field trips to see the preparation of smallpox vaccine at the Institute of Hygiene, milk pasteurization, and trips to a stable, workshop, and "a national port or a Southern city of the United States of the North."[29]

Beginning in 1934, fifth-years met with Dr. Pruneda two hours a week over the course of one semester for a course in Social Medicine. The course had emerged as the product of a meeting between Pruneda and Chávez in 1933. Pruneda had argued to the Director that medical students did not benefit from the "narrow meaning" of Social Medicine "of some time ago": venereal diseases, tuberculosis, alcoholism. Over his decades of practice, Pruneda argued that the practice of medicine was "changing more and more over time," with an ever-expanding array of institutions for physicians to get involved in. Now, the time was right to teach students a version of Social Medicine that acknowledged this fact, which taught students to understand "illnesses with a social cause or impact or…social problems that also have a medical impact."[30] Chávez had the "kindness" to hear Pruneda out: the course was rolled out the following year. At that time, the course consisted of "conferences of free attendance" that doctors, students, nurses, and social workers would attend. Following the 1935-1936 academic year, however, that Social Medicine course was put in abeyance due to the "overloading" of the curriculum, with its topics

[28] Similar to the placement of a PPD for TB screening, the Schick test involved injecting a small bubble of diphtheria toxin intradermally on one arm, with a control of heat-killed toxin on the other arm. After a few days, a positive test was an erythematous wheal of 5-10mm. The Dick test involved a diluted amount of Group-A streptococcus into the skin; after a few days, an inflammatory reaction would indicate the person (likely child) was susceptible to scarlet fever, and thus was eligible to receive a vaccine; a negative test would suggest immunity. See Claudia Agostoni, "Historia de un escándalo. Campañas y resistencia contra la difteria y la escarlatina en la ciudad de México, 1926-1927" in *Curar, Sanar, Educar: Enfermedad y Sociedad en México, Siglos XIX y XX***,** Claudia Agostoni, ed. 287-312 (Mexico: UNAM, 2008). With the development of penicillin, scarlet fever (and more morbidly, rheumatic fever) was no longer a major public health concern at least in the United States, but to this day, occasionally patients—often from resource-poor settings—will present as adults with significant heart murmurs caused by untreated strep throat.

[29] AHFM, FEMyA, leg. 197, exp 1, fs. 94-5, 1929.

[30] Alfonso Pruneda, "La cátedra de Medicina Social en la Facultad de Medicina," *Gaceta médica de México* 75 (1945): 380.

subsumed to some degree within the Legal Medicine course (discussed below)—"mistakenly," later reflected Pruneda.[31]

In 1936, Pruneda was able to convince the Director to establish a new course titled "Occupational Hygiene and Medicine." This effort in line with the "new orientation" as well. In addition to the indigenous and geographically-isolated populations mentioned by Bustamante, workers were also considered to be an important part of Cárdenas' vision of massified politics. In 1936, as part of the nation's broader commitment to serving the health needs of workers—and in a good synergy with Pruneda's new course for the medical students—the UNAM, "by special invitation from the Secretary of Workers Action and Industrial Organization of the National Revolutionary Party," organized a radio series on X.E.F.O. As an ardent advocate, Pruneda was intimately involved in this effort as talks were presented over the late Summer of 1936, for both physicians' continuing education and for workers to "take advantage of the notions and facts…for their own benefit."[32] The following year, to continue this effort, Pruneda published a small pamphlet titled "The Hygiene of Workers," in which he transcribed these talks. Topics included "Personal Hygiene and Hygienic Education for Workers," "Medical Service in Industry," "The *Servicio social* in Industry," and "Hygienic Characteristics of Some Industries." While a syllabus for the medical school course has not been found, we may assume the topics for the radio course reflected the topics presented in Pruneda's course for the medical students.

By 1939, Pruneda convinced the Director to reestablish the Social Medicine course.[33] The second iteration of the Social Medicine course began with a general review of Mexico's geography and demography, with a particular focus on how these facets explained or reinforced

[31] Ibid., 381.
[32] Alfonso Pruneda, "La Higiene de los Trabajadores" (Mexico: UNAM, 1937), viii.
[33] By 1940, Social Medicine and Occupational Medicine were merged into one, which persisted in this name for until at least 1956. See AHFM, *FEMyA*, caja 1, exp. 3, fs. 24, 1956.

social problems such as "the poor distribution of wealth" and "high number of illiterates." Conceptually, students were also introduced to sociological concepts of functionalism. By demonstrating the similarity between the biological body and the social body—the way that various "organs"—literal or figurative—interacted to produce conditions of "harmony and social wellbeing" or "social illness"—Pruneda hoped to convey to students that social and biological illness were not so far removed from one another.[34]

The course then highlighted one important social organ in particular: Medicine. Pruneda and the students explored "The Physician" using various lenses—"the physical, the intellectual, the moral and social"—and worked to understand the Physician's development in each of these domains over the course of their professional career, including their days as medical students. With this established, Pruneda then turned his attention to a higher level of organization, as he worked with students to explore how individual physicians navigated the health care system: for example, private medicine vs. public practice, general practice vs. specialty care, preventative vs. curative medicine, etc. As part of this unit, Pruneda worked with students to explore the role of physicians in an array of Federal institutions, such as the DSP, *Gobernación*, the Department of Education, etc. as well as the professional organizations that physicians formed such as the *Academia*, mutual aid societies, and physician unions.[35]

Having established the social nature of both the practice of medicine and the social commitments of the individual physician, Pruneda turned his attention to probing how these interacted with patients in the treatment of illness. This topic he addressed in two parts. First, he covered "social illnesses," such as "tuberculosis, syphilis, leprosy, alcoholism, cancer, etc." Second, he addressed "social ailments" such as prostitution, beggary, migration, and infant

[34] Pruneda, "La cátedra," 382-3.
[35] Ibid., 384-5.

mortality. For each, he encouraged students to consider "causes, manifestations, gravity and extent, modes of prevention or cure." Across all these dis-eases, Pruenda emphasized the "indispensable cooperation" between physicians and the State. He also made a point to educate the students about other allied professionals—social workers and sanitary nurses—who were essential parts of the national effort to address these ills.[36]

Finally, fifth-years took a semester-long course in Legal Medicine, which met for three hours every week. While this course had been part of the curriculum for decades, in 1935, Dr. José Quevedo reformed the course to have a modern sensibility. In his course proposal, Dr. Quevedo pointed directly to the "modern tendencies" sweeping Mexico during the Cárdenas years as justification for him to rebuild the course from the ground up. The legal medicine course inherited from the Porfirians could, at that time, be considered "somewhat anachronistic": "The general evolution" of science—in particular, increases in "the width and depth of social studies, which [had] acquired a much more scientific aspect"—meant that the course needed an overhaul. Fundamentally, he concluded, the "classic study of Legal Medicine" had not considered "factors as interesting as the psychological," factors that were vital "to determine and apply the law."[37] As the course had previously not taken "psychic nature…into consideration," graduates from the *Facultad* had found themselves

> not only disarmed in the face of legal problems that present themselves in the course of professional practice, but also ignorant of the basic principles that in every case should serve as norms to permit them to take some defined position or at least to orient oneself toward the resolution that should apply for the case at hand.[38]

Consequently, Quevedo was intent on making the Legal Medicine course both socially-minded and (or perhaps, thus) practically useful. "The spirit that should animate a program of Legal

[36] Ibid., 386.
[37] AHFM, *FEMyA*, leg. 197, exp. 1, f. 318, 1935.
[38] AHFM, *FEMyA*, leg. 197, exp. 1, f. 318, 1935.

Medicine," he wrote, "should be one of a wide conception of medicine as it relates to the law."[39] That meant a deep intellectual exploration of the individual human being in all their social and psychological complexity. Unlike the old course, this course would understand that there did not exist an "abstract boundary" between the biological, the psychological, the legal, and by extension, the social. Rather, it was Quevedo's goal to have students understand them in conjunction, "to be able to arrive at a judgment with respect to the individual as a united whole"—"in [its] organic and mental aspects on one hand," and on the other, "from the perspective of its isolation and its sociability."[40]

Dr. Quevedo's broad-minded goals for the Legal Medicine course were demonstrated in the syllabus that he attached. The first unit of the course focused on philosophical topics related to the psychosocial dimensions of the individual. Topics included "the will" defined in legal, psychological, and biological terms, "responsibility," "social norms" and the adaptability of the individual" to its social environment, "consciousness and knowledge," and "emotional life and its relation to the instincts." The unit concluded with a discussion of "the professional exercise of the physician, medical responsibility, professional confidentiality, professional ethics, euthanasia and eugenics, birth control and abortion."[41] Units thereafter focused on the medical dimensions of civil law (judicial interdiction, marriage, divorce, paternity, wills), criminal law (criminology, crime, suicide, death, poisoning and intoxication, asphyxiation, traumas, sexual crimes), industrial law (accident prevention, disability, physicians' relations with labor and management, physician unionization), and the sanitary code.[42]

[39] AHFM, *FEMyA*, leg. 197, exp. 1, f. 318, 1935.
[40] AHFM, *FEMyA*, leg. 197, exp. 1, f. 319, 1935.
[41] AHFM, *FEMyA*, leg. 197, exp. 1, f. 318-9, 1935
[42] AHFM, *FEMyA*, leg. 197, exp. 1, f. 315-7, 1935.

As time went on, though the specific courses fluctuated, it seems that, in general, the amount of time devoted to socially-minded coursework increased. In the 1939 Plan of Studies, the Hygiene and Legal Medicine courses did not appear, but Pruneda's Social Medicine course became a year-long course, meeting for three hours every week, and a new semester-long course, "Labor Medicine and Hygiene" came into being, meeting three hours weekly.[43] In 1940, the Legal Medicine course returned as a yearly course, paired with both a revamped Hygiene course, "Preventative Medicine and Hygiene and its Practice," and a Social Medicine and Labor course. All these courses met for three hours weekly for the entire year. By the mid-1950s, it appears that a course in the "History and Philosophy of Medicine" became a requirement for medical students in their sixth-year, a year-long course meeting for three hours weekly, in addition to the courses mentioned above, which remained keystones in the curriculum.[44]

In addition to the formal socially-minded lessons that medical students could learn while traversing the *Facultad*'s curriculum, there also existed informal ways in which professional formation along "socialized" lines could proceed. In 1933, Dr. Gonzalo Castañeda, who would write for the *Gaceta* regarding laboratory medicine in 1935, published a monograph titled *The Art of Making a Clientele*. The book was filled with hundreds of aphorisms and bite-sized commentaries, with the goal of making sense of the increasing difficulties of being a physician, ones that affected "not only Mexico, but the entire world." With his twenty chapters and 800 paragraphs—covering topics such as "Science and Clientele," "The Exercise of Medicine and the Public," and "The Doctor as a Person"—he hoped to convey that while "professional success has

[43] AHFM, *FEMyA*, caja 1, exp. 3, fs. 2-3, 1939.
[44] AHFM, *FEMyA*, caja 1, exp. 3, fs. 2-3, 1953.

a basis in knowledge," it also depended upon "conduct and way of being."[45] Two of his representative general points have been reproduced in their entirety:

> XVIII – To be a *good doctor* and have a clientele, in the scientific domain, possess judgment and do clinical work; in the personal, be *honored* and decent, in the social *respectful* and correct, in the professional *courteous* and discrete, in the economic considered and *equitable*; with the family *sincere,* with the patient *earnest*; with everyone attentive, affable, and benevolent. In all behavior, carry not pride, but dignity.
>
> XIX – The moral aspect of the profession *is more visible* than the scientific; the smallest defect in *character* invalidates competence and knowledge. An impertinent phrase, a coarse manner, an impatience are capable of *erasing* the merit of a work. Success dominates and overwhelms everything, but without *coupling* it with personal qualities and virtues, it is nullified or diminished. Scientific triumph is *distinct* from the professional.[46]

Evidently, comments such as these show that Castañeda's meditations were borne of a desire to mentor physicians in such a way as to make them more effective humanists. Indeed, the prologue to the book was written by a former student at the *Facultad*—Agustín Aragón—who emphasized how beneficial Castañeda's words would be to students as they developed into physicians in this new era. Castañeda, Aragón wrote, had years of experience "in the country, in…mines, in villages, in the small cities," which had permitted him to know "the grave problems facing the nation" in those "years of doubt, rancor, bitterness, suffering."[47] Castañeda's knowledge would provide for "the moral and intellectual formation of physicians for the fierce struggle of life," and empower them to navigate the "days of disconcerting uncertainty of youth." The North Star would be to "fix a human quality" in their professional sensibility, which was sure to plant "good seeds" that, over a career in service to good professionalism, were sure to yield "the smiling maturity of fields planted with flowers of love and care!"[48]

By the late 1930s, then, the curriculum at the *Facultad* more closely oriented it with the principles defended by the Cardenista State in the domain of health. This context may lead us to

[45] Gonzalo Castañeda, *El arte de hacer clientele* (Mexico: El Hecho Mexicano, 1933), 2-3.
[46] Ibid., 9.
[47] Ibid., xii.
[48] Ibid., xv.

conclude that the SMS, as one of these innovations, was thus wholly the product of Cardenismo. As noted above, however, we cannot attribute curricular reform to a top-down or one-to-one causal relationship. First, some of these changes antedated Cárdenas' *sexenio*, meaning that the impetus for change cannot be directly or solely attributed to Cárdenas' influence. Further, though it may be hard to draw direct linkages, these changes took place in the context of several, broader intellectual processes, including the national debates of the early 1930s about the extent of social mindedness of the nation's medical trainees, as well as the broader current of social medicine running through the profession in Mexico, in Latin America, and globally. Understanding the development of social tendencies in medical education during the 1930s—and consequently, of the SMS—demands that we consider an array of factors in medical education, some personalistic, some institutional, some local, some global.

Further complicating this picture is the fact that the tendency toward social medicine was not universal, complete, or without exception. While it is right to speak of hard and soft curricular changes at the *Facultad* as mostly running consistent with the broader tenets of social medicine, the "socialization of the profession," and critiques of Medicine's emotional regime, there did exist an interesting countertendency within medical education in the 1930s. This was the trend toward increased specialization and specialty training. As Director of the *Facultad*, Chávez was intent on correcting what he saw to be deficits in the training of new physicians. An examination of medical school curricula by Carlos Viesca Treviño, a historian in the UNAM Department of History and Philosophy of Medicine, has emphasized the "serious tensions" between the plans articulated by former Director Fernando Ocaranza and that of Chávez, which were also clearly delineated in a 1934 *Facultad* document discussing the proposed changes.[49]

[49] Carlos Viesca Treviño, "Reflexiones acerca de los planes de studio de la Facultad de Medicina en el Siglo XXI," *Gaceta Médica de México* 147 (2011): 133.

Under the Directorship of Ocaranza, the Plan of Studies for the *Facultad* had had a twofold focus. First, the plan had been inspired by "the philosophical doctrine of biological determinism." This was perhaps unsurprising, given Ocaranza's enthusiasm for hands-on experimental and laboratory education at the *Facultad*. Second, with its focus on general medicine, the plan was aimed to "prepare general physicians."[50]

Director Chávez meanwhile was intent on a new orientation, designed to train medical students who would be prepared to address the "transcendental collective problems" facing the nation.[51] He was keen to reduce the relative influence of the traditional basic science courses, like anatomy and physiology, in the overall arc of the curriculum, reorienting them more in line with clinical practice and away from basic scientific priorities. The document made clear that the proposed changes were Chávez' and that they had been developed and applied "with speed." The changes had taken place at the same time as material changes at the *Facultad*—one assumes the document refers to the construction undertaken thanks to the fundraising haul secured by Chávez during the Centenary of the *Facultad*—and at the same time as similar courses had emerged at "the farthest-flung universities of the world," including those who enjoyed all manner of resources, "particularly economic."[52] This statement was evidently meant to advertise that the *Facultad*'s innovations put it at the cutting edge of pedagogy.

To develop a concrete plan to modernize the curriculum along his favored lines, Chávez announced a type of contest among professors at the *Facultad*, who submitted a variety of proposals for the curriculum overhaul. The Plan ultimately selected—one attributable to Anastasio Vergara and Teófilo Ortiz Ramirez—responded to Chávez' agenda by reweighting the

[50] AHFM, *FEMyA*, caja 1, exp. 2, fs. 32, 1934.
[51] AHFM, *FEMyA*, caja 1, exp. 2, fs. 32, 1934.
[52] AHFM, *FEMyA*, caja 1, exp. 2, fs. 32, 1934.

curriculum toward clinical exposure and specialization. Students were now to have an expanded number of hours rotating on specialty services such as cardiology, nephrology, gastroenterology, etc., in teaching hospitals during students' fifth and sixth years. The Plan also added courses in Pharmacology and Pharmacodynamics, and Experimental Pathology, and had smaller class sizes of ten for these more practical sessions, as opposed to the larger lectures that often had 100 students at a time. The initial proposal also included two hours per day for first year medical students to spend time on general medicine and general surgical wards, permitting them to familiarize themselves with the techniques and instruments necessary for undertaking clinical work. As Chávez resigned the Directorship in 1934, however, the full Vergara/Ramirez plan did not come to fruition. The ultimate form did see an expansion of specialty training, but the expansion of wards-exposure for first years did not persist: students would wait until their third year to move into the hospital as a learning space.[53] Nonetheless, Chávez' work towards early specialty exposure for medical students—of particular benefit for those students eager to practice cutting-edge medicine in an urban tertiary setting—and away from more generalist training—the ideal training for a family doctor practicing in a resource-limited setting—meant that this particular segment of the reforms did not address the issues of physician distribution that concerned men like Bustamante and Siurob. In fact, it threatened to potentially exacerbate them.

In sum, we should understand the SMS in the context of these various, sometimes contradictory, intellectual currents at the *Facultad*. To be sure, the *Facultad* embraced social medicine and added courses to the curriculum that would expose medical students to the needs of Mexico's vulnerable populations, both rural and urban. That these course changes seemed to move the curriculum more in line with the nation's priorities seemed to exist in tension with

[53] Viesca Treviño, "Reflexiones," 133.

some other reforms proposed during the Chávez Directorship, however: specialization was an important priority of the Chávez Directorship. It is thus clear that the *Facultad* was not fully beholden to the demands of Cardenismo. It would entertain some Cardenista demands, and many likely accepted them as the right thing to do. But there was a limit to reformism, and the *Facultad* would pursue what it believed to be best for its students and for the profession moving forward. The curricular reforms of the 1930s reflected the complex world that medical educators had to navigate in the face of the sometimes-amorphous, potentially-threatening concept of "socialization" of Medicine.

***The fight over UNAM's autonomy***

In addition to the process of curriculum change at the *Facultad*, it is important to understand the origins of the SMS in the context of the broader politics of higher education at the *Universidad Nacional Autónoma de México*. Indeed, scholars—and as seen above, lay analysts—have recognized that the SMS emerged at a critical moment of strife at the UNAM. In her analysis of the SMS, Ivonne Meza Huacuja framed the origins of the program as part of an ongoing "fight for university autonomy in the face of post-Revolutionary governments whose principal objective was national reconstruction and strengthening of governmental institutions and the figure of the president, with the view to inserting Mexico in the concert of modern nation states."[54] As such, many commentators have seen as one of the core facets of the SMS' usefulness—as a consequence, one of the reasons for its institution in the first place—the program's ability to respond to the critiques of the UNAM from students and from Cardenistas.

[54] Meza Huacuja, "De la Universidad," 608.

It is thus worth reviewing this historical context to further enrich our understanding of the political and intellectual milieu in which the SMS coalesced.

Concerns about how the UNAM should relate to the *pueblo*—and how its students and graduates should pay back the gift of knowledge granted by the State—were recognizable as far back as the mid-1920s, when the National University first developed its institutional structures.[55] Like dynamics in the domain of health, educational reform proceeded slowly during the 1920s, as Mexico recovered from the Revolution and old structures and priorities were reoriented under new ideologies. The *Secretaria de Educación Publica* (SEP) under sub-secretary Moises Sáenz made both primary and secondary education a priority, but for several years, the National University fit awkwardly within national education policy. This changed in 1924, with the appointment to the Rectorship of none other than Dr. Alfonso Pruneda. While Rector from 1924-1928, Pruneda led the charge for the University to "approach the *pueblo*." This was in keeping with the sentiment among many students. In December 1925, for example, the University held a competition for students to respond to the question of "How university students can and should contribute, not only in the domain of cultural extension, but also in that of active social service for the approach the *pueblo*." Responses mostly evinced the perception among students that "the University had changed, had ceased being a scientific cloister to approach the *pueblo*."[56] Though Pruneda was not a "charismatic rector, nor shone with spectacular actions,"

[55] This section draws on Donald Mabry, *The Mexican University and the state: student conflicts, 1910-1971* (College Station: Texas A&M University Press, 1982); Imanol Ordorika, *Power and Politics in University Governance: Organization and Change at the Universidad Nacional Autónoma de México* (New York: RoutledgeFalmer, 2003); Rosalío Wences Reza, *La universidad en la historia de México* (Mexico: Editoria Linea, 1984); Roberto Rodríguez Gómez, "La forja del ideario universitario: 1910-1945," in *El Siglo de la UNAM: Vertientes ideológicas y políticas del cambio institucional,* Roberto Rodríguez Gómez, ed., 13-37 (Mexico: UNAM, 2013); There is a broader historiography of the UNAM, but it is beyond the scope of this dissertation.

[56] Renate Marsiske, "Antecedentes del movimiento estudiantil de 1929 en la Universidad de México: actividades y organizacion estudiantil" in Renate Marsiske, *Movimientos estudiantiles en la historia de América Latina,* Vol III (Mexico: UNAM, 2006), 152.

he was successful in that four-year period for channeling existing student enthusiasm into institutional structures "to adjust university structures to the requirements of the Revolutionary State."[57] Concretely, Pruneda supported this effort by the establishment of the Office of University Extension, which helped students organize a diverse array of engagement programs with Mexico City's residents, including literacy campaigns, civic instruction, cultural diffusion, child care, free clinics with law and medical students, and "public talks on sanitary improvement and personal and public hygiene" both in person and via the radio.[58] Pruneda had succeeded in negotiating a stable peace between the Calles government, the SEP, and the University Administration, Faculty, and student body, by his emotional rapprochement with the *pueblo*.

By the late 1920s, however, the negotiated comity achieved during the Pruneda rectorship evaporated. Renewed conflicts around the University's place in post-Revolutionary society—that is, its perceived superciliousness and isolation—boiled over into outright unrest. This unrest led to students strikes, which gave Calles such consternation that in 1929, the National University won its conditional autonomy. After another wave of conflict and violence in 1933, the State was eager to finally cut the institution loose, given that the perception that the School "refused to serve the national interest."[59] To settle the question definitively, Narcisso Bassols, then Secretary of Public Education, drafted a bill to devolve control to the University. In 1933, the bill passed, and the National University was officially granted its independence from Presidential authority, transforming it into the National Autonomous University of Mexico (UNAM). Because of the devolution, the Federal government now offered the UNAM eight-hundred-thousand pesos a year, a fraction of the three million it received before. Consequently,

[57] Ibid., 150.
[58] Agostoni, "Alfonso Pruneda," 587; Mazon, "El servicio," 4.
[59] Mabry, *The Mexican University*, 121.

the UNAM in its early years struggled mightily with balancing its budget, and thus its autonomy was illusory to some degree. As historian Donald Mabry described, the ostensible goal of the policy was to "starve the university to death" to resolve an ongoing headache.[60]

Political ferment again boiled over around the policy of socialist education in 1934. As noted in the introduction, many of the contours of the process by which elementary and secondary school teachers in rural environments negotiated the terms of the new policy of socialist education in the 1930s have been richly elucidated by Mary Kay Vaughan. Though much of the literature on socialist education has explored the ways in which these policies were formulated in Mexico City and then received in rural, often strongly-Catholic places, it is important to emphasize that the policy of socialist education as articulated in 1934 was not merely reserved for primary or secondary school education. Rather, the policy was also intended to alter the ways in which *higher education* instructed its students. Over the course of the late Summer and Fall of 1934, Congress took up the mantle of drafting the legislation to implement the policy for socialist education. Led by Alberto Bremauntz, a resident of Morelia, Michoacán and an alumnus and former administrator at San Nicolás, the committee aimed to definitively end the influence of the Church on public education and recenter the focus of education consonant with the State's ever-closer embrace of workers and farmers.[61] In later recollection, Bremauntz supported the idea that the goal for socialist education was to include Mexico's universities and professional schools as part of this effort, "consistent with the postulates of Dialectical materialism"; but UNAM had been—note the similarity of language to critiques of Medicine at the time—"further and further distancing itself from the *pueblo*, becoming an

[60] Ibid.
[61] Ibid.

aristocratic and conservative institution producing only selfish professionals."[62] While Mexico's universities produced "outstanding men of science" and "illustrious professionals," they worked at the "exclusive service" of "capitalist interests and the conservative sector, and only…pursue a selfish, personal benefit."[63] Bremauntz wanted an UNAM that

> put Science and Culture at the service of the general interest of the country; which collaborates with the State and with the factors of national production in the resolution of vital problems that affect our *patria;* which helps the proletariat; which serves the *pueblo* that sustains it, without abandoning its mission and which is a valuable collaborator in the development of the revolutionary program.[64]

For the UNAM, the prospect of state imposition of curriculum guidelines—in an echo of the distaste among physicians for "full socialization"—was a bitter pill to swallow. On September 17, a draft of the amendment was released, to the dismay of many pro-autonomy students. Though the draft had not included universities in the language of the regulation, many students were concerned about the prospect of the amendment's extension, and some were opposed to socialist education in the very first place. This group made their dismay known by means of agitation, sometimes violent for several weeks at the end of September. In mid-October, the medical students announced that they would strike in opposition to the plan; other schools joined on and on October 20, a general strike was called at the UNAM.

Due to this delicate financial, legal, and political situation, UNAM Rector Manuel Gómez Morín was between a rock and a hard place. The Rector had to triangulate as best he could, preserving as much as possible the school's autonomy from the State and from the diktats of socialist education, but also doing his utmost to distance the University from the agitation of more conservative students, especially those "who led crusades for university autonomy in the

[62] Alberto Bremauntz, *La educación socialista en Mexico: antecedents y fundamentos de la reforma de 1934* (Mexico City: Rivadeneyra, 1943), 402; 404.
[63] Ibid., 408.
[64] Ibid., 414.

states and against socialist education in the nation."[65] An October 1934 memorandum signed by Gómez denounced the threats of "agitation" against the newly autonomous university. In it, Gómez pledged resistance against "attacks…against the Law of Autonomy," which he argued were a "deliberate effort to defraud" the school, "surrounding it with an air of suspicion." The goal of these forces was to "introduce elements of contradiction and violent confusion" and "false imputations of political or social partisanship or of a hidden agenda behind the essential principle of free enquiry" upon which the autonomy of the UNAM was predicated.[66]

For President Abelardo Rodríguez, one of Calles' client presidents, this was insufficient. He stated his displeasure with the UNAM for not having denounced the agitators vigorously enough. Gómez tendered his resignation. The University Council attempted to end the strike, and most schools voted to return to normal functioning of the schools. Only the law students and medical school students voted to continue the strike. The medical students, with a voting margin of 461-206, were the most stridently opposed to ending the strike of all UNAM's students, signaling their conservatism on the issues of autonomy and socialist education, relative to other students. This is perhaps not surprising, given the lessons they absorbed from Medicine.

When the UNAM Council voted to resume classes at the end of October, Gómez was out as rector of the UNAM. To some degree, it was unsurprising that in his place, Dr. Fernando Ocaranza was tapped to serve as Rector. Then-Director of the *Facultad* and longtime member of the University Council, Ocaranza was seen as a "classical liberal and a hero of the right," and it was hoped that he would serve as a stopgap against rising leftism.[67] Despite of optimism about Ocaranza's capacity for stringent resistance against the intercession of the impatient Cardenista

[65] Mabry, *The Mexican University*, 130.
[66] AHFM, *FEMyA*, leg. 167, exp. 8, f. 3, 1934.
[67] Mabry, *The Mexican University*, 145.

state, however, Ocaranza made it less than a year as rector. The school was beset by agitation from both left and right. It did not help that Ocaranza directly challenged the Cárdenas Administration's policies regulating UNAM's preparatory schools, citing University autonomy and seeking an injunction against the government. When the effort failed, students again struck, plunging the University into another round of unrest. It also did not help that financial troubles lingered for the UNAM, which suffered from a 306,000-peso deficit; when Ocaranza requested a bailout in August 1935, President Cárdenas refused. This confluence of issues brought business at UNAM to a grinding halt. Despite some negotiations between Ocaranza and Cárdenas that seemed promising, it was to be illusory. On September 14, 1935, Cárdenas "blamed the UNAM's troubles to adapt to the new social realities and to its attempts to thwart the social reforms of government."[68] Cárdenas' response precipitated Ocaranza's resignation from the Rectorship, a clear failure for the approach of pointed resistance.

Ocaranza's replacement at the UNAM, Luis Chico Goerne, adopted a more successful strategy to fend off the State's overtures toward the abrogation of UNAM's autonomy. An UNAM lawyer by training, Chico was able to return to the negotiating table with President Cárdenas and delay any changes to the status of UNAM's independence, while legislation was drafted forming a new oversight council as part of the deal, granting the State "the power to regulate the exercise of the professions."[69] Under Chico, the UNAM did its utmost to reorient itself as a pro-Revolutionary institution. In January 1936, Chico created the Department of Social Action. Based upon the University Extension work undertaken by Cambridge University in the United Kingdom, the program aimed to provide members of the community instruction and support from university students by means of events, summer courses, seminars, and

[68] Ibid., 146.
[69] Ibid., 154.

wellness promotion activities. To insulate the Department from falling under the influence of leftist agitators who might perturb the delicate equilibrium, Chico preserved the ability to appoint its director. The strategy bore fruit: in 1937, the Federal subsidy to the UNAM returned. In 1938, following Cárdenas' nationalization of Mexico's oil industry, it was notable that the UNAM's student body went out to the streets to manifest in support of the expropriation: Chico had "arrived at an understanding with the Cardenista government."[70] By 1944, the Federal subsidy to the UNAM had doubled in real terms.[71]

This is not to say that the rollout of the SMS wholly repaired the rift between UNAM and the Cardenista State. In 1937-8, Cardenistas proceeded with their own approach to "socializing the profession" by the establishment of the *Instituto Politécnico Nacional* (IPN). This came as the fusion of a few preexisting technical schools. The IPN eschewed traditional admissions requirements, allowing a more diverse student body to enroll at the school; this meant that medical education—historically, a rather elite affair—was reoriented away from its academic bases and toward practical engagement with "the great helpless masses of the country."[72] Perhaps unsurprisingly, this approach was not favored by Gustavo Baz, who supposedly stormed out of a meeting with officials proposing the plan. The plan, too, was beset by financial and institutional limitations. Nonetheless, Cardenista efforts with the development of a rural health program at the IPN demonstrated that an interest in producing socially-minded public health agents and officials was no small thing. The effort to "socialize" the UNAM's *Facultad* was but a part of Cardenistas' broader efforts to "socialize the professions."

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[70] Wences, *La Universidad,* 124.
[71] Ordorika, *Power and Politics,* 57.
[72] Cited in Ibid., 123. Discussed in Soto Laveaga, "Bringing the Revolution," 416-22; Meza Huacuja, "De la universidad," 637-39; Carillo, "Salud pública," 163; Agostoni, "Médicos rurales," 783-7.

In sum, one cannot adequately understand the origins of the SMS without reference to this broader political—and I argue, emotional—crisis that saw the UNAM's legal status in the balance. As both Maximista and Cardenista Federal officials demanded the UNAM cooperate with the State—and as more conservative critics defended the UNAM as a site of effective resistance against the steamroller of socialization—one may hear the echoes of the ongoing conflict that the State had with the profession of Medicine, regarding the deficiencies of *its* emotional regime. In some respects, the conflict can be understood as but another theater in the broader conflict over the socialization of the professions during the Cárdenas years. Ocaranza's favored strategy—pitched resistance—was evidently unattractive for Medicine. Chico's more conciliatory approach seemed to offer a model for the preservation of autonomy at the same time as a détente with the Cardenista State. The rhetoric adopted by members of the *Academia* and authors in the *Gaceta* discussed in Chapter One seem to make particularly good sense in this context. To demonstrate its good faith to the Cárdenas Administration in the face of this discord, Medicine needed a golden opportunity to work toward a more mutually-beneficial relationship.

***Under an umbrella in Acapulco***

Today, the *Palacio de la Inquisition* houses the Mexican Museum of the History of Medicine. Though most of the onetime educational facilities—many of them built or renovated during the Centenary campaign of 1933—are now filled with examples of indigenous pharmacopeia and reproductions of pathology and physiology labs of the late-nineteenth and early-twentieth centuries, there are still signs of the site's role in developing both the clinical and social acumen of its students. The large central staircase features a large marble statue of St. Luke with the label "This Saint was a physician," an object lesson for students in their quest to

become compassionate, socially-minded clinicians. A plaque on the wall near the auditorium celebrates another particularly prominent physician, a former Director of the Medical School, Dr. Gustavo Baz Prada. The metal, now somewhat dull, was dedicated in 1957 by the *Confederation of Unions of Physicians and Similar Professionals of the Mexican Republic*. The plaque specifically celebrates Dr. Baz for perhaps his most prominent contribution to Mexican Medicine: it is a commemoration of the twentieth anniversary of the institution of the SMS, dedicated to "the pasantes of medicine, benefitting the health of our *pueblo* and projecting the social conscience of the university to the furthest corners of the *Patria*."

Dr. Gustavo Baz Prada was appointed head of the *Facultad de Medicina* on October 11, 1935. Like Siurob, Baz was also a man of unimpeachable Revolutionary credentials. Baz was born in 1894, in Tlanepantla, in the State of Mexico. In 1913, he made his way to the capital to join the *Facultad de Medicina*. His medical training was supported with a scholarship from the *Escuela Médico Militar*, and he received the rank of sergeant for his "qualifications, tenacity, and interest."[73] Also like Siurob, Paz put his studies on hold as conflict spread. With his skills and military uniform, he organized revolutionary activity, and ran guns and ammunition for various groups who opposed the forces of Huerta. This Revolutionary activity became formalized in 1914, when he formally joined the forces loyal to Emiliano Zapata. During the successes of the Conventionalist forces in the Central Highlands, Baz was appointed to serve as Governor of the State of Mexico. During his administration, he was particularly interested in policy-making on issues of land redistribution, labor organization, and education. By 1915-1916, the star of Conventionalism began to dim, and the Zapatista and Villista forces had to abandon the Capital to meet Constitutionalist armies closer to their home regions. Baz evidently

[73] Claudia Agostoni, "Gustavo Baz Prada," in Leonor Ludlow, ed., *200 emprendedores mexicanos: la construcción de una nación* (New York: LID, 2010), 634.

took this opportunity to return to his medical studies in 1916. He graduated in 1920 with a thesis titled "Vascular sutures," which addressed techniques in organ transplantation, reflecting his chosen specialization in general surgery. Baz was evidently an enthusiastic and well-respected trainee, as he travelled widely in the US and Europe gaining surgical practice.

In addition to whatever political credibility Dr. Baz had as a loyal servant of the Revolution in his prior years of military service, President Cárdenas seems to have had a great deal of personal trust in Dr. Baz, given that Baz served as his personal physician. On the evening of May 4, 1936, the President had experienced abdominal pain, which got progressively worse overnight. On May 5, he presented to the Hospital General, Gastón Melo Pavilion, where he was diagnosed with acute appendicitis. By that afternoon, at around 5:00 PM, he underwent an appendectomy, performed by "friends of my esteem," attending physician Dr. Gustavo Baz and assistant Dr. Salvador Zubirán, who would also later become rector of the UNAM. The doctors cared for the President "with their recognized skill and ability," evidently without incident, as the procedure was completed in an hour. President Cárdenas recuperated in the hospital until May 10, attended by his wife, Amalia, when he was discharged. In Cárdenas' journal, the President stated that he had left the hospital "pleased with the considerations that the hospital personnel had given" them.[74]

Of all the impressive items in Baz' resume, he is perhaps best remembered as the father of the SMS. According to the orthodox UNAM institutional history, Baz uniquely had the spirit and will necessary to develop the "transcendental" program. It is worth probing the terms of these stories of the SMS' "birth," as they reveal some of the broader social and intellectual dynamics involved in the origins of the program. As noted in Chapter Three, some of this

[74] Cárdenas, *Apuntes, vol 1,* 347-8.

mythologizing took form in pasante prefaces celebrating Dr. Baz. It was not merely a process, internal to the *Facultad*, however: in 1939, medical student Manuel Velasco Suarez described in the *Mexican Journal of Sociology* how the SMS had come about. In early 1935,

> It became the fashion in circles of authority to accept as axiomatic that the first step in the "new orientation" was to define the ends of our "alma mater" around a "tripartite notion" that would orient our research toward…knowing the relations between human nature and 1) the social world, 2) the biological world, and 3) the physical world.[75]

Consequently, there was an interest among the UNAM Council in the creation of an "obligatory service for all university students" to remediate its "misunderstanding of its obligations to those outside" the University's walls.[76] Enter Dr. Baz, who "against all odds" had "raised the fallen flag of the purest hopes" by leading the charge at the *Facultad*.[77] The Director's great success had been to impress upon medical students their social obligations as physicians, which "they had never before reflected upon." Baz "had brought to the attention of the future doctors and with intelligent tenacity brought the idea to the President of the Republic." As Velasco put it, "And so it was: the theoretical obligation made practice," a program that fell from the head of Dr. Baz.[78] It was tenderly presented to President Cárdenas, in an act that cemented their partnership and their presence in the pantheon of Great Patriots.

Baz himself ostensibly played a role in crafting the meaning the SMS took for the UNAM, and indeed, in narrativizing his role in that process. In a 1937 memo, Rector Chico corresponded with Baz, introducing him to the head of UNAM's Department of Publicity, Alejandro Gómez Arias, who would be responsible for "raising awareness among the public of all the activities undertaken by the UNAM."[79] Chico requested that Baz offer some information

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[75] Manuel Velasco Suarez. ''El Servicio Social de la Facultad de Medicina: Breve comentario," *Revista Mexicana de Sociología*, vol. 1, no. 2, (May–June 1939): 127.
[76] Ibid.
[77] Ibid., 128.
[78] Ibid.
[79] AHFM, *FEMyA*, leg 167, exp. 8, f. 58, 1937.

to Gómez that would convey "the unity of the university's labors," likely toward socially-conscious ends. The SMS was clearly an ideal marketing tool to demonstrate that the spirit of compassion and empathy for vulnerable Mexican citizens that Cardenismo averred had softened hearts at the UNAM and *Facultad*. For Baz, the successful rollout of the SMS—and to be sure, some of its mythic/propagandistic dimensions—represented a launchpad for promotion. Just two years after the establishment of the SMS, Baz was promoted to Rector of the entire UNAM, during a renewed period of "full university crisis"; namely, a corruption scandal that had led to the sacking of Chico, to some degree nurtured by forces loyal to Baz.[80] Ostensibly, Baz' devotion to public service during his tenure at the *Facultad* made him the ideal candidate to protect the interests of the University as a whole, as a man whose self-reflection put him squarely on the path to social consciousness.

Following the recession of the Cardenista tide, Baz continued to enjoy influence in the Mexican government. In 1940, with the inauguration of Manuel Ávila Camacho, Baz was tapped to serve as the head of the DSP, and in 1943, when the Department of Social Assistance merged with the DSP, Baz' portfolio expanded as he became Secretary of the newly-formed *Departmento de Salubridad y Asistencia,* demonstrating himself to be an able apparatchik for the more conservative Institutionalized Revolution. Decades later, in a wholly different historical context, Baz sustained the mythologization of the SMS. In a 1970 interview, Dr. Baz claimed that the SMS arose as the result of an epiphany,

> the result of a test of conscience in my personal life…I was under an umbrella in Acapulco, reading a novel, when I stopped to think about my modest history. I remembered how after finishing school they removed me from my practicing position and didn't even give me a physician post, because I wasn't a student or a doctor, I didn't have a cent, and I went through many difficulties to get any at all…Remembering that and at the same time, remembering my life in the Revolution, in which I had seen the populace of the Republic deprived of medical care, it occurred to me that I could

[80] Agostoni, "Baz Prada," 635; Mabry, *The Mexican University,* 175-183.

> establish the *servicio de los pasantes de medicina* as something mandatory. To require them, over the course of a year, to go to places that had never had a doctor before.[81]

The SMS had communicated the commitment of the *Facultad* and, by extension, Medicine, to the "new orientation" in the Mexican Republic. It had been the product of a life ardently devoted to service of the needy and committed to the tenets of the Revolution.

Despite the orthodoxy that celebrates the singular contributions of the good Dr. Baz, the real institutional and political origins of the program remain somewhat more ambiguous. We can sketch a rough timeline of key events: Baz formally presented his version of the program to the rector of UNAM, Luis Chico Goerne, on December 2, 1935. Cynically, in 1935-1936, shortly after the development of the Department of Social Action, the immediate political benefits of adopting the SMS must have been immediately obvious. It would be certain to blunt the rhetorical thrusts of protesting student leftists and placate an impatient Cardenista State eager to apply its principles of socialist education. The SMS represented means to soothe years of unrest centered on the UNAM's supposed Ivory-Tower attitudes. The next step was funding such an endeavor. Over the next several months, in an interesting reversal of the Federal government's penuriousness toward the UNAM in years prior, funding came in from critical partners in the Federal government at the DSP and from the Secretary of Communications and the *Antigua beneficencia pública*. The institutional framework set, and the finances put in order, the first set of pasantes left Mexico City in August/September of 1936.

The key area of ambiguity surrounding the SMS concerns the origins of the original plan that Baz presented to Chico in December 1935. As noted above, historians of the SMS have identified programs resembling the SMS that had appeared at the 1928 International Social Work

[81] Alicia Olivera de Bonfil and Eugenia Meyer, *Gustavo Baz y sus juicios como revolucionario, medico y politico* (Interview) (Mexico: Instituto Nacional de Antropologia e Historia, 1971). Also quoted in Meza Huacuja, "De la universidad," 625-626.

Conference in Paris, at the 1935 First National Congress for Rural Hygiene in Morelia, presented by an RF-trained physician, or among Catholic Students at UNAM. Again, it is hard to state which may have ultimately informed Baz' draft plan; one, multiple, or none.

What is more certain is that, despite anxieties of President Cárdenas and physicians like Siurob, Cárcamo, and Bustamante that young doctors were unlikely to have the moral fiber necessary to complete their duty—and notwithstanding the evidence of medical students' rather vocal resistance to the program of socialist education—there seemed to be at least a group of medical students who seemed to have eagerly participated in and advocated for programs of social engagement in the 1930s. Their endeavors may also have served as a model for the draft plan for the SMS. Prior to Baz' tenure as Director, students regularly went on public health mission trips, referred to as *viajes de higiene*. The budding physicians seem to have made quite a favorable impression where they volunteered. In late September and early October of 1934, the *Facultad* received letters from doctors, eager to offer praise for the socially-conscious students. Dr. Alberto Cancino of Soconusco, Chiapas remarked at the "magnificent impression" left by the visiting students throughout the state, "as much as by their behavior in social acts as by their particular interest in learning about Onchocerciasis."[82] The grateful and impressed alumnus of the Faculty added, "in all sincerity and with unanimity" that a round of applause was granted, even many kilometers away.[83] Dr. Clemente Carerra, a sanitary delegate to the Federal Border patrol, wrote to the Faculty—ostensibly about the same *viaje* to the Guatemalan border in Chiapas—that the students had displayed "correct and measured" behavior, "painstaking dedication and laudable effort and interest in the problems and sanitary and hygienic issues of

[82] AHFM, *FEMyA*, leg. 307, exp. 1, f. 1, 1934.
[83] AHFM, *FEMyA*, leg. 307, exp. 1, f. 2 1934.

the region."[84] The doctor said that, in turn, he had shown them certain things that would be both interesting and "valuable to their future professional practice." By spending time with this group of students, "for whom revelry and diversion did not mean everything," the entire community had "experienced a profound satisfaction and admiration toward their beloved and unforgettable" alma mater.[85] He concluded the letter with a note of hearty congratulations. The Director at the *Facultad* promptly forwarded these messages to the Rector of the University, and to the Federal Hygiene Commission.[86]

Some of these opportunities for community engagement came at the behest of the *Facultad*'s more socially-minded professors, as part of the University's agenda for social outreach. On June 28, 1937, Dr. Pruneda sent a brief note to Dr. Baz. Pruneda's small memo was sent to update the Director about a for a new educational opportunity for students. "I am very pleased," wrote Pruneda, "to communicate with you that, pursuant to your indication, I invited my students from [social] medicine and work hygiene to take charge of talks dedicated to workers."[87] Dr. Pruneda was happy to report that fourteen students accepted, and wrote talks for the workers. Not only were students willing to participate in programs set up for them, but programs for social service also seem to have bubbled up from medical students themselves. In July of 1936—soon before the first big departure of pasantes—the Society for the Students of the *Facultad* sent a letter to Dr. Baz, informing him that they would be organizing a National Singers Grand Prize for Workers, Employees, and Students, "with the goal of identifying the studious youth with the working youth in different proletarian branches."[88] With Dr. Baz supporting their

[84] Ibid.
[85] AHFM, *FEMyA*, leg. 307, exp. 1, f. 3, 1934.
[86] Ibid.
[87] AHFM, *FEMyA*, leg. 307, exp. 8, f. 1, 1937.
[88] AHFM, *FEMyA,* leg. 307, exp. 3, f. 175, 1936.

program, they hoped to achieve the "greatest resonance possible, a resonance that would redound as a benefit to the good name of the student of this Faculty."[89] Dr. Baz sent the letter around, and received a response from the treasury of the state of Coahuila to cover the Fifth Place prize of 100 pesos.[90] In 1940, after several successful cycles of the SMS, the expansion of the program was attributable to a student effort to deepen its commitments to the broader public. One student sent a letter to the DSP and UNAM with several requests for expanding and reforming the SMS. Among these requests was one that the program be extended to *all* areas of the University; that the SMS be lengthened to a year, that the emoluments of the pasantes be raised to living wages, and that the students be able to "obtain a modest sum for the start of their professional careers."[91] The letter went around with several carbon-copies, and the copy deposited in the DSP archives essentially stated that they would accept broadening the program, but that the rest of the requests were at that point economically unfeasible.[92]

It is clear that Gustavo Baz contributed to the institutional development of the SMS. As we have seen, however, a definitive provenance of the contours for the plan that was to be the SMS eludes us—and likely will elude us. Instead, I suggest that we can get beyond establishing paternity of the SMS by framing its origins in the context of an array of intellectual, social, cultural, and political currents that converged in the 1930s: the reform of the medical school curriculum to incorporate principles of social medicine, the ongoing fight over UNAM's general engagement with the *pueblo*, its administrative status, and for our purposes, the simmering conflict between the Cardenista State and Medicine regarding the profession's emotional regime.

[89] AHFM, *FEMyA,* leg. 307, exp. 3, f. 176, 1936.
[90] AHFM, *FEMyA*, leg. 307, exp. 3, f. 180, 1936.
[91] AHSSA, SP, Servicio Juridico, vol. 54, exp. 10, f.2, 1940.
[92] AHSSA, SP, Servicio Juridico, vol. 54, exp. 10, f.2, 1940.

***The Fruits of Negotiation***

As the 1938 cohort of sixth-year medical students prepared to depart for their *servicio* sites, there must have been some anxiety. After all, students would be away from the familiar sights and sounds of Mexico City—sometimes hundreds of miles away, separated by a lengthy train trip, wagon ride, and perhaps a trip on a mule. A handbook distributed to students must have assuaged some of their concerns. The document—signed by Dr. Baz in his new position as Rector of the UNAM; his replacement at the *Facultad*, Director José Aguilar Álvarez; and the new head of DSP, Leonides Andrew Alamazán; in addition to two officials in recently established DSP Offices responsible for coordinating the finer points of the SMS administration—demonstrated that the UNAM and the Cardenista public health apparatus were in lockstep to ensure that medical students were successful *en servicio*. The handbook can be read as a consummation of the détente established between Medicine—with the *Facultad* as its proxy—and the Cardenista public health bureaucracy in 1935.

One can see the fingerprints of negotiation throughout the handbook, in particular, in how it described the policy and pedagogical reasons for the final institutional form of the SMS. Officially, the SMS reflected the "social movement that [was] currently operating in the Mexican Republic."[93] This meant that it was structured—at least as it was described to the medical students who would embark upon it—to address the needs of vulnerable Mexicans. The most important facet of the nation's unequal system of healthcare that the SMS aimed to address was that of physician density, described in a manner much like the way Bustamante, Pruneda, and Siurob had described it previously. As the document established, the "convenient distribution" of physicians was a "serious problem" in Mexico. The SMS aimed for the resolution of the

[93] "Instructivo General para el Servicio Médico Social de los pasantes de medicina," in AHFM, *FEMyA*, leg. 165, exp. 11, fs. 1/37, August 1938. See Meza Huacuja, "De la universidad," 636.

"dreadful distribution" by sending pasantes to sites where there were either no "legally licensed professionals" or an "insufficient" number of professionals for the population.[94] Based on the observations of the first years of the SMS, the authors conveyed an optimism that this problem "[would] disappear very quickly." "The immense majority of those who have undertaken their Service," the handbook asserted, "have taken just those places where they performed their social practice as the definitive places of their settlement." By having pasantes spend a significant amount of time in a place, students developed an affinity for their SMS sites, which inspired them to put down roots. Students were likely to find a "useful field of action for the application" of the knowledge gained on *servicio* for the rest of their professional lives.[95]

It was not enough for pasantes to simply be present in rural places to benefit residents; low physician density was simply a proxy for a lack of medical services. This meant that to really be of help, pasantes had to take seriously their role as the *biomedical* authority—recall, there were other healers, too—in the locality. They needed to quickly learn how to provide the full array of medical services needed for their particular communities: the work demanded that the pasantes "realized exactly the environment within which" they were to practice. Again, the handbook's argumentation ran consistent with the arguments of Pruneda, Bustamante, et. al.: hygiene and preventative care were key priorities for pasantes. They were instructed to conduct vaccination campaigns at their sites, with appropriate storage and deployment of vaccines and serums. They were instructed to offer hygienic education to municipal officials to impress upon them the importance of plumbing, drainage, veterinary hygiene, food safety, and the regulation

[94] AHFM, *FEMyA*, leg. 165, exp. 11, fs. 1/37, August 1938. Interestingly, the problem of distribution, according to the handbook, was articulated as a problem "not only for physicians," seemingly in reference to the talk of the professional proletarianization of the urban physician class that so hollowed the spirit.
[95] AHFM, *FEMyA*, leg. 165, exp. 11, f. 3, 1938.

of sex work. To accomplish these goals, the guidance for pasantes on issues of preventative care was that they "follow the same program established by the Health Department."

Patient education was also to be an essential tool in the pasante's armamentarium. In a passive way, this meant that the pasantes were expected to distribute the cache of sanitary propaganda posters and fliers, published by the DSP, which each pasante had been given in their deployment pack. There was also an expectation that pasantes would *actively* engage in patient education. The handbook suggested that pasantes hold conferences and talks for their patient populations—like the work already undertaken by medical students during their previous years of medical education in Mexico City—with focus on the needs of "professors and students; groups of workers, laborers, and farmers, etc."[96] To be sure, from a clinical perspective, these demographic groups could benefit the most from the expansion of preventative care services in rural places. It is nonetheless noteworthy that the handbook so clearly identified populations aligned with Cardenista corporatism, suggesting that the signatories understood the potential political benefits of treating health as a sort of "rent" to distribute.

While patient education and preventative care were surely important—and would likely have helped to reduce the overall burden of disease that pasantes had to contend with—it was clear that pasantes would also have to provide curative services to patients in their area. The authors of the handbook appreciated that it was on the curative side of things that the pasantes would feel the most overwhelmed. This was in part because the morbidity and mortality in these rural places were striking, and thus would have posed a challenge even to seasoned physicians. But pasantes were not veteran clinicians: they were medical students. To be sure, during instruction at the *Facultad*, pasantes had acquired the knowledge necessary to examine,

[96] AHFM, *FEMyA*, leg. 165, exp. 11, f. 4, August 1938.

diagnose, and treat many diseases and disorders. But they had little clinical experience on how to practically use that knowledge in Mexico City's hospitals, let alone in a resource-poor town clinic. To steel these students for their coming clinical baptism-by-fire, the authors offered simple advice: "do not forget that that many are the doubts and problems that will present themselves to you…it would be of great help to bring your reference books."[97]

Before departing, there were some bureaucratic steps that students would have to take. The first step was for the pasante was to select a preferred site for their months of service. Prior to departure, pasantes received a packet from the medical school with dozens of suitable placement sites listed as possible options, complete with their total population, for the pasantes' consideration. Pasantes were able to "freely choose" among these options offered to them. If two pasantes chose the same site, then the Section of Social Medical Practice and Social Collaboration, within the DSP, would select the ultimate placement, taking into account "average grades, family needs, timing, etc."[98] If the DSP-level office could not make a final conclusion, the ultimate authority would then fall to the Director of the *Facultad* to make the final call. As one might appreciate, behind this seemingly banal selection process lay a great deal of coordination between the various arms of the Mexican governmental structure. To establish the various eligible sites, the DSP sent a form letter to the city hall of every rural hamlet in Mexico, requesting the number of legally-qualified doctors practicing in the town, the number of residents in the city, "general facts" that would inform the DSP about health and hygiene in the town, "also to investigate its economic state," the "pecuniary assistance" that the town would be willing to offer to grant the town a "necessary arsenal," and finally, an analysis of the sources of wealth of the town, a discussion of the modes of transportation and communication that the

[97] AHFM, *FEMyA*, leg. 165, exp. 11, f. 4, August 1938.
[98] AHFM, *FEMyA*, leg. 165, exp. 11, f. 6, 1938.

municipality depended upon.[99] This letter went to municipalities of under 10,000 habitants or less, the total of which filled a thirty-page document. One copy also went to Gustavo Baz Prada, informing him of the DSP's project, and instructing him that upon receipt of the requisite information, the DSP would collate the list, such that the pasantes awaiting their SMS could be aware, with "all opportunities, the conditions of the places where they would be able to go to do their *Servicio*-Social" that year.[100] Only after that long train of institutional communication could medical students circle their preferred site of social learning and civic labor.

After this, students were instructed to present evidence to the DSP office certifying that they had finished their sixth-year exams, with three passport photos and a power of attorney in quintuplicate with ten cents of stamps for documents. As to the material support that pasantes could expect from the program, the students were given a kit that hopefully gave them the resources necessary to practice as physicians at their placement sites:

- A prescription pad for narcotics
- A block of death certificates
- A fortnight advance on their salary
- An array of propaganda posters and fliers from the DSP
- Paper and stamps
- Instruments and medicines "to the extent permitted by the economic conditions of the Section"

In addition to this materiel for rural practice, the pasante could expect support from the Mexican government to the greatest degree possible. For travel, the pasante would receive a 50% discount on all the nation's railroads. At request, pasantes could request serums and vaccines, packaged appropriately for the travel, and sent to the locality. Any lab samples (blood, water, milk, urine, etc.) could be sent to a DSP lab for analysis. Most importantly, the DSP would also

[99] AHFM, *FEMyA*, leg. 307, exp. 3, f. 63, 1937.
[100] AHFM, *FEMyA,* leg. 307, exp. 3, f. 64, 1937.

extend the official title of "Physician-Surgeon *en Servicio Social*," thereby granting pasantes special professional status for their months of service.

This title and associated documentation would come in handy when the pasantes finally arrived at their site. They were instructed to proceed directly to the city hall to introduce themselves and present their credentials to begin the process of local recognition on the road to practice.[101] They were also instructed to "immediately" coordinate with the nearest Federal Sanitary Authority, to establish an open line of communication and support. Pasantes were also expected to reach out to local authorities in the case of the emergence of any epidemic at their placement site. There, they would have to learn how best to shape their services to meet the needs of the local community, and indeed, how to navigate local politics.

The handbook also dipped its toes into the question of pasante salary. The issue of honoraria and physician payment was an elephant in the room for these pasantes, as it had been during the Porfirian era, and as it was for contemporary commentators bemoaning the financial motivations of the era's physicians. In 1936, pasantes could expect to receive 90 pesos monthly—for perspective, an average laborer received one peso per month. A trusted person would receive the pasante's salary every two weeks, and would forward the money to them while at their placement site. The handbook acknowledged that the pesos given to pasantes would be insufficient to sustain the pasante for their months of service. As such, the officials authorized pasantes to charge "reasonable" honoraria. They gave clear guidance about the conditions of those transactions: pasantes could only charge fees to those who were deemed to be in a "good economic position," and "without exception" preventative care work "must be free."[102]

[101] AHFM, *FEMyA*, leg. 165, exp. 11, f. 6, 1938.
[102] AHFM, *FEMyA*, leg. 165, exp. 11, f. 5, 1938.

Finally, the handbook outlined the data-gathering role for pasantes at their sites. Again, it made clear that pasantes were effectively subcontractors for the DSP, demanding "effective collaboration" with the Department on issues of "statistics, censuses, graphics, maps." The handbook reminded pasantes that their theses would serves as the "correct formation" for the statistical data for the DSP. Four types of reports were expected from pasantes, reflecting the various sorts of knowledge that pasantes were expected to make during their several months in the field. First, pasantes were responsible for a weekly report enumerating cases of infectious diseases in their locality. Monthly, pasantes were tasked with keeping a record of the number of cases, consults, and deaths attributable to categories of non-infectious pathologies ("diseases of circulatory system," "violent or accidental deaths," "chronic poisonings and intoxications," etc.). If pasantes were uncertain about how to categorize any given ailment they encountered, the appendix gave a comprehensive list of dozens of diseases the pasante might observe. Every month, to complement the non-infectious disease case counts, pasantes were to submit a comprehensive rendering of the full extent of the activities undertaken by the student that month. Every hygienic conference for residents, every vaccine administered, every lab exam for gonorrhea, every inspection of school and stable sanitation, were marked on the form.

In addition to these data collated and destined for the records at the DSP, the final "report" expected of pasantes reflected the educational dimensions of the SMS. The expectations for this final submission describing "the sanitary exploration" of the pasante's placement site were clearly articulated, both the document's content and its organization. Pasantes were expected to briefly summarize the history, geography, and climate of their site. From there, the pasante was expected to begin their reflection on the level of hygiene at their site, offering their observations on a wide array of domains: water quality at the microscopic

level, sewage and waste management systems, commentaries on dairies, stables, living quarters, schools, food and drink safety (including a commentary on alcohol use), industrial and ejidal hygiene, and hospitals and clinics. They were expected to offer some general demographic details, such as total population (distributed by sex, age, race, and occupation), literacy rate, number of ejidos, a general mortality coefficient and one specifically for infectious diseases such as "typhoid, smallpox, diphtheria, tuberculosis, malaria, dysentery, diarrhea, and enteritis." As part of the DSP's interest in gathering data on infectious diseases, pasantes were expected to have a special focus on sexually transmitted infections, and the extent to which sanitary services provided surveillance and/or regular exams, as for sex workers. Finally, pasantes were expected to offer their "proposal for improvements to organization and regimentation that could be made within the economic possibilities of the place, the State, and the Nation, keeping in mind that within the Republic, one finds many towns in identical or worse conditions."[103]

Students facing the magnitude of this charge could rest assured that they could count on support as they made their way to care for the vast body of Mexico's citizens who lacked medical care. The handbook made clear that the DSP had granted the *Facultad* "firm moral and material cooperation" for the entire project. This partnership between the two august institutions was critical to "formulating a plan of coordinated action that would translate into an effective benefit for the *pueblo*," to improve the future health of the Mexican race. Each element of the program was the product of the negotiation between the elements of the Cardenista state—specifically the DSP, its various laboratories, its propaganda wing, and its *materia medica*, the administration of the *Facultad*, and countless local governments across the entirety of Mexico.

[103] AHFM, *FEMyA*, leg. 165, exp. 11, f. 6, 1938.

***Conclusion***

By the mid-1930s, medical education looked rather different than it had a generation before. As the era's various social commentators—at the DSP, at the *Academia*, and at the *Facultad*—articulated, this was an age of great social ferment, both in the Mexican Republic and across the world. Public health officials and physicians alike were concerned about the hearts and minds of the younger generations currently in training, and felt that the social conditions operative in Mexico at the time would be the best teacher for young minds. At the medical school, there was evidently some concern about this process as well, with associated curriculum reforms that enhanced instruction in specialty care, but also exposed students to a broader array of clinical experiences and set aside considerable instruction time for topics in hygiene and social medicine. These reforms took place against the backdrop of stewing conflict between left- and right-wing students and professors, the National University, and the Cárdenas Administration about whether the school would be a bastion of ivory-tower conservatism or play an active role in the betterment of the nation by means of a Cardenista-inspired justice.

As Alfonso Pruneda noted, physicians' special capacity for care stemmed in part from their daily exposure to human suffering. The SMS emerged as a way to harness feeling to resolve an array of outstanding social and political conflicts. Canonically, Dr. Gustavo Baz Prada came up with just the thing that would please all parties involved in these longer-term processes. Notwithstanding his now-mythologized role, examples from the archives—and the contributions of other historians—indicate that perhaps Baz' beach-side epiphany was perhaps less the stuff of Revolution—the lofty ideas of heroes of profound spirit—and more the stuff of revolution—negotiation and political maneuvering. The pasante handbook offers insight into the contours of the newly crystalized, Cardenista-sponsored, *Facultad*-approved compromise that

was the SMS, as it came to be articulated as means to correct past wrongs, to extend science into superstitious and deprived areas of the country, and to expose young physicians to the illness and deprivation of their rural countrymen.

The terms of this settlement were thus negotiated and set. All that was left was to set young evangelizers on their way and let the experiment run.

# *—PART TWO—*

## CHAPTER THREE:
## The pain of others as one's own

As discussed in Part One, Mexican physicians and officials of the 1930s identified geographically-isolated communities as those particularly suffering under the status quo. Reasons for that were both lack of necessary financial resources as well as lack of human resources in the form of licensed physicians to serve in small towns. The SMS, as discussed in the previous chapter, was designed to resolve some of these national problems. Beyond the concrete public health benefits of sending health professionals into places that badly needed aid, however, there was an additional social function of the SMS: the settlement of an incongruity between Medicine's cold, detached emotional regime and Cardenistas' massified politics. The SMS, the product of that negotiation, helped to cement a period of relative détente between the profession and the State, by training "young hearts" devoted to the needs of the suffering.

In this chapter, I explore how medical students interpreted the mandates of the "new orientation" in the era of the SMS. After administrators established the program, off pasantes went to serve Mexico's rural patients. When they returned to Mexico City, medical students needed to submit a final thesis to satisfy the requirements for their degree. In these documents, they described the work they performed on *servicio* to their examiners. While expectations for final reports—as crystalized in the 1938 handbook—did not demand any personal reflection, students nevertheless offered their contemplations on their time *en servicio*. They discussed the challenges that their patients experienced daily, describing the poverty, sickness, and death that for so many of their fellow Mexicans was simply a feature of daily life. Many wrote about their own trials and frustrations, about managing their lack of self-confidence as young doctors, and

about their complicated feelings toward the profession that they were now entering. In addition to medical knowledge, then, students brought back with them an array of emotional experiences, some good, some bad, some outright traumatic. By reading student theses for their emotional content, we may observe how pasantes' creative approaches to managing poor hygiene, limited resources, and isolation reflected not only the development of the emotional regime of the "new orientation," but also the development of a politics of rural health.

### *The Navigation of Feeling*

It might not be unreasonable to suggest that the Cardenista DSP in concert with Medicine exerted a centralized control over pasantes; that two constrained "polities" were together strong, ushering in a period of successful data-collection and public health provision that—for the first time in Mexican history—definitively incorporated vulnerable Mexicans of various sorts into the social and political fold. As discussed in the introduction, this is seemingly the historiographical perspective of historians of the SMS, who emphasize the robustness of Cardenismo, at least until 1938. As Claudia Agostoni has written, the growth of Mexico's public health apparatus in the 1920s and into the 1930s, including the SMS, showed that "public health was a fundamental element through which it was sought to extend, make visible and tangible state medicine, its actors, and its institutions throughout the country."[1] Gabriela Soto Laveaga has argued that Cardenistas hoped to transform rural clinicians, pasantes included, into "crucial emissaries of a paternal state capable of providing health care to the poor."[2] In an internal colonizing process, pasantes were the *avant garde* of this expanding imperium of hygienic "modernity," as defined

[1] Agostoni, "Médicos rurales," 750.
[2] Soto Laveaga, "Bringing the Revolution," 400.

by a certain sector of Mexico City's elite, into Mexico's interior.[3] Students were thus "surveyors of the nation providing information for a government that was overseeing a broad transformation of Mexico."[4] In this reading, pasantes were deputized as quasi-Foucauldian agents of state, working to establish biopower over Mexico's citizenry.

These historians' point is well-taken, regarding the role of the State in "giving health." A clear agenda of hygienization and modernization emanated from the DSP Central Offices and bureaucrats and physicians alike described this agenda as essential in the improvement of Mexico's citizens, and indeed, the Mexican race. It is thus clear that the scope of students' actions were informed by the specific expectations that the *Facultad* and the DSP had for their clinical work, their sanitary work, and their data-gathering activities. It is also clear that the way that medical students related to rural patients was informed by often-implicit beliefs and expectations about the improvement and integration of rural populations into the national community, and that these beliefs were evidently shared by DSP bureaucrats and physicians at the *Facultad* and Academia.

Though there existed a rulebook for pasantes, this did not mean that that the rules were always followed as officials wanted, or indeed, that those rules were followed at all. To that end, in this chapter, I take an alternative perspective than historians have to date. I argue that clinico-political dynamics in rural places rested not upon the domineering power of the State, but rather upon a foundation of emotional politics. Rather than framing pasantes as agents of an incipient, colonizing, biopowerful State, I instead see pasantes as young learners, navigating the various, sometimes-contradictory emotional regimes thrust upon them by the political détente between Cardenistas and Medicine. Adopting this bottom-up perspective allows us to observe a

[3] Ibid., 399.
[4] Idem., "Seeing the Countryside," 35.

multifaceted, negotiated, open politics of health in Mexico's localities. It was by their performances of compassion, their navigation of feeling—in theses, and in their clinical service—that pasantes participated in, and indeed enacted Cardenista politics, rather than by passively following central directives for the improvement of Mexico's rural denizens.

***"Estimados Jurados"***

As noted above, pasante theses had the potential to be a rather sober affair. To be sure, some pasantes submitted theses that satisfied the requirements set forth in the handbook, and not much more. Evidently, however, there were many pasantes who viewed their receptional theses as a prime opportunity to do some emoting for the benefit of their examiners, using the thesis not only to satisfy specific data-gathering requirements, but also to show they had learned important lessons from the SMS' "hidden curriculum." That is, the pasante theses came to represent crystallized product of students' navigation of feeling, as they demonstrated their commitment to the fledgling emotional regime of the "socialized pasante," and correlatively their compassion for vulnerable Mexicans, as explicitly possible for their examiners.

Given that many students respected the conventions of "objective," dispassionate science-writing in the body of the document, students' emotional engagement with the "new orientation" came to be most pointed in the preface. For a fair number of students, this took the form of what we could refer to as virtue-signaling. Sometimes, this meant namedropping prominent members of the *Facultad* and the Cardenista public health apparatus. In his thesis regarding the health at work camps of the *Comisión Nacional de Irrigación* (CNI) in Morelia, Michoacán, for example, Eleno Carrillo Orozco put another Michoacán native in the place of honor as the first dedicatee: President Lázaro Cárdenas, to whom Carillo offered his "eternal

gratitude" for the President's "great support for my career, granted with the great benevolence that characterizes you."[5] Other entities that made the dedication included the state of Michoacán ("my homeland, with affection"), Dr. Gustavo Baz ("with all my admiration and respect"), and Dr. Miguel E. Bustamante, then Professor of the Hygiene course for fifth-years, who earned Carillo's "sincere gratitude" for his "good will and advice." He ended his dedication with kind words to all the "dear professors" at the *Facultad*, for their "wise and extremely valuable teachings that they lavished upon us in their courses with so much will and efficiency."[6]

Others signaled their virtue by invoking history, connecting their *servicio* to a larger Revolutionary Project. In Villa Juarez, Puebla, pasante Rafael Álvarez Alva found a historical detail that he thought would enthuse his examiners. In 1920, Venustiano Carranza, so-called "First Chief of the Revolution" and outgoing President, had been assassinated in nearby Tlaxcalantango, Puebla. Villa Juarez, located just a few kilometers to the South, was the site where the President's body was brought. "Given that the town was occupied by troops of General [Francisco Paula de] Mariel, who were loyal to the *Primer Jefe* [Carranza]," wrote Álvarez, "the cadaver was given Ordinance Honors."[7] Immediately following, the body was brought for autopsy by three local physicians and was then embalmed for transport to Mexico City. In Villa Juarez, the citizens wrote of the assassination

> as a painful chapter in the history of the town. In these parts, they loved Don Venustiano Carranza very much, and for this reason, the impression that the news of the infamous betrayal that ended his life made upon them was very sad indeed. To this day, they remember here, with deep pain, these mournful events, which filled the entire Republic with dismay.[8]

Álvarez "wanted to mention these events because the authorities and residents of Villa Juarez played an active role in them." Perhaps he was aware of Secretary Siurob's service in the

[5] Eleno Carrillo Orozco, "Contribución al studio del saneamiento de campamentos de trabajo," UNAM, 1937, 1.
[6] Ibid.
[7] Rafael Álvarez Alva, "Informe de la exploracion sanitaria de Villa Juarez, Pue." *UNAM,* 1938.
[8] Ibid.

Constitutionalist army during the Revolution. Irrespective, Álvarez' inclusion of this erratum suggested he was aware of the importance of the crystalizing History of the Revolution to the political world he inhabited as a young medical doctor.

Frequently, the invocation of history saw students celebrating an orthodox version of the origins of the SMS. Octavio Aragón Echegaray, of the first pasante cohort, opened his thesis on his time in Ensenada, Baja California by venerating the SMS as a great chapter in the trajectory of the profession of Medicine in Mexico. Aragón had ostensibly been paying close attention to the work of Director Baz and Rector Goerne in 1935:

> I am part of the group of students who has initiated the *Servicio social* of the UNAM thanks to the vivid wishes of the Citizen Rector Lawyer Luis Chico Goerne and of the Citizen Doctor-Surgeon Gustavo Baz, Director of our Honorable and Worthy Medical School. Practice has changed course, putting us in closer contact with life and with the beings…with needs due to their economic conditions meriting priority dedication.[9]

This was a historical development that had transformed not only Medicine, but that promised to alter the lives of students and certainly of patients for years to come. For him, the *servicio* had been a long, emotional journey; he was "at the end of an arduous path, travelled day in and day out as a student and with the dream of forging a stable future for myself and others."[10] Aragon had "tried to keep close the teachings of those who exercise the difficult Art of Healing with great practice and expertise" during the *servicio*, following "step by step—the trail wisely traced by professors."[11] With professors and administrators like Dr. Baz, Aragón had evidently found role models who exhibited a spirit of social commitment.

While many pasantes signaled their adherence to the new emotional regime by name-dropping or myth-making, others described the profound, personal feelings on how the "new

[9] Octavio Aragon Echegaray, "Ensenada, Baja California, desde el punto de vista Médico Social," UNAM, 1937, 9-10.
[10] Ibid.
[11] Ibid.

orientation" had transformed their lives. For Edmundo Ramos Castro, the changes had been fundamental. One need look no further than receptional theses. Gone was

> the pompous receptional thesis… seen in previous years, always based upon the study of a new therapeutic technique, in a new idea, always exploring the infinite field of medical investigation, sometimes succeeding to bolster a theory, other times demonstrating the failure of an erroneous concept.[12]

The pompousness was the "product of a superficial and comfortable existence" in Mexico City, breeding a "lack of sense of life," as it was really lived by Mexico's citizens. Now, however, students had to "stay far from important medical centers," "obliged to work with a great scarcity of resources, unable to appeal to the precious modes of investigation that are the laboratory, x-rays, etc.," lacking "more than anything the decisive and extremely valuable help" offered by the faculty. This was not a bad thing, however: pasantes reaped "many benefits" in their time away from the comforts of Mexico City. The egotism of the City had been "tempered with the misery and pain of those, far from civilization, who live and die within an absurd ignorance."[13] In the place of the "pompous" theses of the past, Ramos and his peers could only offer "the humble fruit of our personal observation," as they had had to depend almost solely on "healthy critique" to improve the lives of their patients. Rather than esoteric or abstruse, these theses were useful because "to nobly critique a fact is the means to pursue its betterment."[14]

Armando Perez Marín argued that what he had submitted was not "a true thesis," but rather the "preliminary fruit of a seed boldly planted by our Director, Dr. Gustavo Baz":

> The *Servicio social* may be a lucubration [the product of meditation, an intellectual and spiritual exercise], but never a utopia; it constitutes…the great satisfaction of a popular necessity, and the betterment of a professional condition whose numerical excess in the cities is to the detriment and perversion of its correct exercise, and that will give, as a product, a wide solution to two serious problems: one of a purely social nature and the other of an economic-scientific-social character.[15]

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[12] Edmundo Ramos Castro, "Condiciones Sanitarias Indispensables en los Campamentos," UNAM, 1937, 10.
[13] Ibid.
[14] Ibid.
[15] Armando Perez Marín, "El estado de Campeche en general, el pueblo de Pustunich en particular, las cooperativas de cortadores de Durmientes y el problema de paludismo," UNAM, 1937, 1-2.

The SMS' importance had been "broadly manifest" upon arrival to their sites, viscerally real "in places where civilization has hardly arrived, where the Indian dies without aid, cursing the State that is indifferent to his concerns." The students lent their "youthful daring" to the project of social betterment, supported by the "wealth of knowledge acquired in classrooms and hospitals" in Mexico. Unlike classroom exams, however, the acquisition and application of medical knowledge *en servicio* had been qualitatively different. It demanded a total commitment, as the mantle of medical authority—and the burden of a sick population—was thrust upon these medical students. "Surely more than once," Perez continued, pasantes "experienced the fear of the unknown; more than once, during the performance of our *Servicio social*, we have palpated the hardships of the residents of the most remote corners of the Republic."[16]

At the end of this test, pasantes had returned to Mexico City, "albeit with tired bodies and sick minds." Though they had left so much of themselves at their placement sites, students returned home with some insight from their time on *servicio*. They brought a "spark that will surely light the medico-social torch [to] illuminate the Republic, making our suffering *pueblo* a collective of healthy body and soul. We will not need to wait long for the results of this project…The seed is planted," he wrote.[17] This germ of transformation, both personal and professional, which would bear fruit for all Mexicans. Until that time, a thesis would have to do. Though it may have been "poor in its pretentions," Perez was proud to have been a part of such a noble mission: "the completion of a social duty tightly linked to the priestly exercise of Medicine and having been inspired in the immaculate motto of our *Facultad*: 'Others live.'[18]

[16] Ibid.
[17] Ibid.
[18] Ibid.

In the preface of Jorge Noyola Guerrero's thesis, he too described how the SMS had transformed his spirit after months spent in Villa de Reyes, San Luis Potosí. "He who knows the pain of aspiration without any more hope than one's own will and work," wrote Noyola, "will be able to understand something that only life itself teaches: the pain of others as one's own." Though Villa de Reyes may have been a town of kings in name, it was, in fact, filled with poverty and suffering. Noyola experienced a fraction of this suffering. Though it was painful, it inspired his passion as a clinician. He hoped that bearing witness to the suffering of Mexico's citizens would "be sufficient to disturb" other students from their own "comfort," to impel them to "try to take even one step toward satisfying the arduous task" demanded of them: "to cure the sick, to comfort those who suffer, to console the dying…." He hoped that his thesis, could somehow, in some way, lead Villa de Reyes to "have a better future. It deserves it."[19]

### *La revolución en marcha*

For some, the intimacy made manifest in a preface statement receded to allow a more "objective" voice to present collected data, as if somehow social commitment was somehow incompatible with the "real work" of cataloging clinical and epidemiological information. A group of students felt liberated enough to explicitly describe how their emotional commitments impacted their clinical, demographic, and epidemiological work. These students did not offer a cold, impersonal, passive-voiced reportage—in which vaccines were administered, or water was provisioned, or treatment was given—to demonstrate their professionalism. Rather, these students wrote about their activities in an active voice that captured the nexus between the social and biological worlds. From their differential diagnosis to their plan for therapy, students seem

[19] Jorge Noyola Guerrero, "Informe General sobre la Exploración Sanitaria del Municipio de Villa de Reyes Del Estado de San Luis Potosí," UNAM, 1938, 1.

to have taken to heart the principles of social medicine when performing their professional duties. In this way, Cardenas-era medical students rhetorically deployed the earnestness of their efforts and sentiments to demonstrate that they were precisely the compassionate physicians that the "new orientation" demanded: far from mere language, their emotives took the form of clinical practice.

A member of the first pasante class, Alfredo Ortiz had undertaken his *servicio*—"complying with the new orientations of our School"—in the District of Ixmiquilpan, Hidalgo, the "seat of the Otomí race."[20] There, in the Valley of Mezquital, one of "the most backward in the country" in his estimation, Ortiz participated in the efforts of the ongoing anti-smallpox campaign. As many of his colleagues would state, time on *servicio* was no walk in the park. "There were not a few difficulties to overcome," Ortiz pointed out the examiners, "if one keeps in mind the unfavorable environment in which these data had to be acquired."[21] It had demanded "entire days in the country or in the mountains, not knowing the language, the customs, etc. at all, and without any more help than personal observation and [my] own discernment." In outlining his experiences in his thesis, he hoped what he learned might "serve to orient sanitary physicians or pasantes who in the future may complete their *servicio social*."[22]

In Ixmiquilpan, Ortiz had participated in the ongoing anti-smallpox campaign. He offered advice so future students could pursue their own successful vaccination effort. First, Ortiz stated that it was "indispensable" to do a geographic review of the place to choose an ideal place to set up shop. It may have seemed like a small detail, but the precautions taken to do a careful survey of the region's important places became "pressing necessities that assure success,

[20] Alfredo Ortiz, "La campana antivariolosa en el medio rural," UNAM, 1937, 13. This ethnic group, known to themselves as Ñhañhu, and the experiences of pasantes caring for them, will be addressed in the following chapter.
[21] Ibid., 14.
[22] Ibid.

or failure for those who ignore them."[23] In Ixmiquilpan, the ideal place to set up mobile vaccinating units had be the highest traffic places, in particular "those places where some festivals are celebrated"—Saint's Days and the like—sites of political gatherings, or the plazas where *tianguis* or market days were held typically every eight days. All these places were natural gathering points for "a large quantity of people to come together, which for the Sanitary personnel translates into a brilliant opportunity."[24]

Even once selecting the ideal location, accomplishing the task of vaccination of Ixmiquilpan's 16,709 habitants had demanded a competent, efficient team of vaccinators. Perhaps unsurprisingly, the most dependable allies in vaccination Ortiz found were also the clients of the Cardenista apparatus. One group had been the rural professors working for the Secretariat of Public Education as part of the enterprise of socialist education; Ortiz suggested that future pasantes "cultivate friendship" with these "good will" agents of the State. School children were also considered to be an "inexhaustible source of labor and enthusiasm" for these ends; "Youth Brigades" had "assisted enormously" to the campaign in Ixmiquilpan. Ortiz found that schoolchildren were "attracted to the idea of being part of an institution that they consider of high importance"; when presented with certificates commemorating their service, the students "guarded them with true care."[25] Finally, Ortiz found that he enjoyed the support of "chiefs of peasant groups" and various municipal authorities, who facilitated the diffusion of clinic times and encouraged citizens to present for inoculation. The post-Revolutionary State's effort to cultivate a new, committed citizenry throughout the country had evidently paid some dividends.

[23] Ibid., 15.
[24] Ibid., 16.
[25] Ibid., 18.

Despite this collaboration, Ortiz did make clear where ultimate authority rested: "the chief physician…will dictate the dispositions he thinks pertinent and for no reason will permit that his subordinates modify them."[26] The defense of physicians' supreme authority was not to say that Ortiz advocated for an imperiousness or a coercive bearing toward residents of the region. Rather, Ortiz suggested that doctors do their utmost to serve as effective ambassadors for the Cardenismo's vision of sanitary progress. Physicians would do well to recruit individuals who knew "how to spend diplomacy to convince refractory individuals…due to ignorance or vanity." The use of the word "refractory" was an interesting one, suggestive less of an earnest difference of opinion as to the best way forward between the physician and his patient, and more of a pathological cognitive state that had persistently clouded the judgment of the patient to lead them to such an absurd conclusion. Irrespective of whether vaccine resistance was an irrational state or a sincerely held belief, Ortiz suggested that, pursuant to the wishes of the DSP, citizens be treated with "decency and courtesy"; that even though vaccinations were mandatory, citizens who "openly oppose[d]" vaccination "should not be forced to receive them."[27]

Instead of raw force, Ortiz suggested that physicians should "conquer [the public] by conviction." This meant effective propaganda was an issue of "true urgency."[28] It was essential that officials "know some words in the Otomí language" if they were to have any success recruiting skeptical citizens to participate. While linguistic competency may have been necessary, it was not sufficient. Vaccine coordinators would also need "much patience and constancy, not allowing any opportunity to escape" to engage with the population on the benefits of vaccination.[29] Like any committed evangelizer, to borrow Bustamante's concept, the work of

[26] Ibid., 20.
[27] Ibid., 20.
[28] Ibid., 21.
[29] Ibid.

apologetics needed to be performed dutifully, and consistently, even in the face of frustration. And there was sure to be a lot of frustration, whether in finding ideal locations, in finding willing vaccinators, or in convincing citizens to receive vaccine. In the face of all this, Ortiz urged future pasantes to be keep the faith: "keep in mind the transcendence of our social labor and even though at the start the products may be meager, later its beneficial influence will be perceived." With enough effort, Ortiz opined, "a real work of redemption will be realized."[30] This redemption would be borne of Ortiz' efforts toward the transformation of Mezquital's residents into healthy, productive citizens, and justified by his compassion.

Pasantes did as much as they could to show that they had dived deeply into the lives of their countrymen and women, for ostensibly, this engagement was symbolic of the emotional commitment they believed would reveal them to be young doctors worthy of the trust that the DSP, the *Facultad*, and the nation had placed in them. Miguel Lebrija Saavedra, part of the first pasante cohort of 1936, spent his service in the town of San Rafael, in the State of Mexico, about 55 kilometers from the *Facultad*. The town is in a mountainous region of the Central Highlands, in proximity to two volcanoes, Ixtaccihuatl—meaning "White Woman" in Nahuatl for its whitecapped peaks that resemble the contours of a sleeping woman—and Popocatepetl—"smoking mountain," after its volcanic tendencies. At the outset of his service, Lebrija wrote, he was interested in focusing his thesis on sanitation and health in the paper factory in the town. As time went on, however, he noticed a curious fact about the population of this mountainous region. He concluded that this was "an endemic zone for simple goiter," based upon the "quantity of people" he observed with goiter during his *servicio*. As any clever student might,

[30] Ibid., 22. For more on this, see Chapter Four.

Lebrija changed projects to something related to goiter, which "would be interesting, and at the same time, a true work of social labor."[31]

The result was a fascinating epidemiological study. First, Lebrija offered some concrete demographic data to ground his analysis. Of the fifty patients that he examined, 46 were female and four were male, over a 10:1 sex ratio. This seemed "a tad exaggerated" to him, but that it was "within the limits that some authors accept[ed]" in the period. The reason for this, according to Lebrija, was that there existed "strong links between genital function and the thyroid gland." Lebrija argued that his data supported this assertion from the literature: 80% of the women examined claimed their thyroid had started to swell following menarche. With respect to age, around 75% of those with goiter examined by Lebrija were between ages 13 and 20, with the youngest being 13 years old and the oldest being 70. Lebrija also observed "a large number of young women," around eight to ten years old, who had what he referred to as "thyroid neck," after the work of Spanish endocrinologist Gregorio Marañón.[32] From a hereditary perspective, Lebrija observed that in five of the families he studied, "at least two of their members had a hypertrophied thyroid gland."[33]

Geographically, Lebrija reflected that San Rafael was not unique in the region for its high prevalence of goiter. Rather, he wrote that had found, "based on the reports [he had] been able to put together," goiter was a common problem in both the Valley of Puebla and the Valley of Mexico, in the "whole mountainous region that surrounded Popocatepetl and Ixtaccihuatl. Given this data, Lebrija was "pressed to offer some answer as to the cause."[34] As part of the workup,

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[31] Miguel Lebrija Saavedra, "Informe Parcial de la labor desempeñada por el pasante Miguel Lebrija Saavedra, durante el servicio social en el pueblo de San Rafael, Estado de Mexico," UNAM, 1937, 1.
[32] Ibid., 3. Though it is now not commonly assessed, Marañon's sign refers to marked swelling in the region of the neck following abduction of both arms to 90 degrees. The sign, the result of venous congestion, arises in the setting of neck/mediastinal masses, such as those caused by substernal goiter.
[33] Ibid.
[34] Ibid., 4.

Lebrija observed that it would have been "extremely interesting" to have taken the basal metabolic rate of these patients.[35] Indeed, he had tried to "bring the most interesting cases to the Hospital General so that they could have performed the metabolic test." Unfortunately, Lebrija had experienced "serious difficulties" in bringing the patients back to Mexico City, and as such, he "desisted in my effort to perform this important test."[36] Without the benefit of the latest in laboratory methods to ascertain the patients' endocrinological status, Lebrija was left with performing histories and physical exams to better elucidate the situation. His assessments of several of his patients he included as a series of cases in an appendix to his thesis, complete with a picture of each patient's head and neck to offer the readers a sense of just how large some of these goiters were: "it is very interesting that none of the observed patients present with mechanical disturbances produced by the swellings despite the fact that as I said before I found two or three cases of gigantic goiters."[37]

One patient, I.R., was a 49-year-old female domestic worker, who was a resident of nearby Tlalmanaco. Per Lebrija's note, her goiter had begun to grow when she was young, but she could not remember the precise age. It had grown gradually, until at some point, it stopped. IR lived in a house that Lebrija deemed to be unhygienic, and had a poor diet—five years before, she had had a "dysentery very resistant to treatment that took a year to improve" but overall, "good habits." One of her children had a goiter, but her other 11 children were healthy. In terms of a review of symptoms in her other organ systems, she complained of frequent cough, occasional palpitations, buzzing in her ears, fainting spells, and insomnia. Her record ed vitals

[35] Ibid., 6.
[36] Ibid.
[37] Ibid.

were a heart rate of 90 beats per minute and a blood pressure of 120/75.[38] On exam, the only notable finding was her goiter:

> On palpation, a medium growth…occupies almost the entire front of the neck and spans down to the sternal notch. Said growth gives the impression upon palpation of being formed by three small growths that have merged, with the central one being the largest. The growth taken together is of a soft consistency, regular and smooth, mildly painful to pressure, free in relation to the cutaneous planes, and follows the trachea upon swallowing. It is not pulsatile.[39]

The growth had never bothered I.R., and she stated to Lebrija that "if it were not for the presence of this growth, she would be a totally healthy person."[40]

Another patient was 18-year-old J.M. Her history had to be taken "in an indirect manner" because the patient suffered from a "nervous disease." From the age of one, her parents observed the patient to be "very strange and a half-wit." JM was still in her parents' care. She was sometimes able to understand questions and respond appropriately, but most of the time was "silent and sad," though at times, she seemed "to suffer from madness." At about 12 months, she began to suffer from seizures, "sometimes twice or three times a day." Taken together, Lebrija concluded that there existed enough historical data to "make one suspect a congenital syphilis."[41] With respect to the goiter, her parents "could not give any information because they did not think that it was related to an illness and the growth on the young woman's neck had not caught their attention."[42] On physical exam, Lebrija observed "an individual of the female sex, robust and well-muscled found seated in a chair, doing nothing and with a melancholy and slightly sad

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[38] Normal vitals supported the idea that the swollen thyroid was not currently hormonally active. In certain causes of thyroid swelling, thyroid hormone is typically overproduced by the gland, leading to hyperthyroidism and its associated symptoms, tachycardia, hypertension, and palpitations sometimes among them (as indeed, the patient had reported in the past).
[39] Ibid., 28. It is unfortunate that Lebrija was unable to bring his patients back to Mexico City for metabolic testing. Given the patient's history of palpitations, fainting, and insomnia—symptoms suggestive of hyperthyroidism, at least at some point in the past—and a nodular, sensitive thyroid on exam, it is quite possible that this was not just simple goiter, but rather another, metabolically-active form of thyroid swelling that was currently indolent: toxic adenoma, toxic multinodular goiter, plus or minus Graves' disease.
[40] Ibid., 27.
[41] Ibid., 21.
[42] Ibid.

look." He noted "numerous scars left by smallpox"; the patient had been infected at age two and "had nearly died." On her neck was noted "the presence of a diffuse growth…most notable when the head is in extension." Upon palpation, the gland had a "soft consistency, freely moving relative to the cutaneous planes, smooth, and following the movements of the trachea." No swollen lymph nodes were noted, unlike in other patient cases he included in the appendix.[43] Here, Lebrija included something notable. J.M.'s sister, age 14, had also presented with a "slightly hypertrophied thyroid." She had been treated with an iodized medication and had "notably improved": her thyroid was now hardly visible, and her general state had "improved, although she was [still] very malnourished and emaciated."[44]

Taking this epidemiological, demographic, and clinical data together, Lebrija offered some provisional answers as to the origins of the region's endemic goiter. He contended that, given "the fact that all these populations drink the same water—that which comes from the volcanoes—could make one suspect that this was the origin."[45] What he was "nearly certain about" was that the goiters were attributable to "lack of iodine." His justification was not based upon laboratory study: water samples Lebrija took showed water that was potable, but did not offer any deeper chemical analysis than its level of nitrates, nitrites, and ammonia. Rather, his certainty came from his direct clinical experience with patients like J.M.'s sister. Without

[43] A few of Lebrija's patients presented with swollen lymph nodes in the neck region. It is possible those were incidentally found and related to some other process, but it is possible they were related to thyroid pathology. If related to thyroid disease, lymphadenopathy could have been the result of immune activation, uncommon but possible in Graves' Disease, but it could have also been the result of metastatic spread of a thyroid cancer to local lymph nodes, a finding not uncommon in papillary thyroid cancer.

[44] Lebrija, "San Rafael, Estado de Mexico," 23.

[45] Interestingly, Lebrija seemed to have been onto something when exploring thyroid pathology in volcanic environments. Several contemporary studies have described higher prevalence of thyroid disease—either autoimmune or cancerous—in locations with volcanic soil. See, for instance, Malandrino P, Russo M, Ronchi A, et al. "Increased thyroid cancer incidence in a basaltic volcanic area is associated with non-anthropogenic pollution and biocontamination," *Endocrine* 53, 2 (2016): 471-479 and Malandrino P, Scollo C, Marturano I, et al., "Descriptive epidemiology of human thyroid cancer: experience from a regional registry and the "volcanic factor," *Front Endocrinol (Lausanne)* 4 (2013): 65.

metabolic data, Lebrija treated goiter in an empirical manner, "guided along more or less by the symptoms of the patient": "The first patients that were put under treatment were given small doses of iodine and results were observed that seem to be encouraging."[46] The iodine had been administered in a tincture; the young women were told to take four or five drops every morning in milk or water for three months, followed by one month without treatment. The tempo of three months on, one month off was to continue for a period of one to two years.[47] Lebrija noted the difficulty of having definitive confirmation of the benefit of iodine treatment in the San Rafael cases, "due to the little time I have dedicated to this disease"; one would need "at least two or three years of observation" to be able to definitely conclude that the iodine treatment had helped. Nevertheless, his patients told him that they felt better, and "their thyroids stopped growing," which led him to believe the iodine to be "positively useful."[48]

As a result of these encouraging successes, Lebrija was not merely interested in treating symptomatic cases. He had also taken to heart his duty to provide preventative care to the San Rafaelites. Lebrija had a "talk with the sanitary delegate…to assess the convenience of one of two options": either the prophylaxis of the whole population by adding iodine to the water supply of San Rafael and its neighbors, or by a more targeted prophylaxis for particularly at-risk social groups, "in particular, school children and pregnant women." "The latter idea," Lebrija wrote, "was easy to implement by requiring the schoolteachers to give the children and especially the girls small quantities of iodine," either by means of a few drops of iodine tincture every two days, or by weekly chocolate or candy treats containing five to ten milligrams of

[46] Lebrija, "San Rafael, Estado de Mexico," 4.
[47] Ibid., 7.
[48] Ibid.

iodine.[49] The sanitary delegate promised Lebrija that he would "keep his suggestions in mind to bring them to the *Departamento de Salubridad* at the first opportunity he had."[50]

With his thesis, Lebrija did not contend that he had "discovered anything new with respect to goiter" in his "little work." He had simply wanted to offer a real work of social labor as his receptional thesis, on the off-chance that maybe, his earnest engagement with his patients had established the contours of a problem for future generations of physicians. With the ground cleared for future research, clinical work, and preventative care, Lebrija hoped that a future pasante would "continue [his] investigations" to make a brighter future for the public.[51]

### *"Hygienic Disaster"*

While Lebrija's experiences at the foot of Popocatepetl or Ortiz' experiences in the Valley of Mezquital may have been particularly romantic examples of how an emotional commitment to meeting the needs of patients could inspire clinical engagement, these theses were not necessarily representative of the day-to-day experiences of pasantes or much less, the lives of patients. Rather, as theses make clear, the most common foe faced by pasantes was that of poor sanitation. Most frequently, this was instantiated by poor water quality and, of course, its sequelae: sometimes-fatal bacterial, viral, and parasitic infections. On these issues, irritation with residents' "backwardness," frustrations with structural deficits, and aspirations for social improvement informed students' clinical and sanitary endeavors, and thus, the way they encountered their rural patients.

[49] To this day, public health departments in the developing world make use of schools to roll out preventative care interventions. For example, in settings in which parasitic worm infections are common, local schools will distribute anthelminthic drugs to the students at lunch time.
[50] Ibid., 7-8.
[51] Ibid., 2.

In 1938, for example, pasante Carlos Vélez Farela spent his *servicio* in the town of Ayotla, in the state of Mexico, just 30 kilometers from the *Facultad*. Though it was not far from the heart of Mexico City, Ayotla had profound needs, but none so pressing as the provisioning of pure water: "Any attempt to achieve an improvement from a hygienic point of view without water," Vélez wrote, "would be completely futile."[52] It was not hard to see why water posed such a problem for Ayotla from a walk through the center of town. Residents drew water from wells, which were dug to a depth of five meters. These had "absolutely no protection against contamination": they only rose 50 centimeters off the ground and lacked lids or coverings, suggesting the potential for animal contamination. Residents drew water using vessels that were "almost always dirty," contaminating extracted water and also the aquifer.[53] A bacteriological analysis confirmed this: water from Ayotla's wells contained over a hundred coliform units per liter, which indicated "contamination of the water by human feces."[54]

Empowered as a special agent of the DSP, Vélez offered a possible resolution to the problem of water quality in Ayotla. During his months there, he had discovered the existence of springs in the community of Tlapacoya, approximately two kilometers away. Water studies suggested that this aquifer could ultimately serve over 200,000 habitants, more than enough for both communities. In contrast to Ayotla's contaminated water, an analysis of the Tlapacoya spring showed fewer than 25 coliform units per liter, making it safe to drink. If Tlapacoya's spring water could somehow transmitted to Ayotla, presumably via plumbing or aqueduct, many of the prevailing issues would surely be mitigated, if not resolved. "It is from these springs,"

[52] Carlos Vélez Farela, "Informe General sobre la Exploración Sanitaria del Pueblo de Ayotla, Municipio de Ixtapaluca, Estado de México," *UNAM*, 1937, 21.
[53] Ibid., 14.
[54] Ibid., 20.

Vélez concluded, "where we may supply water to these communities, which would bring a big step toward their progress."[55]

Vélez had done his due diligence in Ayotla, offering a clear, concise hygienic, bacteriological, and chemical analysis of the nature of the problem. No one could have faulted him had he stopped there. Given the expectations was that pasantes perform a social labor in addition to their scientific labor, however, and given "that the principle problem of these towns, that of water" was "especially bad," Vélez decided to do "all [he] could do."[56] To accomplish something of concrete benefit to the town, Vélez sent a letter to the DSP reporting his findings and thoughts regarding the prospect of tapping the Tlapacoya spring. DSP sent an unfortunate reply, namely that "monetarily, they could not help, as the appropriations were exhausted." The DSP suggested that the pasante send a letter to President Cárdenas signed by the town and the ejidatarios, in the hopes that the President might intercede to help the town. "By my mediation," stated Vélez, the town drafted a letter to Cárdenas, which Vélez reproduced in full:

> Citizen General Lázaro Cárdenas
> President of the Republic
> National Palace
> Mexico DF
>
> We, the undersigned, natives and residents of the town of Ayotla, of the State of Mexico, before you, with all respect and by these means, take this opportunity to bring to your attention a state of affairs that, due to its importance, we have been urged to solicit your assistance by the most convenient means.
>
> We refer to the [poor] quality of the water that we must drink in this town, which, given its proximity to the Capital, is absolutely urgent for us to modify and resolve in the manner most beneficial to us.
>
> The quality of the referred-to water is produced by seepage of the subsoil at a depth of about three to four meters. This seepage gives us a water that is yellowish and filled with salts and as a consequence, most of us who drink it experience stomach ills and find that it gives a yellowish color to the teeth of our children. There exist other artesian wells that we are unsure whether are pure or not, and for this, the Citizen Doctor who serves this town on behalf of the DSP [Vélez], will perform the indispensable analyses to come to know their purity. As you, on multiple occasions, have offered support to the work of bringing pure water to towns when possible, we are

[55] Ibid., 21.
[56] Ibid., 14.

> very attentively requesting the help we need, and for that, we hope the corresponding studies are performed and that the best manner of resolving our water situation might be ascertained, in this town where you are esteemed and admired, for your great administration, for the good of our Republic.
>
> With all respect, it is a great honor for us to reiterate to you our very high esteem.
>
> Ayotla, January 15, 1937
>
> Civil Commissioner Ventura Velasquez
> Ejidal Commissioner Cornelio Cabrera
> Citizen Dr. Carlos Vélez Farela
> Residents of Ayotla[57]

Unfortunately, it seemed the residents of Ayotla did not receive a reply from the President. Nevertheless, Vélez hoped that, with the intercession of the DSP, or the President, or by means of the good work of future pasantes, "at some point in the not-too-distant future, water may be brought from these springs."[58]

Vélez was not the only student who discovered that water problems, often inextricably tied to issues of poverty, defied easy resolution. In 1940, pasante Francisco Franco (no ostensible relation to the Spanish autocrat) served in Huitzuco, Guerrero. As he addressed his examiners, he stated his desire to "put all his efforts into noting the sanitary deficiencies and problems" in Huitzuco. Like Vélez, Franco observed a high prevalence of water-borne infections in Huitzuco. In the preceding year alone, a cholera epidemic—"the most water-borne of all water-borne diseases"—had swept Huitzuco during the rainy season that had led to a large number of infant deaths. Evidently, "the provisioning of potable drinking water" was "one of the most transcendent sanitary problems in the town of Hutizuco."[59]

As the ranking medical professional in the town, it fell to Franco to address it. Franco clearly and effectively supported his plan by reference to sanitary and hydrological investigation,

[57] Ibid., 15.
[58] Ibid., 14.
[59] Ibid., 11.

knowledge that he had surely acquired in his Hygiene and Social Medicine courses in Mexico City. Franco observed that the contamination of Huitzuco's water started at the source. The town's water supply was situated some five kilometers to the Northwest of the town, obtained by means of a spring that drained from the Phreatic Zone of an aquifer. This water was then conveyed to Huitzuco. As the town grew, "inexperienced people" performed excavations with dynamite at the source of the spring, with the goal of improving the water output. Sadly, this had cracked the water table in several places, leading to an overall reduction in water flow from the initial spring. A new water vein emerged some two meters below the initial spring site. There, pursuing their attempt to augment the water supply, novice engineers created a new deposit carved into the rock, covered by a concrete wall and a masonry vault above it, ostensibly to protect the source from contamination. Despite their efforts, this set-up did not do much to prevent "frequent contaminations by small animals that sneak inside the tank," which was now the main source of the town's water. In the years since, more novice engineers had dug wells into the aquifer, in search of more water.

Unfortunately, while these may have given more access to the aquifer, they also interrupted its hermetic seal. These wells were "of limited depth and very near to corrals," and, as in Ayotla, these wells lacked "any sort of hygienic protection." The corrals were often filed with dung heaps, which would be problematic in the first place from a hygienic perspective. Because animal handlers and other residents often *also* defecated in the corral, Franco deemed the wells "a certain source of water contamination." In addition to the water source itself, the plumbing in town was compromised. In recent years, the old aqueduct conveying the water to Huitzuco had been replaced with plumbing. These pipes emptied into a main municipal tank,

which was connected to five municipal "fountains," "only one of which could be described as meeting the necessary hygienic requirements."[60]

Even a cursory look at the sanitary situation in Huitzuco did not inspire great confidence in the quality of the town's water. Franco did his best to offer laboratory confirmation to demonstrate that fact. Due to a lack of appropriate flasks to take water samples, Franco was unable to perform his own chemical and bacteriological analysis of the water. Faced with this lack of resources, Franco thought somewhat creatively: he took a trip to the archive of the *Facultad*. A few years earlier, in 1937, a member of the first pasante class had performed his *servicio* in Huitzuco and had taken water samples that he included in his final thesis. These, Franco cited in his final report. Unsurprisingly, they showed that the water in both the source spring and in the town's fountains were non-potable due to a high coliform count.

With this problem demonstrated, Franco settled upon water as a domain ripe for social advocacy. The town was hungry for aid. It was not as though the town's authorities were unaware of this situation before Franco's arrival. The town council or *Ayuntamiento* already had a pending initiative to improve its water provisions. What was necessary was assistance—both financial and administrative—to improve the health of Huitzuco's residents. Consequently, Franco encouraged the *Ayuntamiento* to press the issue. Franco and the municipal president requested support from the DSP, in the hopes that the pasante, with his special administrative status, could remove impediments and allow aid to flow.

Franco found more success with the DSP in Huitzuco than Vélez had. The DSP sent an engineer to the town to perform a comprehensive assessment of its water provision. To improve the situation, the engineer proposed a comprehensive overhaul of the water system. It included a

[60] Ibid., 12.

redesign of the source reservoir, the replacement of all plumbing, and the removal of existing municipal fountains and their replacement with 25 hydrants. The engineer submitted a price estimate to the town council. The total cost, not including a water purification system, came to 18,700 pesos. The figure was no small amount. So transcendent were the town's water problems, conditions in need of "urgent resolution, considering the frequent and growing number of illness of hydric origin," that Franco felt that it was vital that this money be raised somehow.[61]

In the face of such a large figure of money, Franco was pessimistic about his ability to make concrete change during his *servicio*. By this point, Franco's time in Huitzuco was already running short. Six months was simply not enough time for a solitary pasante to address the structural issues that were the product of decades—if not centuries—of social isolation and poverty. "It is hardly possible," Franco continued, "to launch any initiative for the realization of this or that change that would redound to the benefit of a community with economic difficulties," given "the lapse of such a short period of time of our service," and "by the little experience [we have] in the events of practical life."[62] Despite the structural limitations on his ability to improve life in Huitzuco, Franco pledged that his advocacy work would not end, simply because his *servicio* had ended. "Upon my return to this city," he wrote, "a committee must be formed charged with arbitrating funds with the view to completing this project."[63]

Across Mexico, villages struggled mightily with how best to provision clean water, even as their residents, both young and old, continued to get sick and die. This was the sort of suffering that had the potential to burn pasantes out—the sort of suffering that seemed so multifaceted and so multifactorial that the work of a single person was so minimal that it

[61] Ibid., 8.
[62] Francisco Franco, "Informe General sobre las condiciones sanitarias del pueblo de Huitzuco, Guerrero," *UNAM*, 1940, 8.
[63] Ibid., 13.

represented but a single grain of sand when something like the Sahara Desert would be necessary to resolve the problem. In Igualapa, Guerrero, Rodolfo Juarez Espinoza began his thesis simply stating that he wished, "with this grain of sand to contribute to the betterment of society."[64] From this earnest simplicity, Juarez went on to give his examiners a sense of the profound sanitary challenges in the site he had chosen. The story was a familiar one. The pasante observed that Igualapans relied on a small stream—somewhat ironically called "La Gachupina" or "The Spaniard"—to do all manner of aquatic business: both defecation and drinking occurred at the very same place. Committed to social change, Juarez was concerned not with lording his scientific and professional authority over his patients, but with helping Igualapans to be healthy. Although the hygiene of Igualapa deserved "strong…criticism", Juarez could explained it away by reference to the deep poverty and isolation of the town.[65] The situation was due to the "latitude at which [Igualapa was] located, by the difficulties of communication and the percent of illiterates."[66]

Juarez did not "propose any of the recommendations that modern science indicated for the improvement of potable water in Igualapa." Large-scale sanitary engineering would be nothing more than "a dream," due to the poverty of the town and the indifference and ignorance of its population. Consequently, understanding the social circumstances in which he was now operating, Juarez would resign himself to supporting the population's "custom of boiling water." He found that advocating for boiling water was a workable solution. In what we might today refer to as a program of harm reduction, Juarez decided to pursue this approach. "A considerable number of families began to" boil their water when Juarez had demonstrated "the convenience of

[64] Rodolfo Juarez Espinoza, "Informe medico-social de Igualapa, Guerrero," Facultad de Medicina, *UNAM*, 1939, 1.
[65] Ibid., 49.
[66] Ibid., 14.

doing so," showing that Juarez' intervention would have at least some effect on the population's health.[67] Though boiling water may have not been the ideal situation from the perspective of sanitary sciences, it was the solution that residents were most likely to use. Sometimes, the best thing one could do, when faced with a problem of titanic magnitude, was to pair scientific knowledge with social awareness and simply listen and observe. Practicality dictated success.

In their theses, Vélez, Juarez, and Franco evidenced an impressive emotional fortitude when it came to managing their frustrations with the sanitary situation at their places of service. Not all pasantes could so thoroughly sublimate their frustration, however. Jorge Chagnon let some of his more negative views known about the conditions in Jaumave, Tamaulipas. He responded viscerally to the magnitude of the water problem. It was a problem that "immediately made an impression on the visitor and surely many of [the town's] inhabitants."[68] In Jaumave, residents typically defecated on the ground, in small plots of land next to the living space. Chagnon conveyed his disgust with this "completely primitive practice," both from a moral and hygienic perspective. These lots created "an amoral situation and lack of modesty": frequently, "the mother is defecating with and in sight of her children, siblings in front of siblings and often neighbors in the view of others."

Aside from Chagnon's disgust with what he perceived to be an uncivilized manner of meeting this human need, there was also a professional concern about the health consequences of the practice. These lots served as sites for the proliferation of flies and often was a source of food for "some animals that the people raise at home, like pigs, cows, chickens, and others." Moreover, close to these lots and throughout the town, ran water canals of 30 cm depth and 30 cm width. These served as the de facto water source for the town. If there was any doubt about

[67] Ibid.
[68] Jorge Chagnon, "Los Problemas Principales de Higene de la Villa de Jaumauve, Tamaulipas," *UNAM*, 1937, 7.

the quality of this canal water, it was quickly dissipated when Chagnon mentioned that some residents emptied "the porcelains that contain[ed] their fecal material in said canals": one could see, he continued, "the hygienic disaster" occasioned by residents "drinking the droppings of their neighbors situated at a higher street level."[69]

To have "objective" evidence of the contamination of the water, Chagnon performed a water analysis. Unsurprisingly, the analysis showed between a hundred and a thousand coliform units per liter, placing it squarely in non-potable territory. It was obvious that the topline of test would come back the way it did. But Chagnon wanted to emphasize the fact that some of the details of the analysis did not seem to square with the reality he had encountered. "This analysis does not merit much confidence for me," he wrote, "as I have bad references from authorized sources about the technical competence of the personnel who direct the lab of the corresponding office of the coordinated services of the state." That there was a problem was obvious by a cursory inspection of the results: it was a "big contradiction" that the sample showed 20 milligrams of organic matter in the sample without showing any nitrates.

Chagnon alos did not miss the opportunity to criticize the local infrastructure at least to some degree, reinforcing for his examiners the overall sense that "modernity" had not yet arrived in Tamaulipas, referring to the "impairment in morality and dignity among habitants" of Jaumave.[70] Chagnon's disgust did not lead him to write off the town's residents as irredeemable. Instead, he offered a few case studies to humanize the problem. Among them was the case of B.C., a 31-year-old farmer. On January 6, he complained of colicky abdominal pain. B.C.'s pain came before defecation, located in the periumbilical region, and radiating toward the sacrum and thigh and caused lingering, painful discomfort to such a degree that it "curled his body."

[69] Ibid., 8.
[70] Ibid., 9.

The situation was exacerbated by the fact that on the first day of his symptoms, B.C. defecated 14-16 times. Throughout the day, BC had the "urgent desire to evacuate," with great effort with minimal defecation, tenesmus, and a "burning sensation." Each time, the product of his efforts was blood and mucus, "in such a quantity that alarmed the patient."[71] In addition to these problems of evacuation, the patient experienced fever, fatigue, headache, and nausea, supporting the overall clinical picture of some infectious cause behind the patient's dysentery. On physical exam, the patient had notable positive findings with abdominal palpation. The patient's descending colon (along the patient's left side) was "notably painful" and Chagnon could palpate "a cord that stands out on palpation and becomes more painful as [the exam] descends."[72] Though Chagnon only offered a few clinical cases, he had the "certainty that if parasitoscopic exams were systematically performed on the fecal matter [of the residents]," some 90% of residents would have a parasitic infection.[73]

To improve the situation of residents like B.C., Chagnon believed that the path forward lay in building "sanitary toilets" to permit for the safe, hygienic disposal of human waste. During his time in Jaumave, Chagnon had overseen the digging of one of these toilets. The blueprint used had been "taken from the Hygiene [course] of Dr. Salvador Bermúdez" that he had taken as a fifth-year. From Chagon's perspective, this model was especially useful because it was "safe and efficient"; the blueprint also permitted some level of flexibility in building materials, depending on the "wishes or economic capacity" of the builders. It was also economical, as the model could be built with materials that were cheap or "cost nothing because

[71] Ibid., 10.
[72] Ibid., 11.
[73] Ibid., 15.

in large part they can be collected on the mountain." To demonstrate, Chagnon offered an accounting of the basic materials necessary for the project:

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|---|---|
| 15 packs of sand at $0.20 | $3.00 |
| 3 packs of Cal [slaked lime] at $0.75 | $3.25 |
| 1 pack of cement at $3.00 | $3.00 |
| 200 reeds | $2.00 |
| 1600 bundles of straw | $12.00 |
| 2 wooden boards for the seat over the pit | $4.00 |
| Beams for the roof truss | $1.00 |
| Wooden supports | $1.50 |
| Labor | $10.00 |
| Total | $38.75 |

Chagnon was hopeful that, given the ease of production and relatively low cost of the toilets, the project might be considered among all the neighbors in the town. It would need some additional institutional support, given that his time in the town was limited. He believed it best to strengthen the collaboration and cooperation between the Sanitary and Municipal officials so as to establish "a sanitary dictatorship."[74] With this partnership, overall building costs would be "reduced by almost half" due to the ability to more easily find suppliers locally who could find the raw materials cheaply given at they could be found "naturally in the area," and the ability to use the municipal administrative structure to recruit work teams.[75] Overall, the financing of the plan could be accomplished by means of a "temporary tax" of two pesos per household per month. In this way, houses would finance the building of outhouses, which would then be dug either one per house or one for two houses. This version of sanitary dictatorship—the unification of municipal, state, and Federal authorities for the purpose of building toilets—may not have been one that General Rodríguez had in mind in 1915. It was evidently the sanitary dictatorship that pasante Chagnon thought of most benefit to rural citizens in Cárdenas' Mexico.

[74] Ibid., 16.
[75] Ibid.

***"The polymorphism of malaria"***

In addition to the menaces of secretory diarrhea, dysentery, and parasitosis common to so many of Mexico's villages, the other seemingly-ubiquitous infectious disease that appeared in pasante theses was malaria. Malaria posed a unique challenge for pasantes. Malaria has a reputation as "a great imitator": a difficult disease to diagnose based on semiology and symptomatology shared with other conditions. Among humans, malaria often presents with the classical triad of cyclical fevers (a clinical finding written about for millennia), chills, and sweats, but is can also associated with hepatosplenomegaly and headache and an array of other symptoms. In addition to this diagnostic wrinkle, malaria poses a structural one. In Spanish, malaria is often called *paludismo*, from the Latin *paludis* or marsh, reflecting the link between limited infrastructure and human disease. Standing water—whether in swamps, marshes, puddles in unpaved roads, water-filled tires on the side of the road, etc.—are ideal conditions for the reproduction of *Anopheles* mosquitos, the vector by which *Plasmodium*, the parasite that causes malaria, infects humans. As such, primary prevention of malarial infection—the best strategy for addressing malarial disease—requires time and money for sanitary engineering projects, neither of which pasantes had in great supply. Between the frustrations caused by disease-specific features and those occasioned by the structural deficits giving rise to the disease, pasantes often felt outmatched by malaria.

Despite the significant health challenges posed by Jaumave's poor water management, Chagnon believed that it was malaria that "in a direct or indirect manner…caused the greatest percentage of mortality" in the town. The reason for that was obvious by a look at a map of Jaumave, which Chagnon had sketched and attached to his thesis. The "hygienic disaster" that were the waste-ridden canals in town and the marshes at the edge of town were ideal sites for the

proliferation of "enormous quantities of larvae" of *Anopheles* and other mosquito genuses. This marshy ecology was the reason that residents contracted "*jaqueca*"—"migraine" or "throbbing headache" as the locals referred to malaria.[76] Consequently, the best answer for Jaumave's malaria problem was sanitary engineering. Chagnon proposed the cleaning of the canal system that crisscrossed the town, and the "regularization of the water currents" to eliminate areas of stagnation.[77] Until such a time as that would be possible (ostensibly not anytime soon), Chagnon proposed a few strategies for "transitory prophylaxis" against the mosquitos. He had noticed in Jaumave and in a nearby camp called Monte Mayor the existence of fish that eagerly ate mosquito larvae. Chagnon proposed tapping an official to care for these fish and distribute them throughout the town, placing them in water vessels throughout the town and in the marshes to eat down the number of larvae. Chagnon also creatively proposed that, given that the state of Tamaulipas "produced and exploited" petroleum, some paraffin oil could be diverted for a public health function. That meant adding a layer of oil on top of standing water to prevent the mosquitos from laying eggs. Finally, Chagnon suggested the sprinkling of a dust called "Paris green" on standing water, which would act as a larvicide.[78] For that project, the pasante suggested that the DSP send an engineer to spread the dust and also to instruct the townsfolk on how to—ultimately—take charge over their sanitation, and thus, their health.[79] As we have seen, however, the DSP was often preoccupied with other projects; or if a DSP engineer was able to make the trip, the cost for modifications may well have been prohibitive. Though conceptually easy, implementing structural change was evidently not so simple.

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[76] Ibid., 26.
[77] Chagnon, "Los problemas principales," 22.
[78] Paris green is a blue/green inorganic salt consisting of copper (II) acetate triarsenite. Given the presence of the arsenic-containing moiety, it is highly toxic, not only to insects and rodents, but also humans.
[79] Ibid., 23-4.

Rodolfo Ramirez Ruiz observed similar conditions in La Cruz, Sinaloa, a town located on the Pacific Coast about halfway between Culiacán and Mazatlán. There—again, unsurprisingly—the two principal pathologies that threatened the health of citizens were intestinal parasites and malaria. Both certainly promised to leave "immediate and late anatomopathological consequences that place the individual in lamentable conditions": in particular, the chronic anemia occasioned by the destruction of red blood cells by plasmodia, or by the consumption of blood by vampiric parasites led to fatigue and cognitive deficits, which were "disabling the adult for work and the child for study," leading to a "considerable deficit of productive work."[80] For his part, Ramirez believed that the burdens posed by parasites were simply too large and too complex to be adequately addressed in a humble pasante thesis. With the lack of laboratory resources necessary to do deeper analyses of stool and ova samples, and the narrower range of possible microbiological sources of malarial infection, Ramirez felt that malaria, "the disease most feared for its grave consequences," and a disease that he thought affected 90% of the residents, ought to be the subject of his thesis.

Ramirez had searched in the vicinity of the town and after "not a few efforts," was able to find and capture *Anopheles* mosquitos, nymphs, and larvae. These mosquitos he examined under a scope and did an attempt at speciation. To confirm his results, he had made a trip to nearby Mazatlán, where he had consulted Professor Felipe McGregor, chief of anti-larval services at the Port. The entire region, per McGregor, was dominated by *Anopheles* species. Certainly, the tropical climate of the region favored the proliferation of mosquitoes, in particular during the rainy season between September and January. In large part, this was because puddles and lagoons formed across the area, serving as stagnant bodies of water ideal for the mosquitos'

[80] Rodolfo Ramirez Ruiz, "Contribución al studio del Paludismo en La Cruz Sinaloa," *UNAM*, 1937, 14-5.

reproduction. Even after the rains had ceased, stagnation was a problem at the banks of the nearby river. As currents slowed, backwaters formed, giving mosquitos safe harbor even as the weather dried up to some degree. Irrespective of season, rural infrastructure exacerbated this problem: owing to the lack of pipes or plumbing in La Cruz, water was typically stored in "big deposits of metal or wood," acting as ideal nurseries for mosquitos.

Malaria, though its effects may have been rendered as a well-defined set of symptoms in the microbiology lectures in Mexico City—as they often are today—the disease was a protean menace in Mexico's rural corners. Ramirez felt that it was worth it to offer a sense of atypical presentations of malaria for his examiners. In La Cruz, it had looked like "typhoid, paratyphoid, enterocolitis, cholecystitis, intoxications, meningitis, erysipelas, pneumonia."[81] To illustrate this kaleidoscopic diversity of presentation in high relief to his examiners and to future pasantes, Ramirez offered a few case studies. As he had noted in his introductory statement, malaria attacked "everyone without distinction for sex or age, acquiring grave characteristics overall in children and youth."[82] That had certainly been the case for patient J.F., a seven-year-old boy who had initially come to Ramirez with incipient measles infection on February 3, 1937. Measles should not have been particularly challenging or confusing to diagnose or to treat, as a common viral infection in childhood. A high fever would be the harbinger of a characteristic rash, which is sometimes described as looking like a can of red pain was poured on a patient's head: flat, red macules spreading from head to body and then peripherally. There was not much to be done once a child was infected. What was strange about J.F.'s case was that a high fever of 39˚C persisted even three days following the disappearance of his rash. At that point, Ramirez was concerned about the prospect of meningitis, and indeed, the clinical case seemed to support

[81] Ibid., 24.
[82] Ibid., 25.

the diagnosis. Ramirez found the child with a rigid neck with lower extremities flexed at both knee and hip. This Ramirez considered to be a positive Kernig's sign, an indication that the child's meninges, the membranes surrounding the brain and spinal cord, were inflamed and potentially infected.[83]

Given the rapidity with which cases of meningitis can result in permanent injury or death, Ramirez quickly performed the requisite confirmatory labs and began empiric treatment. He performed a spinal tap for a sample of cerebrospinal fluid (CSF), which he sent to Mazatlán, and began anti-meningococcal treatment.[84] Yet again, the case refused to be as textbook as Ramirez initially anticipated. Unfortunately, the patient did not improve upon second or third injection of the anti-meningococcal serum or antitoxin; after three days, the CSF sample returned from Mazatlán, showing no meningococci. Ramirez decided to return to the patient's history in the hopes of finding some detail that would permit him to make the right diagnosis. When he found a history of malaria in the child, he decided to pursue "an intense antimalarial treatment." He "noted with surprise" that after two days of the treatment, that "the phenomena had receded in a notable manner": seven days following the treatment, "the little patient got up."[85]

The variable nature of malaria had also thrown Ramirez for a loop in the case of F.L., a 27-year-old male from La Cruz who had initially presented with epigastric abdominal pain,

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[83] Essentially, the physiology of Kernig's sign is that when legs are held in flexion, there is less pull on the inflamed meninges around the lumbar spinal cord, meaning they are less painful; when attempting to extend a patient's bent knee, the typical finding would be pain or resistance. Kernig's is often discussed at the same time as Brudzinski's sign, in which the bending of a stiff neck (itself an indication of meningitis) causes tension on the inflamed distal lumbar meninges, leading the patient to flex at the knee and hip.

[84] In the 1930s, therapy took the form of anti-meningococcal serums, infused into the CSF. Today, when there is any suspicion of bacterial meningitis, empiric antibiotic treatment is begun immediately as the CSF is cultured for more targeted antibiotic therapy. See A.L. Hoyne, "Intravenous Treatment of Meningococci Meningitis with Meningococcus Antitoxin," *JAMA,* 107.7 (1936): 478–481 and Pere Domingo, et al, "Standing on the shoulders of giants: two centuries of struggle against meningococcal disease," *The Lancet. Infectious diseases* vol. 19, 8 (2019): e284-e294.

[85] Ramirez, "Paludismo," 45.

urticarial rash, and fever. On January 13, 1937, in nearby Tecuyo, the patient was in his usual state of health. When he took a slug of mezcal, he noticed a "sharp pain in his epigastrium, accompanied with an intense agitation," which remitted after about an hour.[86] Later that afternoon, he noticed a fever and an urticarial rash over his entire body with intense pruritis. "Thinking that an intoxication of alimentary origin and an attack of influenza was being treated," the patient had been given some calcium-containing drug and adrenaline.[87]

On the morning of January 14, Ramirez met the patient for the first time, as he was relocated to La Cruz. Ramirez found him "much improved": the rash and fever had abated. By 2:30pm that afternoon, however, the patient had relapsed. When told that the patient's situation was now "very grave," Ramirez wrote that "at the outset, I did not give credence to that assertion," and he continued his other duties. As the relatives kept imploring him to come, however, and as he noticed their "desperation and alarm," he "believed the seriousness of the case," and went to the patient's bedside. There, he found the patient "with *facies* of extreme distress, the shoulders in complete extension…the fingers flexed like claws…the feet and toes in hyperextension," and the body again covered in urticaria. These symptoms had come upon the patient over the course of a half-hour period: starting with the rash, leading to nausea, the tingling of his limbs, and finally, the contraction and rigidity of all four extremities. Ramirez performed a physical exam, which confirmed spasticity and immobility of the limbs, a "weak and frequent" pulse, and "muffled" heart sounds. He believed he was "facing a tetaniform syndrome and an urticarial eruption."[88] He moved to treatment: preparing a camphor oil injection as a cardiac stimulant (rebuffed by the patient "because of its severity"), and a bromide

[86] Ibid., 37.
[87] I have been unable to understand the clinical thought process here. The initial assessment may have been that the patient had anaphylaxis, and thus needed a shot of adrenaline to protect his airway and sustain his circulation.
[88] Ibid., 39.

for the spasms. Ramirez administered the bromide when the patient's mandible was seized: "His alarm was much greater and his words of desperation he pronounced at half-tongue, so to speak, until the moment arrived when the maxilla stayed together, immobile and jammed." Ramirez worked to open the mandible, but the masseters were "completely contracted"; despite this, "the patient preserved consciousness… desperation and despair in his gaze."[89]

Ramirez, showing his persistence, tried to ameliorate the spasms by means of an alcohol massage. Slowly, the patient regained mobility, though he began to sweat and experience epigastric discomfort, which finally culminated in "frank vomiting that calmed his discomforts a little." Ramirez tried an enema, but again, the patient was wracked with spasms, the vomiting continued, and the patient's fever reached 40˚C. After about half an hour and some ice chips, the patient stabilized and was able to sleep. Ramirez had a moment to reconsider his diagnosis. Given the patient's history of syphilis, Ramirez diagnosed a "severe intoxication due to hepatic insufficiency of a syphilitic origin" and prescribed bicarb in milk, perhaps to calm the nausea and vomiting. Unfortunately, it seemed that Ramirez had again missed something. The following day, "at the very same time," the patient had a relapse with identical symptoms. Ramirez substituted the bicarb in milk for bicarb in fruit juice, "believing the milk to be the cause" of the decompensation. Again, the following day, another episode followed.

At that point, Ramirez' "disorientation was complete." Thinking more deeply about the facts of the case, he noticed the regular periodicity of the symptom-constellation—"every day, at about the same time." Ramirez had taken the advice of his professors to heart and consulted a Malariology text by Dr. Soberón y Parra. With the cyclical nature of the symptoms and fever in mind, he concluded that this must be a case of pernicious malaria.[90] Indeed, upon hematologic

[89] Ibid.
[90] See WH Kelley, VP Sydenstricker, Notes on Pernicious Malaria. *Arch Intern Med (Chic)* 55, 5 (1935): 818-25.

assessment—most likely a peripheral blood smear—showed the presence of *Plasmodium falciparum*. With that, Ramirez felt he was on stable footing again. He administered Plasmoquine, a quinine derivative; Ifupeptol, a magnesium sulfate product; and Diemenal, a solution of colloidal manganese.[91] In short order, the patient was back working his fields.

Looking back, Ramirez viewed his time in La Cruz as "arduous and difficult." Certainly, he had experienced confusion from the various avatars taken by malaria. But he also reflected upon the fear and anxiety he had felt as the attending physician for the people of La Cruz. "In facing the 'ill' ghost for the first time," Ramirez had felt "alone, isolated, and inexperienced." In those challenging days of confusion, he had felt a "fear of failure." And who wouldn't have? Confronting these complex challenges so far removed from the familiar faces and spaces of the *Facultad*, "one naturally hesitates, vacillates." With each false start, Ramirez learned something. He learned about clinical medicine, to be sure, about how to manage patients' malaria, whatever form it may have taken. He also was able to learn about himself, "gathering courage I went," he continued, "filled with faith."[92]

***Constructive criticism***

Ortiz' description of his time as a vaccine coordinator in Hidalgo may spoke to the sort of romanticized vision he had of medical students as "evangelizers" granting health. It was clear from pasante theses that the problems of malaria, diarrhea, dysentery, and parasitosis

[91] The magnesium sulfate was seemingly administered as an anticonvulsant agent, though a 1923 article in the *Indian Medical Gazette* described the coadministration of quinine, magnesium sulfate, and alkalis for the purposes of enhancing the antiparasitic action of the quinine. Sinton JA. The Treatment of Malaria by Quinine in Combination with Magnesium Sulphate and Alkali. *Ind Med Gaz*. 58.9 (1923): 406-415. Diemenal seems to have been regularly administered to treat fevers in the setting of malaria; see George C. Low, M.A., M.D., C.M., Diemenal in the treatment of malarial fever, *Transactions of The Royal Society of Tropical Medicine and Hygiene*, 10, 5 (March 1917): 97-8.

[92] Ramirez, "Paludismo," 13.

demonstrated the complex realities of life outside of the metropole. It was one thing to understand the basic elements of pathophysiology, microbiology, hygiene, which students had learned in the fresh, new classrooms and laboratories funded by Chávez' Centenary Celebration in 1933, as they were presented in textbook form, one at a time. Clinical problems among rural Mexicans defied simple nosology and treatment guidance: Occam's Razor—that the simplest solution was typically the right one—did not hold in Mexico's rural interior. Rather, pasantes needed to appeal to Hickam's Dictum—that the patient could have as many problems as they damn well pleased, whether those problems were infectious diseases, mineral deficiencies, or poverty and lack of medial literacy. This reality about the complex nature of human disease is as frustrating now as it was in 1930s, as pasante after pasante bemoaned the fact that their time was just too short, that they lacked the necessary resources, that their patients did not understand, and that they worried that they had not contributed enough. As a result, the thesis came to be an opportunity for pasantes to vent, but also an occasion to offer constructive critiques of broader public health institutions, as well as specific advice to future pasantes hoping to navigate this institutional mire, subsumed within the emotional regime of the "new orientation."

Fairly commonly, pasantes used their theses as a chance to report on the inefficiency of the various institutions that comprised the constellation of still-gelling cooperative health services.[93] In the mid-1930s, rural health had become the site of "overlap and occasional friction" between two Federal departments that had been tasked with health provision in the post-Revolutionary period: the DSP and the *Secretaria d*e *Educación Pública* (SEP).[94] The SEP, by virtue of its role in public education, was involved in spreading health propaganda and

[93] Kapelusz-Poppi, "Physician Activists," 42.
[94] Aréchiga Córdoba, "Dictadura Sanitaria," 73. Vaughan offers some evidence of how education and health were linked in the post-Revolutionary regime. See also the "Socialist ABCs" in *The Mexico Reader*, 411-17, to see how health considerations factored into socialist education.

inculcating basic health literacy as part of its socialist education program (discussed above). Too often, it seemed that the reality of poor resources and weak central institutions meant that the Cardenista aims—to produce a healthy, productive population—went unfulfilled. Pasantes often found these offices to be inefficient or outright negligent. In Papantla, Veracruz, for instance, Emilio García Padilla clearly thought it part of his duty to point out areas where SEP had been dilatory. In a line of criticism consistent with his broader, more conservative tone, García argued that most teachers in Papantla were "more devoted to local political activities than to attending to the [hygienic and educational] tasks that they have been charged with."[95] State partners in the coordinated services were also not immune from condemnation. In Hidalgo, Adela Islas, who had vividly recalled Gustavo Baz' departing words in August 1936, called out a Rural Hygiene Center, located about ten kilometers from her site, administered under the auspices of the state government. She criticized the fact that "in no part did it take an active part in the improvement of sanitation for the population"; a nearby Hidalgo-run Center for Infant Aid was criticized for failing in every way to "remediate the necessities of the farmers, and they don't even have notice that there is an institution concerned with bettering the hygienic conditions for their children."[96]

José Novelo Cuevas, in his thesis describing the sanitary conditions in Jimenez, Chihuahua also had harsh language about the personnel working at the nearby Center of Hygiene. "The persistence of the above noted deficiencies," he stated, "are not justified, given the existence a Rural Hygiene Center run by the DSP, who is necessarily responsible for correcting them."[97] From the perspective of public awareness and hygiene, Cuevas pulled no

[95] Emilio García Padilla, "Informe medico-social del ex-Canton de Papantla, Veracruz," *UNAM*, 1939, 16. One gets the sense that García Padilla was no fan of socialist education.
[96] Islas Escarcega, "Cuautepec de Hinojosa," 26-7.
[97] Jose Novelo Cuevas, "Condiciones higienicas del municipio de Jimenez, Chihuahua y breves consideraciones sobre la labor del Centro de Hygiene," *UNAM*, 1939, 53.

punches: "the work of the…center is a failure." To offer more granular critique, he found that the physicians had "no notion of what the rural environment and rural hygiene are," that they ignored "sanitary regulations on food hygiene, sanitary engineering, industrial hygiene, etc."[98] If the doctors were bad, "even worse [were] the nurses": Cuevas contended that "99 percent of the nurses" were unlicensed. As for the causes for these deficits at the Hygiene Center, Cuevas had a few ideas. Doctors at the Center had a series of obstacles preventing them from "performing a fruitful labor." Salaries were "insufficient and often miserable," spurring them to serve "particular clientele who reports better economic benefits." Doctors lacked "support from Chiefs at the Coordinated Services and the high authorities of the *Departamento de Salubridad*" preventing them from making meaningful change. They also lacked "cooperation from corresponding municipal authorities," most of whom were "ignorant," who cared not "the very least about the betterment of the town": "the only labor that they perform effectively is that of self-enrichment," Cuevas added.[99] As for their personal deficiencies, Cuevas suggested that they were "explicable and excusable," considering that "the *Facultad de Medicina* does NOT impart this class of knowledge," aside for some "superficial notions that are acquired or supposedly should be acquired in the Hygiene course, a semester-long course, which the majority of students consider of the least importance."[100] Evidently, once he experienced first-hand the limitations of sanitary infrastructure, Cuevas saw how useful the content actually had been. There was no education quite like that of caring for sick people.

Beyond frustrations with Federal institutions, pasantes sometimes complained about local structures of power that stymied their efforts to make positive sanitary changes. In Coyulta,

[98] Ibid., 54.
[99] Ibid., 56.
[100] Ibid., 54.

Veracruz, David Carrizosa Cruz reflected on the profound personal and professional challenges he had experienced during his time on *servicio*. Though Cruz had been "filled with the energy developed by [his] youthful blood," evidently the product of a "childhood devoted to sport," the time in Veracruz had taken its toll. He had sacrificed his "physical personality, constantly attacked by new illnesses, owing to its contact with microorganisms unknown to it" to this transcendental effort. By means of physical sacrifice, he had been able to "vitalize [his] psychic personality." Carrizosa's commitment to the *pueblo* compelled his spirit to rise, "screaming 'HELP….! HELP for this particle of humanity that struggles in the agony of ignorance, which surrenders without a fight in the jaws of exploitation and ridiculous fanatism.'"[101]

The endeavor to which Carrizosa had sacrificed so much of his physical vitality was the provision of water in Coyulta. A municipality of about 5000 people, Coyutla's water sources were insecure, incomplete, and or contaminated with human waste. Carrizosa estimated that over 50% of the town's burden of disease stemmed from this situation and consequently, like his peers in countless other towns had done, he wanted to make an intervention. While many of his peers had stumbled upon the problems of rurality that Bustamante had discussed in his work—the problems of resource limitation and poor infrastructure—the troubles that Carrizosa experienced during his *servicio* spoke to a problem that would not necessarily be resolved by massive monetary investment: namely, the resistance of town political structures to pasante interventions. Carrizosa had found a more secure water source about two kilometers from the town, which would likely supply the water needs of Coyutla two times over. Consequently, he had reached out to the town council to see if it would be willing to lend support. "It did not take the necessary interest," he stated flatly. To recruit further support, Carrizosa went to see the

[101] David Carrizosa Cruz, "Breve Estudio Sanitario de la Población de Coyutla, Veracruz," *UNAM*, 1939, 11.

Priest, in the hopes of soliciting his support for his water-engineering project. That too did not pan out. This was a particularly zealous man of cloth: "He turned his parishioners from sons of Joseph into Guadalupanos and made daughters of Mary into Carmelites." The Priest "took poorly" to Carrizosa's visit, "alluding that his role was not that [of supporting hydraulic engineering work] and expressing himself badly with all the progressive element."[102] Perhaps Carrizosa's youthful energy had not translated into the diplomatic skills necessary to respect the influence of local, established authorities; psychic spirit may have translated into hubris.

Unable to find support with either the *Ayuntamiento* or the Priest, Carrizosa turned his eyes "to the lively forces of the *pueblo*."[103] To harness the raw force of the popular will, Carrizosa encouraged sympathetic members of the community to form what he called the "Pro-potable Water Committee," though often shrewdly abbreviated as the "Pro-Water Committee." Carrizosa shrewdly refused the presidency of the group, feeling it would be better in community hands. This was an important first step in carrying out Carrizosa's overall plans, though it would be three months before it engaged in any activity directly. During this period of relative quiescence, Carrizosa evidently kept busy in other ways. He formed another club, the "Effort" Youth Recreational Club, and together, the group worked over the course of one month, "working with gas lights from three in the morning, until times of day when the heat was intolerable, and in the afternoons until dark," to build "the best Sports Field in this entire region," which opened on April 9. A month later, on May 10, Mother's Day, Carrizosa unveiled a Theater, with performances of comedies by locals. On Opening Day, "there was no place to put even a chair, as admission was completely free."[104]

[102] Ibid., 30.
[103] Ibid.
[104] Ibid., 29.

Thought the Pro-Water Committee had been seemingly inactive, in the face of the ongoing efforts of the town's "non-progressive elements" who worked "in different forms" to oppose the project, Carrizosa had been using his other projects as a means of advancing on his most-coveted goal, namely, the rerouting of the spring. "Around the Club," minor work was being done to arrange the passage of the water from the nearby spring, and also to "animating the *pueblo* so that they would take interest." The Theater "subsequently offered more performances with the object of collecting funds for the cement that was coming from Villa Juarez, Puebla and other expenses that the labor incurred." By organizing members of the community by means of an array of town-wide social programs, Carrizosa would simply circumvent the reactionary elements of the town to allow the will of the people to be made manifest. Carrizosa evidently hoped to use the Cardenista playbook to good effect.

This ongoing, and somewhat clandestine, effort on the part of Carrizosa and his community allies certainly did not endear him to the traditional power-wielders in Coyulta. The "conservative" priest did his utmost to undermine Carrizosa's efforts. He used his position to "prohibit…the indigenous" from helping Carrizosa's efforts and told "the youth [that they] would be excommunicated if they attended dance and other recreational meetings" associated with the Pro-Water effort. On May 13, meanwhile, Carrizosa received a notice from the *Ayuntamiento* that "a group of residents" of Coyutla had sent an incident to the Government of Veracruz. In that notice, the concerned citizens

> complained about the work being carried out by Mrs. David Carrizosa, who pretends to be a doctor, and Marcelino Perez Marquez, Director of the School, who in concert with the Secretaries of that *Ayuntamiento* and of the Municipal Court, constantly threaten the peaceful citizens, for the sole reason of not sharing their ideas.[105]

[105] Ibid., 46.

Despite the complaint, the Governor's office was not especially moved by the complaint, as the Secretary General of Veracruz added that, based on what he was able to disclose about the particular, "the complainants absolutely lack any reason to solicit guarantees for the events that they are victims of according to their complaint to the Superior authority."[106]

Nevertheless, on June 7, Carrizosa wrote to the Chief of Coordinated Sanitary Services in Jalapa, Veracruz discussing the "the difficulties and obstacles" he had been experiencing. In response, on June 21, Dr. Álvarez de la Cadena replied with a pep-talk. "Do not get dispirited in the face of such obstacles," the Chief wrote, "they are never absent…the noblest endeavors always encounter obstacles that, due to ignorance and malice, work to destroy beneficial efforts."[107] Dr. Álvarez de la Cadena reassured Carrizosa that though the ultimate payoff to his hard work may have been hard to see in the face of resistance, and though the success may not be seen during his limited time on service, he should have "the security that the efforts will not have been lost" and that his "tenacity and good wishes…[would] surely be the basis upon which other people may realize the work." "Someone once said," he concluded "that 'no effort for universal progress is lost,' and this is true."[108]

Evidently, Carrizosa had found a useful ally. Dr. Álvarez de la Cadena, on July 10, sent a letter to the Municipal President putting the *Ayuntamiento* on notice for its heel-dragging.

> This Government has learned that that authority, rather than helping Dr. David Carrizosa, Polyvalent doctor on *Servicio social*, commissioned in that place to achieve the introduction of potable water, are obstructing his work in collusion with certain elements in the locality, which has motivated the suspension of the work. By accord of the Governor…I recommend to you to abstain from the work in question… on the contrary, give all necessary support to the Professional in question, so that he may, without difficulty, be able to bring to a close the important work he is realizing for the good of the collective.[109]

[106] Ibid., 44.
[107] Ibid., 41.
[108] Ibid.
[109] Ibid., 45.

"Despite the state of affairs," Carrizosa wrote, the hard work continued. To put his plan into action, what was now necessary were pipes to convey the water the two kilometers to town. To supply the pipes, Carrizosa made an interesting choice. Rather than buying pipe, which would have been costly, Carrizosa decided to lead his group to the nearby Oil Camp to steal pipe. It would have been "ruined upon being buried," he justified his actions, so "it was more just to go and steal it and use it for something beneficial." Carrizosa thought that their larceny was done "for the very Nation, for the benefit of the residents of the same."[110]

Getting wind of this, the *Ayuntamiento* "opted to blow up," sending "harmful elements to the town and they went directly to stop the work at the spring." At this point, the *Ayuntamiento* told Carrizosa that the jig was up, that "it would take control of the water" and that, given that the project would need "a lot of money, a lot of work, and a very long time to supply the water…it judged the work to be concluded."[111] Evidently undeterred, Carrizosa replied that

> if the work was a lot, the least I asked was that that they not lie in opposition to this effort, that if it cost a lot, that they had not dispensed one single cent from their Treasury, and if it took too long to transport the water, there were not putting the water to use for themselves, nor for the period of governance that had so poorly managed to that moment, that [the work was being done] only for the health of the town.[112]

Perhaps Carrizosa's bark was worse than his bite. Though ostensibly defiant, he quickly pivoted to the position that due to the magnitude of resistance in the town, he would suspend the effort to bring the fresh water to Coyulta. Perhaps he had finally learned some diplomacy. Carrizosa was evidently a pasante who did not easily give up or give in. Rather than have his tail between his legs in defeat, Carrizosa was able to sublimate some of that frustration into a more productive

[110] Ibid., 30.
[111] Ibid., 46.
[112] Ibid., 46.

thought: optimism about the future. He hoped that in the future, "a new attempt by another person in this spot" could finally succeed where he had encountered so much resistance.[113]

As seen above, many pasantes had to leave their agendas unfulfilled in the face of a lack of money, support, political will, or time. Some, rather than letting this frustration taint their perceptions of the work, transformed their frustration into resolve, into a feeling of belonging to a larger project to which each one of them contributed a grain of sand. In the face of the difficulties of life as a clinician in a resource-poor environment, pasantes often wrote theses expressly for the benefit of future generations of pasantes. Such was the aim of Ruben Poo's thesis, "The medical laboratory in rural practice," which aspired to be a sort of reference source for pasantes, far removed from their usual pathology and chemistry labs in Mexico City. Poo noted that it had been "a cause of true surprise" for many pasantes that they could "not count on—at any given moment—a laboratory" that would permit for rapid analysis of a patient's infection status, hematology, or chemistries. While in Mexico City, students were "habituated to study our patients meticulously and to ratify or arrive at…diagnoses," by drawing upon "the laboratory, x-rays, etc. at every moment." These forms of technology were an integral part of "a determined investigation that, on more than one occasion…may have saved a life."[114]

Pasantes did not have things so easy during their *servicio*. They often experienced a shock when not be able to count upon "such valuable data." "Rude is the contrast," Poo continued, "that we must experience in leaving the classroom and relocating to our specific villages where we cannot expect the help of anyone at any moment."[115] This scarcity of laboratory resources was not one reserved to pasantes serving "specific populations or

[113] Ibid., 31.
[114] Ruben Poo, "El Laboratorio médico en la practica rural," *UNAM*, 1939, 7.
[115] Ibid.

rancherias" far removed from dense urban centers, as Chagnon had found in Jaumave. In keeping with Bustamante's reflection about Mexico's rural infrastructure, the problem of unavailable or undependable laboratory services was a pervasive problem across the map.

The problem of low technology was deeper than merely being uncomfortable without Mexico City's resources. "Physicians of generations past" had settled in their rural practices and their minds and their enthusiasm gradually atrophied in the absence of stimulation, eventually loosing "the eagerness of study and progress." They lost their will to learn new techniques, relying instead on the physical exam techniques of the pre-laboratory age, rather than doing the work of adapting these new modes of laboratory investigation to their rural places. Even in the era of the SMS, this prognosis was likely to hold true for many the *Facultad*'s graduates. Looking at the experiences of the SMS in the few preceding years, "a large percentage of students have been seen to establish themselves definitively" in the sites where they performed their *servicio*, perfectly consistent with the initial wishes of the DSP and the *Facultad* to improve upon the distribution of physicians. That rurality posed a threat to their effectiveness as clinicians: "What will happen with the majority of those doctors? The most probable is that they opt for the path already trod by the past generations." It had happened before.[116]

For that reason, Poo had chosen to dedicate his thesis to offering a description of a wide array of common laboratory techniques that would help pasantes to use the latest knowledge to the benefit of their patients. For example, Poo's first entry was a brief description of the technique for the Kahn Reaction. To perform the assay, the pasante needed eight-millimeter test tubes, Kahn reagent ("for sale commercially"), physiological serum, and a Kahn pipette. To get a sample, Poo recommended taking a "very dry syringe, or one washed in serum" and extracting

[116] Ibid.

five milliliters of blood into a test tube. After leaving the tube for "some hours," the patient's serum would "spontaneously separate from the coagulate." The pasante was to take that supernatant serum and place into a water bath at 56˚C for a half hour "to inactivate it." Meanwhile, the pasante would place one milliliter of reagent and combine rapidly with physiological serum, pouring one tube into another "to prepare the antigen," allowing the resulting fluid to "'mature for 10 minutes." With both reactants prepared, the pasante was now ready to run his assay. In three tubes, the pasante would measure out 0.05, 0.025, and 0.0125 milliliters with the Kahn pipette into the very bottom of the tube. Then, after adding 0.15 milliliters of the patient's serum to the reaction tubes, the pasante needed to "agitate them vigorously for three minutes," dilute with one milliliter of physiology serum, and prepare to read. If the pasante observed any precipitate in any of the tubes, that would be a positive result, the amount of precipitate revealing the intensity of the immune response.[117]

Poo offered dozens of one-page summaries for simple assays that pasantes could easily undertake whether in Sinaloa or Campeche. Short summaries allowed students to diagnose typhoid fever, tuberculosis, gonorrhea; to screen for intestinal infection with parasitic worms or malaria; to perform cytological counts of erythrocytes, leukocytes; to evaluate basic chemistries like urea, lactic acid, and albumin; and to perform uroscopic investigation. By offering these digestible guidelines for pasantes, Poo hoped to "put in the hands of [his] classmates" practical knowledge, to help them "avoid the work of very often un-useful consultations of specialty texts" that would cause them to lose precious time "to the detriment of their patients."[118]

[117] See, for instance, CC Young, "The Kahn Test for Syphilis in the Public Health Laboratory," *Am J Public Health (N Y)* 13, 2 (1923): 96-99.
[118] Ibid., 10.

For Ruben Díaz Velasco, offering wisdom to future pasantes took a recognizable form. Rather than offering yet another description of malaria treatment, or yet another case study of amoebic dysentery—which pasantes were already more than well-suited to treat—Díaz offered advice on the more ephemeral content—related to the emotional engagement with different sorts of patients and professionals—that the *Facultad* had been unable to teach. Across theses, it was clear that many students had taken the advice of Dr. Gonzalo Castañeda to heart, whether they heard his kernels of knowledge in class, or whether they had read his aphorisms in *The Art of Making a Clientele.* In his thesis, Díaz evidently aimed to write in much the same way as his professor did. He hoped that his observations would be of "some utility to the young doctors initiating practice in towns or provinces," as he and his peers had done, without any experience.[119] "In arriving for the first time to a town," Díaz began, it was important to recognize that "the physician is a powerful force of attraction for the minds, gazes, and curiosity of the inhabitants there." [120]

This interest from the community was both for good and for ill. Yes, townsfolk's fascination with the pasante could lead to public participation in sporting events or theater performances as had happened in Coyutla, or in finding willing volunteers to administer smallpox inoculation, as in the Valley of Mezquital. So too could the pasante serve as a lightning rod for public anger, as again in Coyulta. This was a lesson that pasantes had not readily received at the *Facultad*. "In leaving the classroom," Díaz continued, "the young doctor of medicine, has heard little of the persons—political and administrative factors—of all society, with whom he must live very closely, more than if he were in a city."[121] Díaz advised that

[119] Ruben Díaz Velasco, "El ejercicio de la medicina en los pueblos y el tratamiento de algunas de las infermedades más communes en ellos," *UNAM*, 1937, 12.
[120] Ibid., 13.
[121] Ibid., 14.

pasantes "must maintain good relations with the political elements of the place, because they will be those in charge of bringing about the practice of the sanitary dispositions that the doctor has believed to be appropriate to dictate."[122] *Ayuntamientos*, for better or for worse, would be intimately involved in any project that the pasante envisioned. As such, respecting the fundamentally negotiated realities of medical care in Mexico's rural corners, Díaz recognized the "delicate" positions that pasantes found themselves. "On one hand," he continued, pasantes "must negotiate the pitfalls that present themselves to threaten his prestige and tranquility; on the other, he must intervene in political matters which are linked with health and the social march of the place."[123] Successful provisioning of the public's health needs had demanded the acumen of Baz and his peers in coming to some negotiated solution; evidently, as young doctors, this was a lesson that students needed to carefully study if they planned for a successful career in the future.

Based on Díaz' experience, the rural doctor needed to understand "the serious responsibility of his charge": "he will be the one who directs, the one who orders; everyone will do what he says; but also, all will blame him for what happens." To carry out the labor effectively, pasantes needed more than political shrewdness. It was one thing to have political standoffs with *Ayuntamientos* or make speeches advocating for health. In the intimate environment of the exam room, where the doctor/patient relationship gelled, a different, more personal, more sensitive set of skills were essential. The effective physician, for Díaz, "must be irreproachable in his behavior and in his acts":

> He should be a moral man in all senses: in his ideas, in his conduct, and in his relations with others. The farmer needs living examples, which impress his vision and conscience; someone to respect and to confide in. That person should be worthy of that confidence and respect.[124]

[122] Ibid.
[123] Ibid.
[124] Ibid., 13.

Speaking with from experience, Díaz reflected upon the personal skills that needed to be cultivated and nurtured to provide superior care, characteristics that would be vital in the exam room, but which would also enhance the doctor's effectiveness in the political fray. To be a truly successful doctor, a person of confidence and respect and deserving of the status that physicians enjoyed, "he must force himself to give of himself, as much as he can."[125]

### *Conclusion*

We should resist the temptation to view pasantes as merely passive practitioners of the Cardenista State's modernization project. Students certainly responded to the educational expectations set forth as part of the SMS, defined by the UNAM and the DSP. Once pasantes arrived at their placement sites, however, they were a world apart from the shiny, new laboratories of the *Facultad* and the careful watch of their professors. In rural localities, pasantes learned about the complexities of medicine in a manner much more palpable, much more visceral, than in any course in Hygiene or Social Medicine. As budding clinicians, they responded to local social, cultural, and political currents that structured the concrete realities of illness and health, suffering and succor, death and life in the furthest-flung corners of Mexico's interior. They navigated the emotional challenges, structural frustrations, and cognitive uncertainties inherent in the provision of medical care by making recourse to a vocabulary of social compassion and empathy. This inspired their clinical activities and animated their critiques of established public health structures. It was in this way that the "new orientation" took root, often in subtle ways that could be missed should we view students as bureaucratic agents of a biopowerful state.

[125] Ibid., 19.

## CHAPTER FOUR:
## The language of pity

In the preface to his examiners, pasante Jesús Montañez Herrera discussed with some alarm the pressing nature of the challenges currently faced by Mexico. The neglect of "certain aspects of social hygiene," as Montañez put it, among certain populations "threatened the progress of civilization." Only a deep commitment to the principles of social medicine would help the nation meet its goals to create a productive, healthy population:

> The decadence of the races, the phenomena of birth and marriage, the rise contemporary problem of tuberculosis in our country, alcoholism; the havoc caused by alterations in food; tobacco abuse; unhealthy lodgings; the consequences of certain obligations of modern life; criminality every day in incredible increase; prostitution, the big questions of industry, etc. etc. are matters that need to be addressed separately, moving them…to a new terrain all their own.[1]

As part of his embrace of social medicine, Montañez felt that a pointed discussion of preventative eugenics would do the project good. Virtually all the themes he identified would be recognized as "racial toxins," both cause and product of the degeneracy of Mexico's indigenous people. Ongoing national efforts to reduce the impact of racial toxins had not made an appreciable difference in the lives of Mexico's indigenous people: some of that was attributable to the indifference among those in a position to change things for the better. "The suffering of those people is ignored in a crass manner," Montañez wrote; "these *pueblos* have never been incorporated into sanitary civilization. Nor has there ever been a real concern if these *pueblos* belonged to our *Patria*." By their apathy, the State—and physicians—had permitted these towns to "become true 'cursed fields.'"[2]

[1] Jesus Montañez Herrera, "Exploración medico-sanitaria del municipio de Chalchihuites, Zacatecas," UNAM, 1939, 7.
[2] Ibid., 9.

In this chapter, I explore how racial, racist, and eugenic ideas informed the way that pasantes understood the Cardenista modernization project, the role of the profession of Medicine in the lives of indigenous people, and indeed, their own emotional position vis a vis those patients. As we will see, pasantes navigated the intellectual and emotional challenges posed by performing the SMS among indigenous populations environments by tapping into racist and eugenic understandings of "modernity," "health," and indigeneity. By drawing upon eugenic principles, and integrating them into an emotional regime that encouraged doctors to feel responsible for alleviating suffering, pasantes enacted an activist, paternalist, eugenicist role for physicians to play in the improvement of Mexico's race.

***Derogatory language and dismissive attitudes***

In a 2013 article, Gabriela Soto Laveaga described the role played by pasantes in the "making of a sickly nation." This work has tied our understanding of Mexican public health endeavors in the interwar period to racist and internally-imperialistic discourses about the backwardness of its rural and indigenous populations. In so doing, it has undermined the social justice framing common to many analyses of the SMS deployed to date. As a part of the colonizing endeavor that was the SMS, medical students created

> an imagined duality between an unhealthy countryside incapable of embracing modern healing techniques and cleaner urban setting. Using medical language and medical crises to document the poverty of the countryside helped to designate and categorize the biological inferiority of certain groups…In each [setting], they discovered the diversity of foods, fauna, cultures, languages and environments, yet these differences were often distilled into clinical descriptions that noted only the disease and dirt and left out what lay beneath. Seeing the countryside through the lens of health and disease often highlighted what was left to accomplish instead of focusing on what the nation had already achieved.[3]

Pasantes' "acceptance of derogatory language and dismissive attitudes about other ways of living" emphasized just "how easily [sic] it was to mix racial beliefs with alleged medical

[3] Soto Laveaga, "Seeing the Countryside," 37.

knowledge."[4] Soto Laveaga has concluded that racist and classist understandings of medical care and hygiene "increased the perceptual distance between rural inhabitants and their allegedly more hygienic counterparts."[5]

In addition to directly engaging histories of medicine that describe how public health endeavors have been intimately associated with colonialist, imperialist, and racist impulses,[6] Soto Laveaga's analysis of the racial dimensions of the SMS can be said to fit within revisionist work on race and the Mexican Revolution. Historians like Alan Knight, Alexandra Minna Stern, and others have challenged the orthodox telling of the Revolution as a clean, redemptive break with the racism of the Porfirian regime.[7] As they have observed, simply because the Mexican Revolution claimed to abrogate the oppression and racist attitudes of the Porfiriato did not mean that the intellectual apparatus that replaced it was any less racist. The post-Revolutionary State was keen to privilege mestizaje, rather than whiteness, as the paradigm social good. In its quest to transform "backward" indigenous people into "productive or modern" mestizos, it was not tolerant of difference. Beyond explicit biological racism, administrators, bureaucrats, and

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[4] Ibid., 33; 37.
[5] Ibid., 38.
[6] As discussed above, Soto Laveaga cites Anderson, *Colonial Pathologies* and Arnold, *Colonizing the Body* to frame her argument regarding the surveiling, colonizing character of the SMS. See also Espinosa, *Epidemic Invasions*. Good reviews framing tropical medicine as a "tool of empire" can be found in Michael Worboys, "Colonial Medicine," in *Medicine in the Twentieth Century* (quote on 79). Global health is often seen by critics to be a descendant of tropical medicine; Randall Packard, "Post-Colonial Medicine" in *Medicine in the Twentieth Century* and Paul Farmer, Jim Yong Kim, Arthur Kleinman, Matthew Basilico, *Reimagining Global Health: An Introduction* (Berkeley: University of California Press, 2013).
[7] Laura Luz Suarez y Lopez Guazo, *Eugenesia y racismo en México* (México: UNAM, 2005); Alan Knight, "Racism, Revolution, and Indigenismo: Mexico, 1910-1940," in *The Idea of Race in Latin America, 1870-1940*, Richard Graham, ed. (Austin, TX: University of Texas Press, 1990); Alexandra Minna Stern, "Responsible Mothers and Normal Children: Eugenics, Nationalism, and Welfare in Post-revolutionary Mexico, 1920-1940," *Journal of Historical Sociology* 12, 4 (Dec 1999); Stern, *Mestizophilia, Biotypology, and Eugenics in Post-revolutionary Mexico: Towards a History of Science and the State, 1920-1960* (Chicago: University of Chicago, Mexican Studies Program, Center for Latin American Studies, 2000); Stern, "From Mestizophilia to Biotypology: Racialization and Science in Mexico, 1920-1960," in *Race and Nation in Modern Latin America*, eds. N.P. Applebaum, A.S. Macpherson, and K.A. Rosemblatt (Chapel Hill: University of North Carolina Press, 2003), 187-201; Stern, "'The Hour of Eugenics' in Veracruz, Mexico: Radical Politics, Public Health and Latin America's Only Sterilization Law," *Hispanic American Historical Review* 91 (2011): 431-43.

physicians often also used biological rhetoric to describe cultural differences, thus enabling cultural difference to be described and deployed in racist ways.

This should not be considered a Mexican peculiarity: Mexican racial ideologies were of a piece with developments in Argentina, Bolivia, Brazil, Chile, Peru, and other Latin American nations in the late-nineteenth and early-twentieth centuries.[8] Within this historiography, whether of Mexico per se, or of Latin America more broadly, scholars have explored how elite intellectual actors—anthropologists, social scientists, physicians, bureaucrats, biologists, etc.—critiqued, contested, and reimagined racial science from international contexts to produce programs reflective of and responsive to local conditions. They have also shown that ideas about race were intimately tied up with States' aspirations for "modern" and "productive" populations: as will be explored below, the rhetorical linkage between "Health" and "Modernity" was cemented by reference to eugenic understandings of racial malleability and improvement. In this way, the politics of health and hygiene came to play an essential role in the post-Revolutionary Mexican quest for a "modern" nation, understood as a political entity *and* as a racial one.

In this chapter, I hope to both expand upon and complicate these arguments. At first blush, the racial, racist, eugenic character of pasantes' understandings of low medical literacy, inadequate sanitary engineering, and indigenous healing practices pose a challenge to our understanding of the SMS as a program that aimed to have physicians *identify* with indigenous and rural populations. In reading pasante theses for their emotional content, however, I argue that, in fact, pasantes' racist attitudes were informed by their feelings of compassion, and vice versa. Beyond the explicit racism evident in student theses, we can observe a subtler form of

[8] See excellent regional and global reviews in Stepan, *The Hour of Eugenics;* Turda and Gillette, *Latin Eugenics;* Alison Bashford and Phillipa Levine, eds., *The Oxford Handbook of the History of Eugenics* (Oxford: Oxford University Press, 2010); Alexandra Stern, "Eugenics in Latin America," *Oxford Research Encyclopedia of Latin American History*. 22 Dec. 2016; Accessed 25 Feb. 2022. https://doi.org/10.1093/acrefore/9780199366439.013.315.

racism inherent in the pasante/patient relationship, one based in feeling: a paternalistic, condescending form of compassion and care—built upon a scaffold of racist attitudes toward the "degenerate" and "primitive" populations that pasantes were serving.

This framing allows us to accomplish a few things. First, in attending to the role played by feeling in the construction of racial programs, we can see that allegiance to eugenics programs involved more than intellectual commitments, as against dominant trends of rationalism and intellectualism in the historiography of eugenics. The fusion of racist and eugenic ideas with the emotional dimensions of the "new orientation" allowed pasantes to justify their involvement in, or indeed, intrusion into, the lives of rural dwellers and indigenes. Second, a focus on the local dimensions of eugenic thought and practice from non-academic actors allows us to better understand the negotiation involved in developing a eugenic politics of health, as against diffusionist or top-down framings seemingly common in the literature. Finally, attention to the role played by feeling in racializing health in Cardenista Mexico also demands we reflect on how racism may insidiously structure the deep tissues of the doctor/patient relationship broadly.[9]

### *Latin Eugenics and Race in context*

When discussing eugenics, many may think of its British, American, or Nazi avatars. In the twentieth century, Anglo-Saxon eugenic programs focused upon the preservation of (white) racial purity by means of "negative eugenic" strategies: the condemnation of racial mixing, the

[9] See, for instance, Jonathan Metzl, "Psychiatry After Ferguson," *Somatosphere,* December 15, 2014: http://somatosphere.net/2014/12/psychiatry-after-ferguson.html; Metzl and Dorothy E. Roberts, Structural Competency Meets Structural Racism: Race, Politics, and the Structure of Medical Knowledge; *Virtual Mentor* 16, 9 (2014):674-690. doi: 10.1001/virtualmentor.2014.16.9.spec1-1409; or Metzl and Helena Hansen, "Structural competency: theorizing a new medical engagement with stigma and inequality." *Soc Sci Med*. 103 (2014): 126-133. doi: 10.1016/j.socscimed.2013.06.032. See also Harriet Washington, *Medical Apartheid: The Dark History of Medical Experimentation on Black Americans from Colonial Times to the Present* (New York: Doubleday, 2006) and Dayna Bowen Matthew, *Just Medicine: A Cure for Racial Inequality in American Health Care* (New York: NYU Press, 2015).

regulation of marriage and reproduction, or the removal of "racial undesirables" from the gene pool by abortion, forced sterilization, or in the most extreme case, extermination. This "negative eugenics" rested upon traditional forms of social and political power predicated upon Anglo-Saxon, Protestant whiteness, or Herrenvolk Democracy.

These traditional racial practices were given scientific ballast by developments within evolutionary biology. "Neo-Darwinian," or "Mendelian" thought saw a strict boundary between diploid somatic—cells of the body—and the haploid germ plasm—eggs and sperm. Neo-Darwinian thought was stridently opposed to the principle of the inheritance of acquired characteristics—often associated with the evolutionary views of French biologist Jean-Baptiste Lamarck—in which environmental stimuli experienced by a single organism had the potential to modify its transmitted germ material and thus lead to changes in offspring. By Neo-Darwinian principles, there was no mechanism by which stimuli that did not affect germ cells could impact the development of subsequent generations. Germ plasm was determinative of heredity: once baked in gametes, there was nothing one could do to modify genes. It is perhaps not surprising that Neo-Darwinianism could be deployed to reinforce extant social, intellectual, and political structures that privileged whiteness at all costs.

This mode of understanding eugenics should not be understood as the universal strategy used by polities to improve their racial stock, however. As the doyenne of eugenics in Latin America, Nancy Leys Stepan, wrote in her seminal 1996 work, *The Hour of Eugenics,* eugenic thought in the twentieth century was "not unitary."[10] In Latin America, distinct demographic, social, and political realities led to unique adaptations, formulations, and deployments of racial

[10] Nancy Leys Stepan, *The Hour of Eugenics,* 4. This section draws on Turda and Gillette, *Latin Eugenics;* Patience A. Schell, "Eugenics Policy and Practice in Cuba, Puerto Rico, and Mexico," in *The Oxford Handbook of the History of Eugenics*, eds. Alison Bashford and Phillipa Levine (Oxford: Oxford University Press, 2010), 477-492.

science in the nineteenth and twentieth centuries, representing "a special kind of knowledge produced out of, and shaped by, the political, historical, and cultural variables peculiar to that area."[11] These local formulations of international racial science offer critical context for the development of public health interventions during the Cárdenas era, the SMS among them.

From the Conquest, race in Latin America had never been understood as rigidly as it had in the North Atlantic.[12] The famed *casta* paintings of the seventeenth century demonstrate the extent to which Colonial Latin America societies were a racial and ethnic mélange.[13] Despite the realities of extensive racial mixing throughout the region, in the latter-half of the nineteenth-century, Latin American nations now stable enough following decades of post-independence conflict and economic turbulence tried to orient their racial policies to be in line with North Atlantic nations, to which they politically aspired. Scholars describe this as a period of "whitening" policies, often instantiated by overtures to solicit immigration from Europe and cultural and social Europhilia. To explain this by reference to race science, by bringing more Europeans to Latin America, putative higher quality European stock could somehow dilute and cleanse the "degenerate" social body. This was believed to pave the way to the gradual improvement of Latin American populations.[14] As can perhaps be appreciated, the idea of washing out degeneracy did not square with North Atlantic conceptions of hypodescent. No

[11] Ibid. In this way, her scholarship fit within a broader historiographical tradition describing scientific work "at the periphery." As she described, the work of eugenics in Latin America in the twentieth century—and the racial ideology that offered intellectual ballast to those policies—must be understood not as the passive adoption of "Western" or "metropolitan" ideas about race.

[12] While contemporary Latin Americans often suggest that the history of racial fluidity and mestizaje means that these societies are "post racial." Simply because these ideas of race are less rigid does not mean that race is not socially real in these societies, or somehow is more benign. Social scientific work has been done in several Latin American nations demonstrating that for all the talk of "racial democracy," etc., discrimination based on skin color. is commonplace. See Edward Telles, *Pigmentocracies* (Chapel Hill: University of South Carolina Press, 2014).

[13] Knight, "Racism, Revolution, and Indigenismo," 72.

[14] Stepan, *The Hour of Eugenics*, 45-6.

amount of "white blood" could obviate the presence of "degenerate" stock among Latin American populations, if one drop was determinative.

World War I seemed to mark an intellectual shift in the region on issues of race. While the War "intensified fears about national degeneration" in Europe, across Latin America, it "created a new determination to bring about national regeneration," associated with "patriotism and the call for a larger role for Latin America in world affairs."[15] The reputation of European civilization was deeply damaged by the barbarities of the War; a new paradigm was thus necessary for the "reevaluation of the national self" in Latin America.[16] Thinkers, bureaucrats, politicians, and physicians looked inward to develop alternative ideologies and institutions for racial improvement. "Browning" became a dominant racial program, particularly in nations with large indigenous or afrodescendent populations or high rates of *mestizaje*, like Brazil and Mexico. Programs of "constructive miscegenation"—such as those represented by Gilberto Freyre's idea of "racial democracy" in Brazil, or José Vasconcelos' concept of the "Cosmic Race" and what some scholars have referred to as "mestizophilia" in Mexico—were now socially, culturally, and politically *en vogue*.[17]

As in Anglo-Saxon-Nordic contexts, social, cultural, and political ideas about race in Latin America were often justified by recourse to race science and eugenics. Perhaps unsurprisingly, however, neo-Darwinian thought did not figure strongly in so-called "Latin

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[15] Ibid., 26.
[16] Rosemblatt, *The Science and Politics*, 36.
[17] Ibid. For more on mestizophilia, see Suarez y Lopez Guazo, *Eugenesia y racismo en México*; Stern, "From Mestizophilia to Biotypology"; Stern, "Mestizophilia, Biotypology, and Eugenics"; Knight, "Racism, Revolution, and Indigenismo," among others. These works often describe eugenic thought as intimately related to the work undertaken by *indigenistas* in post-Revolutionary Mexico, who can be described as part of broad intellectual current interested in revalorizing Mexico's indigenous past. A deeper discussion of this subject lies beyond the scope of this dissertation. The relationship between eugenics, medicine and public health, and *indigenismo* is a complex one, not least because *indigenismo* was a multivarious trend, as opposed to a singular intellectual movement whose links to clinical practice are difficult to ascertain.

Eugenic" programs. Latin American biologists and physicians were more inclined to be adherents of Neo-Lamarckianism. While Neo-Darwinians often saw heredity as "hard"—the simple, deterministic product of the combination of germ plasm from two organisms—neo-Lamarckians were "soft" hereditarians, suggesting that environmental changes that affected somatic cells would also affect the gametes, and thus, progeny. This permitted the possibility of a national racial regeneration that neo-Darwinian ideas theoretically foreclosed: "blurring of the distinction between nature and nurture kept a place for purposeful social action and moral choice."[18] Rather than "negative eugenics" or cleansing the gene pool by preventing transmission of genes as Mendelians might, Neo-Lamarckians favored "preventative eugenic" interventions, aimed to cleanse *the environment* within which organisms developed because they believed that "the cycle of causes could be interrupted by social, moral, and medical action."[19]

Interwar scholars and policy makers in Latin America deployed race science in ways that "allowed them to reclaim themselves as eugenic nations-in-the-making."[20] Preventative eugenics often involved the optimization of reproduction per se by the adoption of pronatalist policies, public education efforts on the importance of motherhood, and investment in the care for children and infants under a program of *puericulture*, a French eugenic science designed to "conserve and improve the human species…through parent selection prior to conception, and through proper maternity and childcare."[21] Latin eugenics also frequently worked toward the elimination of "racial toxins" from the environment of so-called degenerate populations, including public health efforts against tuberculosis, syphilis, and alcoholism. As perhaps can be

[18] Stepan, *The Hour of Eugenics,* 87; Turda and Gillette, *Latin Eugenics,* 28-33. Stepan also partially attributes the robustness of neo-Lamarckian thought to the influence of the French intellectual tradition in Latin America, particularly in the fields of medicine and hygiene.
[19] Ibid., 91.
[20] Stepan, *The Hour of Eugenics*, 138.
[21] Turda and Gillette, *Latin Eugenics,* 33.

appreciated, this program could map productively onto the spirit of social medicine that was influential in the region at the time, explaining the existence of what Turda and Gillette have described as a "eugenic-medical-social welfare nexus."[22]

This nexus was clear and robust in post-Revolutionary Mexico. As Alexandra Stern has argued, the development of Mexico's welfare state in the interwar period—including its public health institutions—was "inextricably linked to the formation of the eugenics…movement."[23] This was not necessarily surprising, as through the 1920s and 1930s, eugenicists articulated a "materialist vision of a health body politic that echoed the state's nationalist ethos" that could "help the nation recover stability…and tackle the glaring public health problems that marred the country's racial future."[24] In Mexico, as elsewhere, control of the environment and of certain behaviors became central foci for State eugenic intervention; in particular, "three key elements of reproduction and socialization" were a special focus: "motherhood, sexuality, and children."[25] In 1920, a School Hygiene Service was established, which would assess the health and safety of school-age children. In 1921, the First National Congress of the Child took place in Mexico City, in which a panoply of professionals came together to discuss how best to improve maternal and child health in the nation. One of the Congress' sections was specifically devoted to eugenic considerations: a concern for racial toxins, yes, but also a concern for "child criminality" and "child labor" and an advocacy for the "establishment of clinics and social services for mothers

[22] Ibid., 135.
[23] Ibid., 387.
[24] Ibid., 138; 139.
[25] Stern, "Responsible Mothers," 370. While issues of gender and sex have not been discussed in detail thus far, the discussion of eugenics permits us to consider the gendered dimensions of pasantes' encounters with rural people and their understandings of reproduction. For the gender politics of health, reproduction, and eugenics in Latin American see, for example, Stern, "Responsible Mothers"; Zulawski, *Unequal Cures*; Pieper Mooney, *The Politics of Motherhood;* Walsh, *The Religion of Life;* Katherine Bliss, *Compromised Positions: Prostitution, Public Health, and Gender Politics in Revolutionary Mexico City* (University Park, PA: The Pennsylvania State University Press, 2001), among others. The gender politics inherent in the SMS is a focus for future study.

and children."[26] Revealing the influence of eugenics and puericulture on Mexican policy, propositions discussed at the First and Second Congresses of the Child found their way into the Federal agenda, implemented by the SEP's School Hygiene Service. In 1929, as part of the Maximato's efforts to address rural health, Centers of Child Hygiene were established to reduce infant mortality in rural environments; so too were Federal health campaigns against alcoholism, syphilis and other sexually transmitted infections, tuberculosis, and leprosy promulgated to militate against the spread of racial toxins.[27]

Eugenic projects in Mexico were supported by an independent academic and intellectual apparatus. In 1929, the *Sociedad Mexicana de Puericultura* was established. In 1931, that group's eugenics wing spun off to form the *Sociedad Eugenica para el Mejoramiento de la Raza*. Founded by Dr. Alfredo M. Saavedra, the group had ties to state governments and public health departments, as well as connections to the DSP.[28] The Society had a wide scope of action: it had a journal, *Eugenesia,* which ran from 1931 to 1954; it sponsored public events and published pamphlets and brochures for wider publics; it collaborated with the Federal government to create public radio broadcasts warning listeners against the dangers of alcohol and venereal disease.[29] In 1934, Saavedra published a series of lectures and articles from *Eugenesia* as a book titled

[26] Ibid., 138.
[27] As discussed above, Aréchiga, "Dictadura sanitaria" and Agostoni, "Public Health in Mexico" offer a good review of public health developments in the immediate post-Revolutionary period. They also identify the eugenic character of these interventions. For more on specific elements of the program, see, for example, Ana María Carrillo, "La profesión médica ante el alcoholismo en el México moderno," *Cuicuilco: Revista de la Escuela Nacional de Antropología e Historia* 9, 24 (2014): 313–332; Carrillo, "Los modernos minotauro y Teseo: La lucha contra la tuberculosis en México," *Revista Estudios* (2012): 85–101; Mercedes Alanís, "Más que curar, prevenir: Surgimiento y primera etapa de los Centros de Higiene Infantil en la Ciudad de México, 1922–1932," *História, Ciências, Saúde–Manguinhos* 22, 2 (2015): 391–409.
[28] Stern, "Responsible Mothers," 381.
[29] Schell, "Eugenics Policy," 485.

*Eugenics and Social Medicine*, which "touched on almost all the social debates" prevailing in Mexico.[30]

Despite this independent structure, it was clear that there was a great deal of cross-pollination with Cardenista health authorities on issues of eugenics. DSP Secretary Jose Siurob, in his 1936 pamphlet, *Tendencias Modernas*, made explicit reference to "the great mixing of people" as central to Mexico's social cohesion and indeed, to the nation's success. Siurob followed up this mestizophilic comment with a defense of State intervention in personal affairs, using eugenic connection to advocate for universal "hygienic education," a focus on reducing sexually transmitted infections, combatting alcoholism among rural and indigenous populations, etc. An array of interventions were thus promulgated by Cardenista DSP authorities in "the fight against atrophy."[31] Their eugenic valence was evident. Effort was devoted to inspiring Mexicans to engage in physical activity and sport, to improve their nutrition by means of opening cafeterias in jobsites and encouraging more consumption of meat and sugar, and to improve access to clean water in urban areas.[32] The Cardenista DSP hoped to reduce the spread of sexually transmitted infections by proposing a new "*delito de contagio*" in 1939—proposed by the President himself—making transmitting STIs a crime. It also abolished a 1926 *Reglamento* that had regulated the terms of sex work and disease surveillance for sex workers. These moves were made "in accordance with the new orientations adopted as governmental norms," Cárdenas stated.[33] Alcohol consumption in Mexico too came to be a personal concern for the President, who spoke often about the need to fight alcoholism and its deleterious effects.[34]

[30] Stern, "Responsible Mothers," 369.
[31] González, *Historia de la Revolución*, 275.
[32] Ibid., 276.
[33] Cited in Bliss, *Compromised Positions,* 205.
[34] González, *Historia de la Revolución,* 276.

In the 1930s, within medical education, eugenics and puericulture also had an influence. Fernando Ocaranza, one of the enthusiastic participants in Mexico's Eugenic Society in the mid-1930s, was Director of the *Facultad de Medicina* and Rector of the UNAM; as described in Chapter Two, he was responsible for bringing principles of physiological regulation and hands-on laboratory experience to the fore of medical education during his tenure. As noted above, at the *Facultad*, topics of eugenics and puericulture were covered in syllabi for courses on Social Medicine and Hygiene. This emphasis on eugenic thought was also messaged clearly by *Facultad* administration when it came to the SMS as well. In Gustavo Baz' remarks at the Club France, the sense that pasantes were to be evangelizers for eugenics came across strongly. "The majority of you will be lucky enough to practice your ministry among primitive and very uneducated people," Baz stated. Rural and indigenous people were "uncultured children of the mountains, the forest, the highlands, that have not any idea about the modern art of healing." Pasantes would need to transform them for the benefit of the Mexican nation.[35]

To understand the SMS as influenced by a post-Revolutionary eugenic tradition in Mexico seems warranted. It is important, however, not to overstate the influence of orthodox eugenic thought on the ideology and practice of pasantes. Most students were not involved in academic eugenic work. The knowledge they did possess of eugenic science per se grafted onto their preexisting racial and quasi-eugenic beliefs about race and racial improvement, borne of their immersion in post-Revolutionary Mexican culture, society, and politics. As such, ersatz eugenic thinking among pasantes can be said to be the hybrid product of lessons both formal and informal: both from life experiences and from formal medical education. In the pages that follow, we can observe how the eugenic-medical-social welfare nexus described by Turda and

[35] Mazón et al, "El Servicio Social Médico," 4.

Gillette made compassion an indispensable tool for pasantes to justify their eugenic interventions in the lives of citizens as for their patients' "own good" and for the good of the Mexican nation.

### *"A Lack of Eugenics"*

Pasante Manuel Suarez Velasco's thesis was a well-developed example of how a paternalistic compassion for Mexico's vulnerable populations, a sense of gratitude for debts to Mexican society, and eugenic thought could converge. As things stood at that moment in time in 1939, per Velasco, the status quo for Mexico's indigenous populations was unacceptable. Poverty persisted. Institutions were weak. Illness was common. In the era of the "new orientation," with its embrace of social medicine and a humanistic approach to patient care, a new paradigm would be necessary. The traditional rigid separation between various sciences was to blame for the metastasis of ignorance, neglect, and indifference of Mexico's indigenous peoples. "To be a doctor of humanity," Velasco wrote, understanding "the integral organization of the factors which surround life and that shape it and seal it" was "indispensable."[36]

This meant a serious engagement with evolutionary theory. For Velasco, this demanded facility with three central concepts: "the permanent influence of cosmic circumstances," "natural selection," and the persistent genetic reproduction…created by the environment and differentiated by selection."[37] By the first, Velasco was evidently referencing the work of José Vasconcelos, author of the 1924 work of "high" mestizophilia, *The Cosmic Race*, which described how vitalizing fusion of the world's major races had created a cosmic spirit that dictated the lofty future of the Mexican race. By natural selection, Velasco ostensibly referred to the Darwinian principle by which organisms that survived their environments and transmitted

[36] Ibid., 28.
[37] Ibid.

their genetic material gained an advantage over their peers that did not as effectively reproduce, a mechanism that explained the relative frequency (or infrequency) of traits at a population level. In 1930s Mexico, this was likely understood in Mendelian or neo-Darwinian terms, discussed above. By his final reference, Velasco seemed to refer to the conceptual debate in evolutionary biology between genes and environment, a subject of interest to those of a neo-Lamarckian bent.

Perhaps unsurprisingly, Velasco placed a particular focus on this third concept. Genetic information was necessary to understand the nature of Mexico's indigenous populations, but it was not sufficient. "Hereditary factors" meant nothing if they were not appreciated as fundamentally "linked with custom and the environment."[38] Race—what we might explain as the "genetic" factors associated with race—"stayed fixed," which meant that it was impossible to intervene on those factors per se to modify them. Meanwhile, there were an array of "plasticities overlayed" on top of this stable background that were the products of environmental factors and gave rise to the complex array of human behaviors that were captured so vividly in pasante theses. The stakes associated with getting the biology right were significant. One was certainly the biological truth, which was to say, the real nature of race. The other was a tad more abstract. It was related to a sense of self-conception among Mexicans. In accepting a narrowly genetic framework, Mexicans could thus "fall easily into the error of supposing that our race is degenerate," inherently and irreconcilably. Instead, by understanding the complex interplay between genes and milieu, one could come to understand that Mexico's "plague of wretched hypotreptics and atreptics we deplore" were caused by "a deficient maternal diet and an insalubrious environment."[39] Under that rubric, degeneracy was not destiny. Rather, Mexico's future was open and free, needing only compassionate, thoughtful people to improve the lives of

[38] Ibid., 30.
[39] Ibid.

the vulnerable. In so doing, they would improve the lives of future generations.

Clearly, Velasco had a well-developed understanding of the basic principles of evolutionary theory. Beyond his significant knowledge of the threads of evolutionary thought in Mexico—and the stakes associated with those principles—Velasco was honest in articulating some of his uncertainty and confusion. From his perspective, it was clear that the differences between indigenous Mexicans and the mass of mestizos was more than simply just related to environmental difference. For instance, Velasco claimed that the measurements of craniums and vertebrae of what he referred to as "our" indigenous people showed "anatomical deformations in the form and conformation of the frontal bone and rigidity of the vertebral column caused by cervico-dorsal synostosis." Precisely how cultural and environmental difference and (purported) anatomical and physiological differences were related was thus still the subject of some confusion. Were anthropometric observations "borne from adaptation or [were they] professional deformations that the adult acquires by the experience in his office?" Were they "racial factors that have been made hereditary?" Were Mexican scholars familiar with "all the corresponding factors in the manner of labor that influence the determination of the plastic characteristics that have been made hereditary?" For Velasco, resolving the "Indian problem" meant understanding how anatomical, physiological, and anthropometric findings fit together with longer durée evolutionary and ecological processes. "The special physiology of the Indian," wrote Velasco, "will have many novelties to teach in a not-too-distant future." [40]

Velasco's uncertainty on some of these points mirrored those among academic eugenicists during the Cardenista *sexenio*. As Stern has described, by the late 1930s, Mexico's eugenics community was increasingly skeptical of rigidly neo-Lamarckian theories of evolution

[40] Ibid.

and racial development. This was because global scientific studies had undermined the basic tenets of neo-Lamarckianism. Mexico's eugenicists did not wholesale abandon a neo-Lamarckian focus on the environment or social world, however. Rather, their compromise was the embrace of biotypology. Biotypology, a purportedly "neutral" metric science developed by Italian Nicola Pende to better understand how subgroups in the population were optimally-structured to perform certain social functions, gradually gained favor among eugenicists in Mexico, eager to find a means for the incorporation of Mendelianism without biological reductionism. Saavedra, for instance, boosted biotypology in the pages of *Eugenesia* through the late 1930s and early 1940s. Other physicians had developed similar techniques for the eugenic toolbox during the 1920s and 1930s: Rafael Santamarina, director of the SEP's Department of Psychopedagogy and Hygiene (DPH), rolled out standardized testing for students in the 1920s, and by the 1930s, was testing students' "pulse, lung capacity, reaction times and reflexes, and white blood cell count"; José Gómez Robleda developed tools to measure students in the 1930s as part of President Cárdenas' National Institute of Psychopedagogy, and undertook several biotypological studies among several indigenous groups in the late 1930s and 1940s.[41] By their experience with various facets of human organism—physical, psychological, and spiritual—physicians were positioned in such a way as to legitimate eugenic intervention in the lives of those the post-Revolutionary State was particularly interested in "improving."

Pasante Velasco too saw that physicians would necessarily "a big role" in navigating the ambiguities and uncertainties regarding the relationship between heredity and environment. Indeed, "no professional," Velasco wrote, was "better suited than the doctor to exult and define

[41] See Stern, *Mestizophilia* and Stern, "From Mestizophilia to Biotypology"; Turda and Gillette, *Latin Eugenics*, 141-3; discussed also in Andres Rios Molina, "Dictating the Suitable Way of Life": Mental Hygiene for Children and Workers in Socialist Mexico, 1934–1940," *Journal of the History of the Behavioral Sciences*, 49.2, (Spring 2013): 142-166.

the personality of anthropology with the group of biological sciences."[42] By virtue of their clinical training, doctors had been taught to see all domains of human life—from sexual activity to daily nutrition, from blood chemistry analysis to modes of child rearing, from psychiatric formulations to a patient's heart sounds—as areas potentially fertile for data-gathering. To that point, however, Medicine had *contributed to* the "indigenous problem" by keeping its scope of practice narrowly centered around "narration of illness and the negation of hygiene." It had ignored other facets of the suffering of indigenous people—poverty, social isolation, lack of education—with the supposition that these would be addressed by some other professional.[43] "The medical branch…should not refuse responsibility" to undertake projects that would permit physicians to better understand "our Mexican needs"—broadly construed—"in the knowing of our environment."[44] In this new era, it was incumbent upon physicians to feel the weight of their responsibility to the *pueblo*, and act accordingly to alleviate its suffering: "to be able to know their pathology, we need to first know their humanity."[45]

Pasantes would be the *avant garde* of the broader eugenic project. Velasco described himself as a "fervent supporter" of the SMS, in which "student restlessness" found positive ends in the "crystallization of the idea."[46] As many of the era's contemporary thinkers reinforced, Velasco explained that goal of the *servicio* had been to draw the pasantes out their study rooms and place them "very close to pain." "No university is more benevolent than ours," he wrote, "Alma mater that by igniting our spirit only asks that we go to the *pueblo* and know of its misery." Though pasantes had accomplished a great deal over the previous two years, there were

[42] Ibid., 33
[43] Ibid., 24.
[44] Ibid., 33; 22.
[45] Ibid., 25.
[46] Ibid., 5.

features of the program that were somewhat less than efficient. Some sites in the nation had seen three different pasantes come through over the existence of the program; and from his reading, it seemed as though some of the problems that the first generation of students had encountered had stubbornly persisted. Even though many pasantes had evidently wanted to offer a warm hand-off to incoming pasantes to capitalize on the often-limited successes of their predecessor, the reality suggested that students were reinventing the wheel year in, year out. As a result, Velasco suggested that the organizers do a more purposeful job to "formulate programs in accordance with reality, occupying itself with obtaining greater knowledge of the social, hygienic, and sanitary needs of the country."[47] By doing a more systematic codification of outstanding needs, would lead to the "resolution of concretely realizable points" at any given site. The satisfaction of practical needs would, eventually, allow for the satisfaction of the spirit.

To secure the "humanization of the life of our country, the biological improvement of society and the elevation of the spiritual level of individuals" in the country, in particular its indigenous peoples, pasantes would need adequate training.[48] For Velasco, with clear interest in biotypological techniques, it was clear that medical students would need greater emphasis in their Anatomy courses. For sixth years, Velasco suggested the establishment of a "conference course" called "Anthropological Propedeutics," with the aim of offering medical students the necessary "theoretical preparation and anthropometric training" to gather data effectively. Necessary subjects included "Anthropometry, Craniology, Serology and Mental and Medical, Criminal and Pedagogical Anthropology," with the "object of inquiring, investigating, and knowing the fundamental biological laws among the races that populate our territory."[49] To

[47] Ibid., 22.
[48] Ibid., 9.
[49] Ibid., 26.

make life easier for pasantes, Velasco also proposed that pasantes carry with them a small questionnaire, that they could "fill with every patient alongside their clinical history." The form included blanks for various anthropometric data, including things like skin color, quality of the teeth, description of facial hair, cranial volume and circumference, biacromial distance on the thorax, breast size and shape, pelvic conformation, appearance of the external genitalia, and the length and muscular development of the limbs, including any congenital malformations of the same.[50] As "body and soul ought to be considered as in perfect accord, as inseparable collaborators in the work of life," Velasco also made provision for the collection and cataloguing of "mental anthropology." For this, he offered a questionnaire designed to capture the psychological features common to "indigenous collectives" that pasantes may encounter. The basic features to identify for each ethnic group was language spoken, local religion, rate of criminality, and mode of governance. Beyond those general cultural features, Velasco included questions that demanded pasantes generalize a personality for the community: were these people talkative? Were they lazy? Emotional? Loud? Thrifty? Liars? Clean? Were they drunks? Promiscuous? Did they get angry easily? Did they believe in the supernatural? Were they dreamers? By generalizing collected data to learn the "true" nature of their patients, pasantes could continue the work of the SMS in a "manner more enlightened, and more judicious."[51]

Velasco was under no "pretension…that the medical student is he who must exhaust the chapter of mentioned cooperation." He was confident, however, that with medical students' basic knowledge of the various facets of human life, they would be "capable to practice basic investigations of physical and mental anthropology," inquiries that would be useful in establishing a eugenic Science of Man:

[50] Ibid., 37-9.
[51] Ibid., 43.

> Let us investigate the truth of man who we must serve, and when we know of his organic reality, of his customs and of his particular structure, the same as his conduct, of the plasticity of his instincts, of his conscious processes, thought, perception, and volition, in a word, of the approximate mental and physical capacity that accompanies him, then will be opportune to apply the measures that science advices, to apply with efficiency…the curative methods for social pathology, the correction of collective vices, the opportune signaling of danger in the diseases of all manner.[52]

Evolutionary thinking would afford physicians the rhetorical latitude necessary to justify their engagement on issues of national political and social import, as key contributors to the broader suite of policies aimed to redeem Mexican citizens who heretofore had not been able to enjoy the benefits of the Revolutionary State's version of progress and civilization. The SMS' army of pasantes, who "bravely said goodbye" to the *Facultad*, would work to achieve these practical ends for Mexico's people.[53] By their passion and commitment to making good their debts to the people, students would lead the "construction of sturdy dikes against the immorality, misery, and hopelessness" that was "drowning" Mexico's indigenous and rural populations.[54]

### *A lamentable degree of ignorance*

The isthmus of Tehuantepec is a valley region located between the 94th and 96th meridians west longitude. The region, named for the Nahuatl word for "Jaguar Mountain," encompasses parts of the modern states of Veracruz, Chiapas, Tabasco, and Oaxaca. It is the narrowest point between the Gulf of Mexico to the North and the Pacific Ocean to the South. For the centuries prior to the digging of the Panama Canal, the isthmus represented the shortest distance between the two bodies of water—a mere 200 kilometers—and was a favored overland route for interoceanic trade from the colonial period on. Through the mid-nineteenth century, various projects between Mexico and the United States were conceived to make use of the

[52] Ibid., 33.
[53] Ibid., 5.
[54] Ibid., 5; 33.

isthmus—a canal, a plank road, railroad, and even a ship-railway—but any engineering project at Tehuantepec simply could not compete with the Panamanian isthmus.

This region had had strategic importance prior to the arrival of the Spanish, with their transoceanic empire. The isthmus, particularly on the Oaxaca-side, was home to the Zapotec people, known to themselves as *Binnizá*, or "People of the Clouds." The isthmus had been an important crossroads for trade routes between Aztec home domains and Central America, placing the Zapotecs at a critical strategic location. After extensive conflict between the Mexica and the Zapotecs, a marriage cemented an alliance between the peoples. Upon the arrival of the Spanish, though there were some attempts at resistance—including a rebellion in Tehuantepec in 1660—the Zapotecs were conquered and subjugated under New Spanish authority, and ultimately, in 1823, were came to be under the authority of the Mexican Republic.

As described by historian Benjamin T. Smith, social and ethnic politics in Oaxaca was fragmentary and contentious for virtually the entire existence of an independent Mexico. The position of the Zapotecs vis a vis creole and mestizo ruling classes was combative throughout the nineteenth century, surrounding issues of land access. This was a lasting tension that was manifest in party politics during the Porfiriato, and which sometimes bubbled over into outright armed Zapotec uprisings in the quest for self-governance. This trend continued in the twentieth century, as Zapotec culture became a critical tool for negotiating the complex politics of the region. Smith notes that *oaxaqueñismo*, a rhetoric emphasizing the "cultural particularism," became a useful strategy for local cacique Francisco López Cortés in his capacity as Governor (1928-1932), and then *jefe máximo* until 1935, in his quest to subsume the disparate ethnic and

cultural identities in the region—Zapotecs included—under a broader Oaxacan identity during the Maximato.[55]

Nonetheless, the early 1930s had seen the destabilization of the political status quo under López Cortés. In 1931, for instance, two physicians, Valentin S. Carrasco and Roque Robles, had led an armed rebellion in Juchitán on behalf of a rival to cacique López Cortés, in which sixteen people died.[56] This was but one instantiation of the gradual decay of López Cortés' political strength in the early 1930s. By the time that Cárdenas came upon the scene, the ground was ripe for Federal authorities to capitalize on those regional tensions. As Smith put it, the "chance political fractures and the beginning of isolated social movements" in search of an ally, allowed for the formation of "contradictory, shifting, and unstable alliance with the Cardenista presidential campaign."[57] The political connections established during the waning of the Maximato afforded President Cárdenas the opportunity to become a more powerful force in Oaxacan politics once able to assert his independence from Calles. During his *sexenio*, the President did his utmost to limit "electoral participation" in Oaxaca, "effectively impos[ing] his own candidate" to sideline local strongmen.[58] Smith has noted that, despite successes influencing events in Oaxaca City, President Cárdenas was "forced to allow a relative degree of political freedom" in the array of smaller Zapotec communities outside the capital precisely due to a "concern for stability."[59] Integrating Zapotecs into the national community—socially, politically, culturally, and for our purposes, medically—would thus not be any easy process.

[55] Benjamin T. Smith, *Pistoleros and Popular Movements: The Politics of State Formation in Postrevolutionary Oaxaca* (Lincoln: University of Nebraska, 2009), 51.
[56] Ibid., 93.
[57] Ibid., 92.
[58] Ibid., 108.
[59] Ibid., 108; 136.

For pasantes, who were participants in this ongoing project of national integration, they understood their role to involve a deep dive into Zapotec society and culture. In their theses, pasantes often described indigenous people as exotic and admirable "others," whose behaviors were often monocausally attributed to their racial-ethnic identity, in a flattening or merging of environment, race, and behavior. Pasantes viewed this process of social and emotional engagement, such as it was, as essential to their clinical duties. Coming to know Zapotec culture, and to identify with the Zapotec "way of life," was described in terms that rendered it a eugenic intervention: getting close to indigenous patients would be a means to transform "exotic," though "ignorant," people into "modern" Mexican citizens.

A member of the second class of *servicio social*, Gonzalo Granados Miranda described this way of thinking well. Granados had spent several months in the region of Juchitán, Oaxaca, attempting to practice a "Revolutionary Medicine." This had not been easy: despite its renovations and reorientations across various domains of Mexican life, the Revolution had not toppled the old medical paradigms. As a student, Granados had been uncertain how to proceed. Were pasantes "obligated to write along established themes," similar to the stuffy theses on infectious disease or physiology common in the Porfirian era?[60] Or were pasantes expected to offer a fresh perspective as agents of the "new orientation" of compassion and social-mindedness? Mexico—and pasantes in particular—would need to do their best to find a sweet spot, optimizing between traditionally-accepted scientific knowledge, and the tenets of social medicine. For pasante Granados, practicing a Revolutionary Medicine involved a deep engagement with the social and natural realities of his indigenous patients, writing on the "Zapotec customs, whose flavor and color" was "difficult to transcribe in simple lines." Only by

[60] Granados, "Asuncion Ixtaltepec, Distrito de Juchitán, Oaxaca," 2.

"living for a time among these people, feeling their emotions, hearing their music, their language, and participating in their own activities," could allow physicians to understand the importance of these cultural factors in making the Zapotec who they were as a people. For him, as a budding physician, the engagement with Zapotec culture had served to "deepen his soul."[61]

From their experiences with Zapotec culture in the isthmus, pasantes often generalized about the ways that the Zapotec "race" behaved, thought, and lived. Granados observed an impressive level of "mutualism" among Zapotec people in the region. "Mutual assistance, the idea of reciprocity in favors, in happiness and sadness, is marvelously developed," he wrote, "the reflection of the primitive Zapotec customs that have remained almost unchanged."[62] While in more modern society, atomism and individualism had weakened traditional bonds of tradition, family, and communitarianism (part of the reason for Medicine's emotional struggles, to be honest), in the isthmus, the Zapotec viewed themselves as an extended family. In 1937-38, Luis Álvarez Chimalpopoca lived in a Zapotec community in Juchitán. He also concluded that social closeness was an essential part of being Zapotec. From this, Zapotec society was one "without classes, where there is not a problem between capital and labor." In marked contradistinction to the rest of Mexico, where problems of labor had been placed on the front-burner following the Revolution, the Zapotec seemed to experience none of the strife that characterized work elsewhere. Álvarez labeled istmeño society under the Zapotecs "a perfect socialism."[63] For Álvarez, this was attributable to the close ties of community that purportedly linked all members of the ethnic group. "The Zapotec race," he continued, "was one of the most unified in all the Republic… because everyone sees each other as members of the same family."[64]

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[61] Ibid., 71.
[62] Ibid., 98.
[63] Luis Álvarez Chimalpopoca, "Estudio medico social de Juchitan, Oax.," UNAM, 1938, 91.
[64] Ibid., 91.

As others had stated, it was hard to capture exactly how the Zapotecs were different without living among them. Álvarez offered a folk story of life in Juchitán, to capture for readers the power of the communitarian spirit in Juchitán, and the extent of the suspicion of outsiders. A Zapotec woman had asked municipal authorities in Juchitán "permission to build a house." To do this, she would evidently need extra hands. This was the "era of syndicalism," however, which meant that labor had to be undertaken under the oversight of the local unions. But the syndicate was willing to make a deal with the Zapotec lady. She could recruit laborers and for a period of three days, they could work "to do what they could, and then the union-workers would come in." With this permission, the lady went and told her relatives about her building needs. The relatives all came over to the work site and began to work, day and night. At the end of the three-day period, when union labor would begin, it turned out there was no need for them: the house was complete, thanks to the extensive work of the lady's friends and family.[65]

The close-knit nature of the Zapotec community in the isthmus posed a challenge for pasantes eager to make sanitary changes in Juchitán. Physicians from outside of Oaxaca often encountered "language difficulties" during their labor. This was challenging logistically to be sure, but it also reinforced pasantes' status as "foreigners" or *yuu* among the locals, making their efforts at building credibility and trust among the locals especially difficult. As *yuu*, Álvarez claimed that pasantes often had "to suffer much in order to work and overcome difficulties." As noted above, it was part of the charge of the *Facultad* and DSP for pasantes to offer some thoughts on how best to improve sanitary conditions at their sites. Here, Álvarez offered some reforms that were not directly related to plumbing, waste management, or anti-malarial efforts.

[65] Ibid., 90.

Rather, he proposed a new social program that would enhance the ability of pasantes to care for the residents of Juchitán. With his experiences in mind, Álvarez concluded that the best path forward would be for the development of a "a corps of social working nurses." This new nurse corps would be recruited from "women of the region, who speak the language," to allow for easy translation services for pasantes and other physicians and health officials in the region. These nurses would not merely support communication in its narrow linguistic definition. These nurses would "wear regional garb," the goal being that locals would be willing to "have their doors open, helping the entry of the doctor in this way."[66] As such, nurses could act culture brokers, acting as go-betweens for Zapotecs and metropolitan medical professionals hoping to break them down and remake them in a modern, hygienic image.

Luis Cervantes García had a similar experience in Ixhuatan, one of the other population centers in the isthmus. Again, as in Juchitán, Cervantes argued that emotional identification by means of social engagement would redound to the benefit of the race. Again, this involved essentialization: the Zapotec people lived in a unique manner, a manner that was worth sharing, a manner that had moved him to write: "no one that visits the Isthmus," he argued, "resists the temptation to speak something, true or not, about the reach of its interpretive vision, with respect to the beautiful customs and rarities of this singular race."[67] Beyond this desire to capture life among an exotic "other" for his urban examiners, Cervantes argued that his social and ethnographic observations were thoroughly practical. He intended with his talk of Zapotec custom to "demonstrate how exactly this sociology…is capable of influencing the nosology and public and private hygiene of any human conglomerate."[68] As it had been for Granados, learning

[66] Ibid., 55.
[67] Luis Cervantes García, "Exploracion medico sanitaria y sociologica del municipio de Ixhuatan, Oaxaca," *UNAM,* 1939, 2.
[68] Ibid.

Zapotec culture had permitted Cervantes to make emotional ties with his patients, at the same time as it had permitted him to better understand how to improve them. Cervantes found the "noble Zapotec race" to be "intelligent" with a "great potential in energy and in tenacity."[69] He did not view their sanitary shortcomings to be borne of an irredeemable biology. Rather, the Zapotecs' ability to learn the basic building blocks and hygiene and medicine had been hampered by a "lamentable degree of ignorance" among its people.[70]

This population was not unique: ignorance was supposedly a universal problem in Mexico. "All the reports of the *servicio social* say almost the same thing!": "in each little town, in each region, the Mexican reality is exactly the same: abandonment, sloth, apathy, caciquismo, from the socioeconomic point of view; physiological misery, absurd superstitions, dirtiness, illness, surprising lack of medical-hygienic education."[71] The lack of civilization—in all its various forms—had not "been remedied by multiple political administrations" that supposedly stood for Revolutionary Change. "The promising fuss of the incapable," the "unprepared, uneducated, and insincere advocates of very new tendencies," the Ivory-Tower Revolutionaries who had learned about civilization from books and wanted to grant it to Mexico's people, were not adequate agents of change. Their ideas may have been "beneficial in themselves," but without understanding the lives of Mexicans who lived away from the libraries and laboratories of the capital, new tendencies were ultimately "damaging" because had not been modified to function in the "Mexican environment."[72] For Cervantes, a critical goal of any Revolutionary was to earnestly work to understand the dynamics of the particular social world of the indigenous Mexican. The first step would be to care about them.

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[69] Ibid., 5.
[70] Ibid.
[71] Ibid., 4.
[72] Ibid., 2.

Unfortunately, it was clear to Cervantes that pasantes had not made a serious effort to engage with indigenous Mexicans in such a way that would ultimately be useful to anyone but themselves. This was not the cold indifference of the Porfirian era. This was the selfishness of virtue-signaling and career-advancement. Rather than giving voice to the needs of the people, Cervantes argued that pasantes simply "recorded data whose importance only concern[ed] the vanity of the pasante (summary of activities, statistics of completed works, etc.)." Though glossy depictions of rural service were certain to "satisfy the ego that suffered and took advantage of the instruction of the new environment," most pasante theses were neither "useful nor original." By their focus on their personal efforts to improve the lot of Mexico's people, all pasantes had done was "silence the voices of a sad reality, without hardly any probability of redemption."[73] By their lack of engagement with the environment, they performed a "clinical malice."[74] More than likely, the theses would be skimmed by examiners and sealed away, "consumed in their own fire in a corner of the *Departamento de Salubridad Pública* or of the office of the examiners or the saddest of all—of the University itself."

To address the deficiencies of the newly-crystalizing emotional regime, Cervantes argued that rather than virtue-signaling, pasantes should work to sympathize with the plight of their suffering patients, and raise *them* up in theses. Students "should cede the site of honor to naked and serene exposition of what they could not do, of what needs to be done, and what should be done."[75] This meant a careful, dutiful, honest reporting of local conditions:

> We must describe reality without prejudice, without taboo, without limitations or considerations for those we consider responsible for the state of things reigning in the Republic… Endowed with the capacity to observe, we must faithfully, bluntly, realistically capture the facts.[76]

[73] Ibid., 78.
[74] Ibid., 77.
[75] Ibid., 79.
[76] Ibid., 5-6.

Critique did not always win adherents, however. Cervantes was perfectly aware of the potential risks associated with challenging the current structures of power and knowledge so stridently, of challenging the established hierarchies to such a degree, even within—or perhaps, especially within—a "Revolutionary" regime. If his critical tone and strident critiques of "the selfish practice of the profession" were perhaps a step too far for examiners, he dismissed them with a simple statement of "I don't apologize."[77] The prevailing social conditions were too grave to allow them to continue.

Despite the problems facing him and his fellow pasantes—and though sometimes it seemed that no physician particularly cared about the suffering of their fellow man—Cervantes kept some hope alive, thinking of "those who dreamed of making medical science a means of providing to the suffering not only the materiality of medicine, but also charity and commiseration."[78] The point of his "bout of thunder and this multitude of hexes" was to plan for some better future. To resolve transcendental problems, indigenous people needed "someone to guide them and dignify them." Their champion would not be "from the podium or from the center of political activities": that person could only offer slogans or self-aggrandizement. Instead, they needed an advocate living "in the very heart of their miseries and needs, suffering like they do, living with them, and guiding them in good faith, with the word and the deed."[79] Indigenous patients needed someone

> To penetrate the lives…of the people in the country; to come to know their miseries and look for their resolution; to collect their complaints, to make room for their righteous resentments, to bring their voice before those who due to inexperience [?], apathy, or lack of human sense, have never heard it.[80]

[77] Ibid.
[78] Ibid., 80.
[79] Ibid., 3.
[80] Ibid., 78.

Pasantes were ideally situated to play this role. During their time among indigenous populations, pasantes could acquire "data loyally registered and intensely lived," if they were willing to truly engage with their patients. Cervantes believed that the work undertaken by pasantes would be key to ushering in a real, "new orientation," the reorientation of physicians' attention toward the throb of life as it was lived by indigenous people. This would permit Medicine to live up to its aims of racial improvement. Cervantes quoted the physician Pierre Dumont de Montreux, in the original French, to support the practical, eugenic utility of emotional identification: "Since man has existed and suffered, the language of pity has been one of his best aids."[81]

***"An Ancestral Bequest"***

The Valley of Mezquital, within the central Mexican state of Hidalgo, is located about 60 kilometers North of Mexico City. The region is the ancestral home of the Hñähñu ethnic group, commonly known as the Otomí to Spanish speakers. The macroregion is a warm and arid semi-desert, with an array of valleys that converge onto a large central plain. Though the region's predominant industry from the Colonial period onward was mining, the Valley supported the agricultural fortunes of large landowners. Their haciendas were supported by extensive irrigation projects undertaken at the same time as the great Mexico City drainage projects of the Porfirian period. Small holders did what they could to grow. For them, the region's main river Tula—named for a neighboring Toltec site—supported some level of agricultural activity, but not much.

By the 1930s, the Valley of Mezquital had acquired a reputation as a notorious site of indigenous poverty and suffering. During the Cárdenas *sexenio*, in the context of a renewed

[81] Ibid.

interest in integrating indigenous populations into the national fabric, the area became a social and political hot spot. On September 25, 1936, Cárdenas travelled to the Teatro Hidalgo, located in Ixmiquilpan, to attend the First Regional Indigenous Congress. In attendance were 720 Otomí representatives, in addition to 8000 other attendees ("local, state, and federal officials, representatives of campesino and labor organizations").[82] There, Cárdenas listened for "several hours" as Otomí citizens discussed their needs. Coverage in *El Nacional* and *Excelsior* called it "'a transcendental assembly,' a sign that the Indians of the country were ready to 'cast off their lethargy.'"[83]

When pasantes arrived in Mezquital for their *servicio*, they observed firsthand the poverty and isolation of the region that had made the news in years prior. In a reflection of the eugenic dimensions of their thinking on issues of indigeneity, they argued either explicitly or implicitly that this harsh environment imprinted itself onto Otomí bodies. In Ixmiquilpan, for example, pasante Alfredo Ortiz described many of the logistics of organizing the smallpox vaccination effort—how to select optimal sites, how to raise public awareness and do public outreach, how to find local partners, etc.—but he did not neglect to comment on how environmental and patient features conditions in Ixmiquilpan complicated the effort. His structural critiques were subsumed within a racialized argument regarding the backwardness of Otomí patients, who lived in "precarious conditions … in that almost-desert region," a region "where the ignorance of its inhabitants" could "hardly be compared with the others of our indigenous races," describing the region as one in which life was lived "within a terrifying primitivism."[84]

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[82] Alexander S. Dawson, *Indian and nation in revolutionary Mexico* (Tucson: University of Arizona Press, 2004), xiii.
[83] Ibid.
[84] Ortiz, "La campana antivariolosa," 13.

Pasante Guillermo Durand also articulated how he believed the harsh geographic and social world inhabited by Otomí had led to degeneration. During the pre-Columbian period, the Valley was home to a wide array of indigenous groups who "went succeeding each other one after another, displacing the one before": Huastecs, Toltecs, Chichimecas, Otomis, and Mexicas. "In their required retreat" from the Aztec Empire, Durand continued, "the weakened Otomí" ultimately settled in the region under the rule of the Aztecs in the decades prior to the Spanish Conquest. From then on, much of the history of the Otomí was associated with oppression: the Otomí had been "subjugated…by more powerful tribes; enslaved by *encomenderos*; serving later in the fights for independence…as lambs to the slaughter; ridiculed [*escarnecida*] by the white man and exploited by him and the mestizo."[85] By this way of thinking, pasantes argued that history and environment had indelibly marked the Otomí's biological makeup as degenerate.

Pasantes provided observations to reinforce their racially-essentialist way of understanding. Fernando Madero, a pasante stationed in Actopan, a population center in the Valley of Mezquital, described a generalized Otomí physical anthropology. The cyclical history of flight, retreat, and surrender, had become "an ancestral bequest" for Otomí:

> Short of stature, narrow forehead, round faced, with abundant hair, but little facial hair, his hands and feet are small…His skin is dark and his facies is that of a physically and physiologically degenerated man by the meager and deficient diet and the excess of pulque that has coarsened this race over preceding generations. [86]

Here, Madero argued for the direct connection between the outside appearance of an individual and the overall trajectory of the Otomí "race," as they referred to the ethnic group in the mid-1930s. He argued that a culture, psychology, and spirit of subordination had imprinted upon Otomí physiognomy, that one could discern Otomí degeneration by physical exam. With their

[85] Guillermo E. Durand, "Somero studio médico-social en contribución al mejoramiento del Otomí en el Valle del Mezquital," UNAM, 1938, 14.
[86] Fernando Madero Gonzalez, "Exploración sanitaria del municipio de Actopan, estado de Hidalgo," UNAM, 1939, 29.

biology formed under these conditions of oppression, he believed that Otomí behavior would reflect it as well. In the Valley, wrote Madero, "the Otomí"—articulated as an individual who stood in for "the race"—seemed to "express with his mutism a meek conformity or a quiet accusation against the white and the creole that separate him with contempt, considering him unworthy of living with them in the soil that was solely his and belongs to him by right."[87] Following centuries of waves of outsiders aiming to subjugate Otomí, one might understand his tendency to look askance at outsiders and to use "hypocrisy and cunning like defensive weapons."[88] In the setting of such suffering and such social isolation, Otomí took to using intoxicants, which Madero alleged they used in large amounts: "it would not be an exaggeration," he wrote, "to calculate the consumption of pulque to be two liters daily per inhabitant" among the Otomí. Historically, the eastern portion of the Valley had been home to pulque haciendas, which potentially explained the centrality of alcohol to Otomí life. For Madero, this rose to the level of an inherited addiction. He observed high rates of alcoholism among his patient population: "they are children, grandchildren, great-grandchildren, etc. of ancestors equally alcoholic."[89] These conditions, as well as a "[sexual] promiscuity," contributed "to the physiological, spiritual, and economic degeneration" of the group.[90]

Across pasantes' essentializing observations about the behavior and appearance of Otomí citizens, many seemed to agree that their purportedly degenerate state was a multifactorial racial problem in a neo-Lamarckian sense, in which environment—a history of exploitation, a culture of subordination, and so-called "racial toxins"—led to physical, mental, and social degeneracy.

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[87] Ibid., 48.
[88] Ibid., 14. This should not be understood as a narrowly genetic bequest, or an epigenetic bequest, as we may understand generational trauma to function today. Rather, it was something more akin to the transmission of a psychological and spiritual attitude that sickened the body.
[89] Ibid., 30.
[90] Durand, "Valle del Mezquital," 14.

Durand pithily and powerfully summarized a running list of problems that civilizers needed to address, which demonstrated this connection:

> The physiological misery of the Otomí, his inferior economic condition, his low intellectual level, his deficient diet, the isolation in which he lives, his cultural index reduced to the lowest expression, and the influence of the natural elements: bad land quality, lack of water, etc.[91]

"The physician, the educator, and the agent of state" thus had their work cut out for them in the Valley of Mezquital. They had not merely social conditions to ameliorate, but they had historic oppression, crystalized in the body and spirit of Otomí citizens, working against them.

It is important to note that pasantes added an emotional gloss to discussions of Otomí "backwardness." At least part of Otomí suffering was related to a supposed belief that no one—not Federal officials, nor physicians, nor Mexican society broadly—cared about their welfare. This belief was a sort of germ, in a biological sense: Otomí carried in their veins a "lack of trust" of any outsider coming into the Valley, according to Durand:

> Hermetically, without knowing that they are trying to save her, [the Otomí] closes herself off to hide her misery, given that she supposes that maybe they are intending to once again abuse his weakness…in her pride from defeat, demands from the oppressor of yesterday that he leave her today in the peace of her retreat in which she nurtures the hope of restoring her strength with the goal of conquering the preponderance and the fortress that once made her owner and master of the Valley.[92]

Madero also described this "innate" distrust as the product of decades of indifference by officials. It was still going on: despite its lofty language, he dryly observed that the Revolution had "not done almost anything for the Otomí." It had only given them "bad leaders," "mestizos," who were "known to take advantage by wickedly exploiting the Indian." Evidently, even the Cosmic Race was susceptible to the human frailties of avarice and indifference to the suffering of others.[93]

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[91] Ibid., 56.
[92] Ibid., 48.
[93] Madero, "Actopan, estado de Hidalgo," 30.

How could eugenically-minded professionals penetrate this alleged veil of misery to perform their supposed duty, namely granting Otomí the culture and progress that the Revolution had promised? For Durand, the resolution would require fundamentally reimagining the relationship that physicians had with indigenous people. Like Cárcamo had contended in 1935, Durand argued that true revolutionary success would come not from "romantic purity," or from intellectual devotion to abstract, abstruse ideas about socialism, but rather by "attending to the material needs of the indigenous." When the indigenous populations "do not feel hunger, they dedicate their energies to evolve spiritually," Durand argued. "The vindication [of the Otomí race] will be soon, but it is necessary to help it, to push it such that instead of being a burden, it may be an effective collaborator of the REVOLUTION OF THE FUTURE." The "beautiful labor of the apostle" was to serve as the foundation for the "salvation of the unredeemed Indian." The physician-as-apostle evidently had to be something of a crusader, as he needed "powerful weapons to fight: LAND, WATER, and EDUCATION."[94] With eugenic though and a compassionate heart, a revolutionary physician could show "the civilized world the resurgence of a race who stupidity and egotism [had] buried in obscurantism, condemning it to its disappearance."[95] By cultivating compassion for the Otomí, pasantes would ultimately succeed in improving their racial stock along the lines favored by Cardenistas and Medicine. There was no doubt articulated that this was the best thing for their development.

It is perhaps unsurprising that pasantes argued that the UNAM and the *Facultad* were to be critical allies in the effort to bring racial health to the Valley. As pasante Emilio Bermudez had written from Tecozaulta in 1938, the "new alignments" of the UNAM meant that pasantes would "fight every day to open the path to those social environments which, since the Colonial

[94] Ibid., 48-9.
[95] Ibid., 56.

era, were at the margin of civilization, lacking all cultural and human benefit."[96] The UNAM was a Revolution made institution; "the postulates of the Revolution," were "intimately involved in the program of our University." These postulates—the value of preventative eugenics among them—"overflowed in the social services that redeem[ed]" indigenous populations. The SMS was one of these services. By placing pasantes "closer to pain," the SMS demonstrated the

> effort and tenacity of a revolutionary government…to incorporate into civilization this group of sad and suffering men who with their sweet name of Indian, wait for us, with meekness and humility, [to bring] the spring of culture so to bequeath to their descendants a more just life.[97]

The Revolutionary institutions of the DSP, the *Facultad*, and indeed, the lessons of the Revolution itself, would thus be the spiritual lodestone that would ballast the pasantes' compassion. With their hearts and minds thus tempered, students could complete "very noble work of elevating as much as possible the level of life of the Mexican conglomerate."[98]

Pasantes evidently viewed their compassion for indigenous patients as inextricable from their eugenic principles. After all, their efforts against racial toxins were animated because they cared enough about Otomí citizens to grant them dignity. "They have the right to enjoy the advantages of our century," concluded Bermúdez: "A healthier life, a greater spiritual sentiment, and the organic strengthening indispensable to be able to translate into concrete realities the exemplary phrase of that evolved Indian—'Through my race, will speak the Spirit.'" [99]

### *"Without caring about anything or anyone"*

In Becal, Campeche, pasante Eduardo Baeza García cared for members of the Maya ethnic group. He found this experience difficult for not a few reasons. The high prevalence of

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[96] Emilio Bermudez, "Informe de servicio social verificado en el municipio de Tecozautla, estado de Hidalgo," UNAM, 1938, 1. (2037)
[97] Ibid.
[98] Ibid., 2.
[99] Ibid., 3.

infectious disease made his time *en servicio* challenging enough. Many of the residents in Becal also did not understand or speak Spanish, let alone understand the risk posed by malaria in the endemic region. Baeza offered recommendations to improve the situation:

> Treatment should be made free and obligatory and I suggest the convenience of holding conferences in the Maya language to demonstrate the seriousness of the threat and to encourage the inhabitants themselves to collaborate in the great effort against malaria…the happiness that they cry out for and that should be granted them for the good of the Nation…depends, in part, on this purpose.[100]

In addition to the lack of resources, lack of medical literacy, and lack of interest on the part of sanitary authorities that were common to many pasante experiences, Baeza emphasized one additional affliction that threatened Becal. This was the "plague of curanderos and empiric midwives" that practiced in the region. Curanderismo "vegetated in the shadow of the ignorance of the community and of municipal tolerance…[the curanderos] were never bothered in their inhuman and punishable work, working without medical education or faculty for the practice of medicine, discrediting it."[101] They threatened the health and wellbeing of individual Mexicans, and in aggregate, the Mexican race. Baeza's strident condemnation of local, unlicensed healers was not merely the reflection of a peculiar or personal antipathy toward local custom and culture. Rather, it represented a vital area of sympatico between Cardenista bureaucrats and Medicine.

Though historians have only recently begun to study curanderismo in depth, they have described a dynamic process in which popular medicine and biomedicine coexisted in a contentious, yet productive equilibrium in Mexican, and indeed, in broader Latin America. Across the region, there existed "tenuous and fragile boundaries between State medicine and unofficial medical and curative practices" well into the twentieth century; this was due, in part, to the "uncertainty and inefficacy" of the "state institutions of health." In the absence of a biopowerful state, and the persistence of lay forms of healing, "social and cultural

[100] Eduardo Baeza García, "Informe medico-social de Becal, Campeche," Facultad de Medicina, UNAM, 1939, 22.
[101] Ibid., 45.

tensions…determined the doctor/patient relationship."[102] As David Sowell has argued, one of those crucial tensions was race: debates about curanderismo were intimately related to the "racialization of healing," a process that dated to the regulations of the colonial *Protomedicato* on licensed healers based on their racial identity.[103] This continued into the era of professionalization, though the explicitly racial terms were "now obscured…expressed in the coded language of 'progress' or 'modernization.'"[104] In *The Gray Zones of Medicine,* a volume edited by Diego Armus and Pablo Gómez, the mixed-race identities of folk healers operating outside of official medicine, the racialized character of disease, and racialized critiques of folk practices, are themes that suffuse every chapter—from discussion of Black creole healers in the seventeenth-century Caribbean to Zapotec healers in late-twentieth century Mexico.[105]

For our purposes, the racialized character of the fight against "backward" and "ignorant" unlicensed healers was part of the SMS project from its inception. A programmatic statement describing this effort was made explicit in the pasante handbook of 1938. The signatories made clear that Medicine and the State had interest in identifying and undermining the influence of local healers. With respect to alternative forms of medical knowledge, the handbook requested that students describe "superstitions" related to infectious diseases in the region, and the "regional names" for these diseases. As part of their data-gathering, students were expected to conduct census of legally licensed health care professionals, as well as an accounting of the

[102] Claudia Agostoni, "Ofertas médicas, curanderos, y la opinion publica: el Niño Fidencio en el México posrevolucionario," *ACHSC* 45, 1 (Jan.-Jun. 2018): 240; Palmer, *Medical Pluralism*; Cueto and Palmer, *Medicine and Public Health*; see also Hernández Berrones, "Homeopathy 'for Mexicans.'"
[103] David Sowell, "Race and Authorization of Biomedicine in Yucatan, Mexico," in *Health and Medicine in the circum-Caribbean, 1800-1968,* eds. Juanita De Barros, Steven Palmer, and David Wright (New York: Routledge, 2009), 79. The racial dynamics of colonial licensure are also described in Hernández Sáenz, *Carving a Niche,* Chapter 1.
[104] Ibid., 92.
[105] Diego Armus and Pablo Gómez, eds., *The Gray Zones of Medicine: Healers and History in Latin America* (University of Pittsburgh Press, 2021).

"number of persons who exercise medicine and related professions without official authorization."[106] During their service, the handbook warned, pasantes were "almost always" likely to encounter "the opposition of the people who have been conquered by the sympathy and the 'faith' that the curandero inspires in them." Pasantes needed to understand the critical educational function that they had in "unearthing the false beliefs with respect to the curative capacity of witches, *hechiceros* and other charlatans," showing the residents that "professional medical services…will be the only ones that could soothe the sick." Pasantes would be the ones who would have to "injure vested interests."[107] Bustamante had envisioned the pasantes to be "evangelizers of health": in addition to their role as healer of the sick, pasantes needed to play the role of apologist for biomedicine. Most were eager to oblige.

At its most basic, pasante critique of local healing took the form of a condescending reporting of the techniques favored by local healers, with concomitant pity as to the level of supposed ignorance among indigenous populations. In Juchitán, Oaxaca, Luis Álvarez Chimalpopoca had closely observed the healing techniques of Zapotec curanderos. According to Álvarez, their favored therapy was to rub down patients with herbs or *anisiado*, a mix of "mezcal prepared with anise." [108] To some extent, this therapy seemed to represent the empirical management of unpleasant conditions associated with disease: for children with measles, for example, the febrile patient would be rubbed in *anisiado* or given a cold bath, then left "in the air such that they cool down." When they began to experience diarrhea, the child was given "cheese and chips to stop it," again a reflection of a sort of humoralistic empiricism as opposed to a therapy designed to treat an underlying, though inapparent, cause. "Almost all illnesses,"

[106] AHFM, *FEMyA*, leg. 165, exp. 11, f. 8, 1938.
[107] AHFM, *FEMyA*, leg. 165, exp. 11, f. 4, 1938.
[108] Álvarez, "Juchitan, Oax.," 47.

Álvarez continued, "they blame on a fright" or some activity of the Evil Eye, reflecting a medical cosmology in Juchitán based around spirits and spirituality. In the cases of "a fright," the sick person would call on the curandera, and in particular "the old ones 'because they know more.'"[109] The curandera, "almost always a witch," would come, perform the rubdown and "hit" the patient with herbs, and then attempt to offer "what exactly it was that scared them." To heal the patient, curanderos would "begin by rubbing the neck, then continuing to all the other joints, spraying the patient with *anisiado*, and raising prayers to God." Sometimes, curanderos would use the flowers and plants used to adorn the altars of local saints in their rubdowns, or "a piece of a tallow candle that has been next to the saint." Ostensibly, this therapy was efficacious because it petitioned for divine intervention: "In this manner they cure everything," Álvarez concluded.[110]

Pasantes seized upon pregnancy and childrearing as particularly sensitive areas that underscored the indifference and cruelty of curanderos or midwives. These, evidently, had eugenic implications. In Juchitán, Álvarez observed that once a woman went into labor, a midwife was sought at market "because they also work in trade." He described how the midwife was brought to the laboring woman and just before she had "very strong pains," the mother was "squatted between two chairs": "the midwife sits in a small armchair and to accelerate the expulsion, she puts her finger in [the patient's] mouth to produce nausea or she presses strongly on the abdomen."[111] Jesús Ruiseñor, stationed in Guanacevi, Durango, observed a similar procedure performed by local midwives. As soon as a woman's water broke, "unfortunately frequently, [the midwife] tries to help [the mother], pressing frequently on the abdomen, placing all her body weight on it, or putting a tight cinch at the level of the umbilicus." Despite the

[109] Ibid., 44.
[110] Ibid., 47.
[111] Álvarez, "Juchitán, Oax.," 45.

midwife's desire to help the woman, it made labor more difficult, with "postpartum hemorrhage extremely frequent and dangerous."[112] As for the baby's health, "the care given to the newborn is almost null." In Guanacevi, the umbilical cord was tied off with a band, "without giving importance as to whether it is found dirty."[113] As for ocular prophylaxis, to prevent gonococcal or chlamydial infections of the newborn's eyes, it seemed to have been rather hit or miss: in both Juchitán and Guanacevi, midwives sometimes put drops of lemon juice in the child's eyes, "but the majority [put] nothing."[114] In Acatzingo, Puebla, pasante José Refugio observed that, to treat purulent ophthalmia in newborns, the umbilical cord was collected and put to boil, "with the resulting infusions they wash the eyes of the little one." The results, he noted, were "null, and can only serve to aggravate the illness."[115]

Sometimes, pasantes explicitly deployed xenophobic, racial, and eugenic rhetoric to heighten their moralistic punch against unlicensed healing as a threat to the Mexican nation—in both the political and racial senses of the word. Pasante Fidelio García had served in the town of Moctezuma, located in the center of the Northwestern state of Sonora. In his thesis, García was empowered by prevailing conceptions of both eugenics and professional ethics to condemn the one Asian healer in Moctezuma. "There is an old Chinese curandero," García wrote, "an ignorant, greedy individual, in clear physical and mental degeneration."[116] Due to conditions in Asia persistent during the late nineteenth century—and due in some part to the United States' passage of the Chinese Exclusion Act of 1882—Sonora was home to many immigrants of Asian descent in the early twentieth century. While many Asian-Mexicans engaged in fishing or

[112] Jesús Ruiseñor Brito, "Informe general sobre la exploración sanitaria de Guanacevi, Durango," UNAM, 1939, 51.
[113] Ibid., 52.
[114] Ibid.
[115] Jose Refugio Hernandez, "Informe general sobre la exploración sanitaria del Distrito de Acatzingo, Estado de Puebla," UNAM, 1939.
[116] Fidelio R Garcia, "Informe Sanitario de Moctezuma, Sonora," UNAM, 1939, 35.

shopkeeping or laundry, some number served their local communities by means of empiric healing during the early decades of the twentieth century. In the wake of the Crash of 1929, however, Sinophobia reached a zenith in Sonora, which some scholars attribute to economic anxiety occasioned by the Depression. Anti-Chinese propaganda of the era depicted Chinese Sonorans as contributing to the illness of Mexicans. Some of this propaganda adopted a negative eugenic perspective—namely, that miscegenation with Chinese was leading to the degeneration of good mestizo stock. Others used rhetoric borrowed from preventative eugenics: Chinese residents were accused of being vectors of "exotic" diseases of "the Orient"—like trachoma, a disease potentially leading to blindness—or spreading "racial toxins" like alcohol and drugs to good mestizos. Such was the level of Sinophobia in Sonora that the state expelled most of its Chinese residents in September 1931.[117] In this context, the efforts of any remaining Asian curanderos during the later 1930s were likely to be under particularly scrutiny. This local healer was accused by townsfolk of "committing countless aberrations, and even true crimes of common order that fall within penal sanctions." According to García, he was aware of "different cases of poisoning" that were the result of the healer's "concoctions and infusions of rare herbs prepared septically and exotically." He also related cases of pregnancy in which the healer diagnosed "'a tumor of blood' that he intended to make disappear using purgatives (?)."[118]

Despite the alleged threat posed by non-licensed healers, it was not always easy for pasantes to sideline them. In Tlacojalapan, Veracruz, Antonio Estrada sent a letter to the Municipal President requesting that he notify Estrada "if the physicians who practice medicine in

[117] See Kif Augustine Adams, "Marriage and "Mestizaje", Chinese and Mexican: Constitutional Interpretation and Resistance in Sonora, 1921—1935," *Law and History Review* 29, 2 (May 2011): 419-463 for some of the legal contours of Sinophobia in Sonora vis a vis marriage. See also Alan Knight, "Racism" for more about Mexican Sinophobia.
[118] Ibid.

this Municipality are legally licensed."[119] In response, the President identified two people in town, José Lucach and Hisauo Hatadi (N.B.: names suggestive of non-Mexican origin), who claimed to have licensure, who were called to present their credentials. Lucach had immigrated to Mexico in May 1921 from Hungary. He had been authorized to practice medicine in 1926, with a copy in 1931, by the State of Veracruz, to practice in the nearby municipality of Paraíso Novillero. Hatadi, meanwhile had arrived in Mexico in 1922, and had claimed "to have lost his license…extended by the State of Veracruz," though he had been authorized by the *Ayuntamiento* of Tlacojalapan in 1932.[120] Despite having asked the Municipal Authorities to "impede these persons from the practice of the profession of medicine while not having the necessary authorization," Estrada complained the municipal authorities had "not paid any attention to me."[121] In at the end of November, Estrada sent an entreaty to the Chief of the Section of Control of Medico-Social Practices, to solicit the Mexico City authorities to intercede on his behalf. On December 15, Dr. Jesus Duarte sent a notification over to the Municipal President, encouraging him to "grant all [his] support to the Doctor-Surgeon on *servicio social*, Antonio Estrada…with the objective of making his labor against charlatanism more effective." Duarte also sent a note of encouragement to Estrada, congratulating the pasante for his "efforts against charlatanism."

Evidently, Duarte's initial note did not do much to change the minds of the members of the *Ayuntamiento*. On January 27, Estrada sent a more pointed plea to Duarte to help resolve "existing difficulties" that persisted. The *Ayuntamiento* had not followed "any of the parts" outlined in his December message. And "not only have its precise descriptions have been

[119] Antonio Estrada Castelan, "Informe general sobre la Exploración Sanitaria en Tlacojalpan, Veracruz," UNAM, 1939, 46.
[120] Ibid., 46-7
[121] Ibid., 47.

disobeyed," Estrada complained, "but currently they are making me be political." The *Ayuntamiento* had an alliance with "one of the syndical groups, advised by the pseudo-physicians," with the goal to "compel" Estrada to leave the town."[122] Thanks to the support of the central authorities, however, Estrada was not only not expelled, but the municipal authorities ultimately complied with his demands. To "leave forever consolidated the victory," Estrada requested of Dr. Baz that he be permitted to remain in Tlacojalpan for a full year of *servicio*. Dr. Baz consented. By means of conclusion, Estrada thanked Dr. Baz for "implanting in our environment the *servicio social*," and ended with a piece of advice he had gained from Dr. Gonzalo Castañeda's *The art of making clients*: "A bad man cannot be a good doctor; his badness spoils his knowledge."[123]

Dr. Castañeda's aphorism was a particularly apt one for illustrating the way pasantes vociferously denounced local healers. In an interesting way, pasantes redeployed the critiques common within Cardenista commentaries about the emotional deficiencies of allopathic medicine as a cudgel against unlicensed competitors. They emphasized not merely the alleged ignorance and incapacity of their competitors, but rather indifference to suffering of these healers. Pasantes argued that curanderos were cruel and morally bad people who cared not for their patients' welfare and that they *truly did* care—about patients, about vulnerable people, about the Mexican race. Thus, medical students did not claim a superiority of *knowledge*, but one of *feeling*, as a means to negotiate the often-murky local hierarchy of healing.

In Sain Alto, Zacatecas, pasante Constantino Urcuyo pulled no punches when he referred to curanderos as "parasites in the rural environment; a plague that needs to be destroyed."[124] A

[122] Ibid., 49.
[123] Ibid., 62.
[124] Constantino Urcuyo Gallegos, "Informe sanitario del municipio de Sain Alto, Zacatecas," UNAM, 1939, 21.

woman in the community had been suffering from what was likely amebic dysentery and went to a curandero to seek help. "They did not need to wait long for the disastrous results": rather than administering the standard of care for infection with *entamoeba histolytica* at the time, the patient first gave some sort of drink, which caused an abortion. When that did not help the situation, the local healer instead administered an enema of soapy water, onion, and garlic. The patient died.[125] While Urcuyo had wished to submit a criminal complaint to the local judge, he "abstained in light of the fact that the Judge also belong[ed] to the association of *hechiceros*!"[126] From his perspective, the influence of curanderismo represented a real threat by virtue of its role in structuring social bonds within rural areas. He warned that when these local healing customs "become collective," they become "linked…to prejudices," such as by understanding sick people as somehow "bewitched." When these forms of knowledge circulated and became reinforced in local culture and custom, they became "nearly indestructible," free to further poison the social body. In Papantla, Veracruz, pasante Garcia Padilla disturbed his usually dispassionate reporting to offer a sharp denunciation of those in the town who facilitated the networks of ignorance and mistrust. For García Padilla, local charlatans represented an ongoing insult to reason, to the practice of medicine, and to the public welfare:

> All these individuals, rather than helping the community, they harm it, as not only do they not cure, but rather they make illnesses worse, only exploit the gullible residents and in general they spread very intense propaganda against licensed physicians, propelling all manner of falsehoods, with the goal of convincing the people to go to the doctor and to be able to continue exploiting them.[127]

Instead of viewing curanderos as part of the social milieu, García Padilla viewed them as agents of atavism or indeed, as a sort of racial toxins themselves.

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[125] Ibid.
[126] Ibid.
[127] García Padilla, "Papantla, Veracruz," 16.

In Tanguancícuaro, Michoacán, about 135 kilometers from President Cárdenas' former home in the state capital of Morelia, pasante Miguel Segura Hernandez offered an intensely personal case study that vividly depicted how pasantes described the alleged emotional rot inherent in unlicensed healing. On November 23, 1936, at about 9am, just at the end of his second month in town, Segura was called to the bedside of R.F., a 44-year-old woman complaining of abdominal pain. Segura found her in bed, in the lateral decubitus position with legs flexed on her belly, in a position of "abdominal defense."[128] When Segura took R.F.'s history, she reported that at about 4am that morning, she had experienced a "strong pain" that had come with vomiting. For this, she had visited a pharmacist, who Segura referred to as Dr. X; this man had diagnosed hepatic colic, had prescribed a few spoonfuls of a tonic that contained Laudanum and chloral hydrate, and sent the *señora* on her way. Indeed, this mix had helped to some degree: her pain, which she had described as "colic cramps" and which had at times been "intolerable," had since attenuated.[129] She denied eating anything unusual ("some chayote, apple, and a few taquitos with ground meat the day before") and denied having experienced anything similar before. Segura elicited one particularly interesting detail: she stated that "she had the desire to pass gas but could not, which augmented her abdominal discomfort."[130]

For those with medical training, the inability to pass gas, paired with abdominal pain, nausea, and persistent mucobilious vomiting, would now—as ostensibly then—have made a clinician worry principally about the prospect of a bowel obstruction. At the time, however, Segura had not thought of that. In retrospectively constructing his case report, he demonstrated to the reader that he now understood that the diagnosis ought to have been of top of his list to

[128] Manuel Segura Hernández, "Informe médico social de Tangancicuaro, Michoacán," UNAM, 1937, 12.
[129] Ibid., 13. This finding was not necessarily surprising, given the tendency of opiates like laudanum to reduce the peristalsis of the gastrointestinal tract: indeed, constipation is a frequent side effect of opiate use.
[130] Ibid., 13.

rule out. Despite what might be somewhat embarrassing to admit, he laudably conveyed his erroneous clinical thinking as it happened. "Here I confess that I began to be disoriented," Segura continued, "certainly I failed to ask something and do the physical exam." Though the presentation may have been "classic," Segura had been led astray by a few cognitive pitfalls that other students surely experienced. His diagnostic process was in "a true Gordian Knot," confused by his "insignificant experience and…little knowledge."[131] Also distorting his thinking was the unwelcome influence of Dr. X. The pharmacist had been in the town for a few years and was "evidently more competent than I…What could I do," he wrote, reflecting a frustration that partly stemmed from Dr. X's influence, and partly from his own error.[132]

At that moment, Segura returned to basics, inspired as he was by the words of Dr. Gonzálo Castañeda: "In medicine, one always has to suspect; that which is not suspected, is not looked for and that which is not looked for, is never found." He went back to elicit additional details within the patient history. His inquisitiveness paid off. Upon asking after the patient's past medical and surgical history, Segura was able to elicit a critical detail: RF had a significant "chronic" gynecologic history. She had a pelvic infection that was likely to have been gonorrhea and had undergone two abortions with hemorrhages. While after the second time, the patient had been able to stanch the bleeding using "her own vaginal mirror and vaginal pincers," the uterus had ultimately "perforated." "After 15 years of suffering," the patient consented to surgery. At the Hospital Morelos, she underwent a vaginal hysterectomy, but had not followed the post-operative management guidance and had experienced an infection. From a clinical perspective, this history was replete with building blocks to justify concern about bowel obstruction: a history of likely gonorrhea and a hysterectomy with associated complications could also have given rise

[131] Ibid., 14.
[132] Ibid.

to significant adhesions in the abdomen. These adhesions could have been foci for obstruction. R.F.'s physical exam suggested that obstruction was a likely diagnosis. The patient's face was "pained…pale and lightly sweaty…we could call the start of peritoneal facies"—peritoneal referring to the threat of incipient peritonitis, an inflammation of the abdominal membranes caused by infection, or more likely in this case, a perforated bowel caused by the pressure of a persistent obstruction. The patient had a swollen, "globulous abdomen," and marked tympanism, or a drumlike quality to percussion, suggestive of trapped intestinal gas. Upon auscultation, Segura detected borborygmi, the gurgling sounds associated with the peristalsis of the intestines, but he did not comment on the pitch of the tones: often, high pitched bowel sounds are associated with bowel obstruction, but their presence or absence do not the diagnosis make.[133]

After having righted the diagnostic ship, Segura made a more coherent plan for the family to follow. He suggested R.F. stop taking whatever concoction Dr. X had prescribed, and instead take a purgative enema, an "antispasmodic medication, absolute rest, Bayer antiperitonic serum, and a bag of ice" over the abdomen.[134] Unfortunately, the patient got worse over the course of the day. At about midnight, Segura found her with "intolerable pain," which now began to "generalize to the whole abdomen," a concerning sign for the development of peritonitis. Her vomiting also continued, which Segura found to be "turbid, and with the light odor of decomposition that seemed fecaloid." This was the tipping point, and Segura encouraged R.F.'s husband to "procure an automobile" from the few in town so that R.F. could be moved at dawn, "with the caution required by the case," to Zamora, about 17 kilometers away, where there was a clinic and surgeons who could intervene.[135]

[133] Ibid.
[134] Ibid., 16.
[135] Ibid.

Upon arrival, the patient looked significantly better. She looked so good that the surgeons there did not believe that they were treating a "serious case." Segura tried to explain, but the surgeons, seeing her current state, and perhaps responding to "the entreaties of the daughters of the patient…that they not operate," decided to observe her for the day.[136] Segura returned to Tangancícuaro "preoccupied," everything suggesting he had "overreacted." He awaited news from Zamora; on Day 2, the patient was doing better. On Day 8, however, he was notified that the patient "had vomited excrement and had begun generalized peritonitis." Upon performing the laparotomy, the patient was seen to have multiple adhesions that had "incarcerated…the small bowel in the pelvis." Due to lack of blood supply, the segments of intestine trapped in the adhesions "were so dilated that they looked like globes, ecchymotic, gangrenous that came apart at minor pressure, the gut was flooded with fecaloid liquid."[137] At that stage, R.F. "was already a cadaver": the woman died an hour into the surgery.

Segura's missive against the moral turpitude of non-licensed practitioners was made even more powerful by his own self-reflection. Segura offered to his examiners some explanation of how this woman had died. Some responsibility he claimed for himself. He felt "disheartened and dismayed" in not being able to convey "the picture that I had seen develop before my very senses" to the surgeons in the week before.[138] He regretted his status as a "rookie" and as an "initiate" and evidently felt that his inexperience had—to some degree—contributed to the woman's death. But there were also more sinister forces at work, which sealed R.F.'s fate. Unbeknownst to Segura, the head of the clinic in Zamora was a respected woman in the town, and also the owner of pharmacy where Dr. X was a pharmacist. Segura claimed that these two

[136] Ibid., 18.
[137] Ibid., 20.
[138] Ibid.

had discouraged the surgeons from operating, and that they had constructed a "crude chain of lies" that poisoned the town against him, "saying that my ignorance had turned into fear and for that reason I had brought [R.F.] to…Zamora so they would cure her of a simple thing."

R.F.'s death was not the result of the bowel obstruction. It had been "black egotism…and lies" that had killed her; the death was the product of

> odious work of individuals without any sense of responsibility, morality, respect for human life, or such indispensable knowledge like that gained from the Clinic, that open book where the means of suffering and the treatises of pathology that guide our mental investigation… I thus submit to you a concrete case of ferocious egotism and invasion upon the functions of the physician by people who live enriching themselves at the expense of human pain without caring about anything or anyone.[139]

It had been agents who lied consistently to the doctors in Zamora about R.F.'s state, and whose true state was discovered "by the irony of destiny…a visit from the doctors," who had killed R.F. Segura saw profound utility in the work of pasantes across Mexico in combating this profound social ill. He ended his account on a note of support for the SMS. He hoped that his professors, and the *Facultad* more generally, would "continue the laudable work…to continue the *servicio social* for future doctors." This would require administrators at the *Facultad* and the DSP to get support from local officials for the efforts of pasantes. If they were to accomplish that, Segura promised that pasantes would "gladly settle in any corner of the Republic.[140]

### *Conclusion*

Alberto Aguilar reflected upon his younger self, six months earlier, before he had embarked on his *servicio*. It was difficult then, "when, filled with hopes, we departed to complete our *servicio social*, to realize exactly the difficulties that we would stumble upon":

[139] Ibid., 20.
[140] Ibid., 21.

> We arrived at an unknown place, without a defined orientation, the ignorance of the *pueblo* and the indolence of the authorities, put the first barrier...while they don't harass us, their glacial indifference brings us down [*nos resta bríos*] and forces us to search for other routes to start our labors. [141]

Students' encounter with indigenous peoples, with unhygienic conditions, with local health practices, were influenced by wider social, political, and clinical currents. Eugenics and racial thought were some of them. As seen by pasante experiences in the Valley of Mezquital, the isthmus of Tehuantepec, and elsewhere, racial and eugenic thought among pasantes was not merely an intellectual endeavor, nor did it solely involve increasing the perceptual distance between pasantes and their indigenous patients. By caring about indigenous and rural people, pasantes believed they could better discharge their professional duties *en servicio*, enabling them to grant health and "enlightenment" to "ignorant" rural populations and to work against allegedly cruel, indifferent curanderos. Indeed, by making recourse to feelings of care and compassion consonant with Cardenismo's "new orientation" for physicians, pasantes were empowered to deploy racist and eugenic ideas about indigenous people with the goal of improving them, and by extension, Mexico's race. That is, by building upon a deep structure that welded eugenic and racial thought and emotional identification, pasantes gave form to a politics of post-Revolutionary health for Mexicans that was at once intimate and indifferent, compassionate and cruel.

[141] Alberto Aguilar Hernandez, "El problema paludico en la zona de Jojutla, Morelos," UNAM, 1937, 7.

## CHAPTER FIVE:
## Working for a better, bigger, healthier Mexico

As a senior medical student, Roberto Morelos Zaragoza felt that he had special insight into the experience of the nation's industrial laborers. "I have felt their suffering," he wrote, "I have lived their happiness." [1] As an informed advocate, he concluded that now the time was ripe for the advancement of the interests of workers:

> The new valuation of the existence of workers—in relation to the industries, the transport firms, and wherever the human machine engages its joints, uses its muscles, and lubricates the mechanisms of steel with its blood—has transformed ideas, engendering more humane feelings imposed on our socioeconomic complexes, such that workers can labor without distressing limitations and under state protection...initiating thus the dawn of a life that means more for he who works and increases his importance within the practice of modern production.[2]

Morelos argued that under the "new orientation," doctors now had to play a "fundamental role for the good of workers."[3] Indeed, it seemed that at the *Facultad* and at the DSP, professors and officials agreed, as topics of industrial and occupational medicine were integrated into the *Facultad's* curriculum and efforts were undertaken to connect with the nation's laborers. The SMS was but another learning opportunity for pasantes to learn how, as Bustamante had put it, all facets of Mexican health and hygiene had elements of "the rural," including the vulnerable denizen of urban centers, the worker.

For their *servicio*, some pasantes were placed in mining camps, in work camps associated with the *Comisión Nacional de Irrigación* (CNI), in glass and iron plants in Monterrey, or in oil refineries on the Gulf. As in other settings, arriving pasantes found themselves confronting a complex sociopolitical situation. They were evidently aware—either by virtue of their *servicio*,

[1] Roberto Morelos Zaragoza, "Lineamientos Generales para la Creación de un Instituto de Traumatología y Enfermedades Profesionales," UNAM, 11.
[2] Ibid., 9.
[3] Ibid., 11.

or by the prevailing politics of the Cardenista era—of the delicate and disputed balance between labor and capital across the nation's industries and of the Cardenista priorities for economic modernization. If we are to understand the SMS, a study of the various encounters between medical students and workers is informative. In this chapter, I describe how pasantes lubricated the hard edges of Mexico's labor politics by their emotional navigation, as they envisioned novel roles for compassionate physicians to play in Mexico's workplaces during Cardenismo.

### *The Law of Labor*

President Cárdenas was avowedly pro-labor. He defended this stance as central to the broader goal of the improvement of the Mexican people, and consequently, the nation. "The aspiration of the Revolution," wrote Cárdenas, was that "every man in every village shall find work, so that human life may be pleasanter, less miserable and nobler," that it should "allow the individual to cultivate his physical and intellectual faculties and therefore to achieve full realization of his own personality."[4] Cárdenas' Secretary of Labor, Genaro Vasquez, described the Cardenista agenda as fundamentally "an essentially constructive program of government… as a protector of the working masses."[5] As noted in the introduction, Cardenismo was not interested in advancing social justice for outgroups as necessarily an end in and of itself. As a set of policies, Cardenismo was devoted to an agenda of economic modernization based upon racial improvement (understood in Latin American eugenic terms) and the centralization and rationalization of key sectors. The mass politics of labor under Cárdenas made economic sense: labor organization under the auspices of State would be undertaken "with the goal of improved

[4] Joe Ashby, "Labor and the Theory of the Mexican Revolution under Lázaro Cárdenas," *The Americas* 20, 2 (Oct., 1963), 160.
[5] Citied in Ibid, 164.

salaries and living conditions," both prerequisites for an "increase in national consumption and an expansion of the internal market."[6] These priorities were inextricably linked, as it was thought that the best way to create modern Mexicans (i.e. those who could produce surplus for sale on the open market) would be by means of education and the granting of new forms of labor-sparing technology. Though Cardenismo leaned heavily on rural *agraristas* and *ejidatarios*, industry would also be necessary for the nation to modernize on its own terms.

Within the historiography on the Cárdenas years, the interactions between labor, capital, and the State have been productively mined. Orthodox accounts celebrated Cárdenas' advancement of a universal, national union, the *Confederación de Trabajadores de México* (CTM), as a concrete success in making real the promise of the Mexican Revolution for workers, granting laborers the chance for real self-governance as they became independent from conservative company unions. Revisionists, meanwhile, have seen the CTM as a vehicle for cooptation of workers, replacing a coercive system of corporate welfare with a no-less coercive system of State corporatism. More recent work has shown that post-Revolutionary governments needed to adopt "innovative strategies both to mediate labor participation in national affairs and to regulate the social relations of production," showing that labor politics in the post-Revolutionary period was the product of negotiation by workers, management, and the State.[7] Paternalism had limited efficacy: workers were neither the passive pawns of State nor of Industry, as they triangulated between these two sets of priorities and their own interests.[8]

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[6] Begoña Hernández y Lazo, "La administracion obrera del gremio ferrocarrilero" in *Lázaro Cárdenas,* 194.
[7] Kevin J. Middlebrook, *The Paradox of Revolution: Labor, the State, and Authoritarianism in Mexico* (Baltimore: Johns Hopkins Press, 1995), 2.
[8] Relatively recent works on labor include Michael Snodgrass, *Deference and Defiance in Monterrey: Workers, Paternalism, and Revolution in Mexico, 1890–1950* (New York: Cambridge University Press, 2003) and John Lear, *Workers, Neighbors, and Citizens: The Revolution in Mexico City* (Lincoln: University of Nebraska Press, 2001). Tannenbaum, *Peace by Revolution* and Marjorie R. Clark, *Organized Labor in Mexico* (Chapel Hill, N. C. University of North Carolina Press, 1934) and to some degree Joe C. Ashby, *Organized Labor and the Mexican Revolution under Lázaro Cárdenas* (Chapel Hill: University of North Carolina Press, 1967), offer more traditional

There seems to have been one more flavor of paternalism that workers negotiated daily: the medical. As in domains of rural health, the post-Revolutionary State was able to develop a comprehensive legal and institutional apparatus to guarantee workers' health by the late 1920s, part of a global recognition of the benefits, both social and economic, of occupational medicine. In 1929, Article 73, section X and Article 123 of the 1917 Constitution were amended to create a uniform national standard for labor issues, to resolve ongoing conflicts between workers and industry. This constitutional amendment empowered Congress to draft the 1931 *Ley Federal del Trabajo* (LFT). Based upon state statutes that Yucatán and Veracruz had passed in the mid-1920s, the LFT "regulated practically all the principal aspects of labor law."[9] Included was the extensive regulation of the system of occupational medicine and disability benefits. Congress explicitly defined the concept of "professional risks," "work accidents," and "occupational illnesses." It also established a list of conditionally-occupational illnesses, and the industries for which those illnesses would be considered work-related. For example, syphilis was considered listed as a work-related illness only for doctors, nurses, glassblowers (approved as a "primitive accident, buccal chancre"), and anatomy theater technicians ("on the hands.").[10] The LFT also set a schedule defining the range of appropriate disability settlements for any given condition: a permanent and total disability would guarantee a worker 918 days of salary, the loss of an arm at the shoulder would be paid 65% to 80% of that sum, the loss of a breast between 10% and 20%, and "mental derangement as the result of an accident and when it appeared with six months,

perspectives. Arturo Anguiano, *El estado y la política obrera del cardenismo* (Mexico City: Ediciones Era, 1975) and Aziz Nassif, Alberto. *El estado mexicano y la CTM* (Mexico City: Ediciones de la Casa Chata, 1989) capture a revisionist point of view, in addition to treatments offered in histories of Cardenismo offered in the Introduction.

[9] Porfirio Marquet Guerrero, "Fuentes y antecedents del derecho mexicano del trabajo," in *Derechos humanos en el trabajo y la seguridad social. Liber Amicorum: en homenaje al doctor Jorge Carpizo, ed.* Patricia Kurczyn Villalobos (Mexico: Instituto de Investigaciones Juridicas, 2014), 264.

[10] Ley Federal de Trabajo, *Diario Oficial de la Federación*, 28 August, 1931.

counted from the date of professional risk" 100%.[11] In 1934, a new Sanitary Code established maximum work days and minimum vacation days, in addition to outlining the prevention of occupational illnesses, defined in the same manner as the LFT.[12]

The Cárdenas Administration consolidated this existing institutional apparatus, consistent with its political, economic, and social agenda. Cárdenas' Undersecretary of State, Ramón Beteta, argued that economic modernization and industrialization should proceed "consciously, intelligently, avoiding the avoidable evils of industrialism, such as urbanism, exploitation of man by man, production for sale instead of production for satisfaction of human needs, economic insecurity, waste, shabby goods, and the mechanization of workmen."[13] In this way, the Cardenista State articulated its dual, linked motivations in protecting the health of workers: one, as guardians of the well-being of workers as human beings, and two, as guardians of the State's productive capacity. It availed itself of the legal structures of the LFT to support its effort. The DSP was the main organ that performed this work, by means of both the Section of Industrial Hygiene and the sub-offices responsible for administering certain National health campaigns—against malaria, alcoholism, syphilis, and tuberculosis, for instance—whose conditions had been deemed by Congress to be of "public interest," granting the Federal government the authority to demand industry cooperation.[14] In 1936, the Regulation on Industrial Hygiene was passed, which would permit the DSP to monitor conditions more carefully in industrial settings. Beyond mandating certain health rights of workers—access to water, bathrooms, adequate ventilation, medical care, etc.—as well as mandating the organization of joint management/worker hygiene

[11] Ibid.
[12] Anagricel Camacho Bueno, "'El trabajo mata': Los mineros-metalúrgicos y sus enfermedades en el Primer Congreso Nacional de Higiene y Medicina del Trabajo, México, 1937," *Trashumante: Revista Americana de Historia Social* 7 (2016): 160.
[13] Ibid., 164.
[14] Carillo, "Salud Pubica," 166.

councils at workplaces, the regulation required owners planning to construct new facilities to get sign-off by the DSP to verify the conditions would be sufficiently sanitary for workers. Over the next several months, however, the *Confederación de Cámaras Industriales* lobbied against the Regulation, and by mid-1937, it was repealed, leaving the DSP with weakened authority to protect the health needs of workers. In January 1938, President Cárdenas responded by creating an Office of Industrial Hygiene within the DSP, responsible for performing inspections of industrial settings to ensure compliance with the operative Sanitary Code and the LFT.[15]

Pasantes arrived in industrial settings precisely at this time of conflict surrounding the DSP's sanitary oversight of work setting. They were thus both witness and party to the process of negotiation between labor and capital on the issue. In studying pasante experiences with workers, we thus stand to gain novel insight into how issues of health reinforced broader political and social realities of the world of work, extending previous historiography of labor during Cardenismo.[16] As in other domains, while the Department surely had its preferred agenda for pasantes vis a vis workers—divinable from the pasante handbook and the political context—it did not mean that pasantes conformed to those expectations. The emotional navigation that pasantes evinced in theses—at times with full-throated defenses of vulnerable workers; at others, with more measured prescriptions that recognized the economic interests of industry—reveals how students navigated the complexities associated with the nexus between labor and capital in

[15] Ibid., 167.
[16] Enrique Rajchenberg, "El tributo al progreso: los costos del tránsito al mundo fabril. Los obreros de Orizaba a principios del siglo XX", *Journal of Iberian and Latin American Research* 4.1 (1998): 17-36; Enrique Rajchenberg, "De la desgracia al accidente de trabajo. Caridad e indemnización en el México revolucionario" *Estudios de Historia Moderna y Contemporánea de México* 15 (1992): 85-113; Enrique Rajchenberg, "México en la Revolución: la lucha del proletariado por el reconocimiento de las enfermedades profesionales" *Salud Problema* 20 (1990): 9-15; Enrique Rajchenberg, "La respuesta social al trabajo: indemnización a las actividades laborales en México, 1910-1920", Secuencia 7 (1987): 24-47; Camacho Bueno, "'El trabajo mata'"; Andrés Ríos Molina, "'Dictating the Suitable Way of Life': Mental Hygiene for Children and Workers in Socialist Mexico, 1934-1940," *Journal of the History of the Behavioral Sciences* 49.2 (2013): 1-25.

the Cárdenas years: by justifying the expansion of Medicine into the world of work as a compassionate, paternalistic mediator of nationalist modernization and capitalism.

***"A right and professional norm is violated"***

In 1936, pasante Guillermo Zarrabal first arrived at San Francisco de Oro, Chihuahua for his *servicio*. The surrounding topography was not particularly lush or welcoming. Zarrabal described the area as "Pinteresque, thanks to its broken topography." The pasante noted that the local population mirrored some of the raggedness of the terrain: not warm, he described the residents of San Francisco as "capricious." Many of them worked every day at the mining complex "not to live, but merely to exist."[17] Conditions underground perhaps explained residents' dismay. Zarrabal, and another pasante in the area, Juan Cárdenas, performed an inspection of a mine called "Frisco" to chronicle exactly how insalubrious the mining complex was. The students descended to a depth of about 450 meters. The tunnels were hot and the air was "rarefied and [filled] with a large amount of inert particles in suspension and gases."[18] Ventilation was "deficient" due to the absence of any air vents or extractors. To make matters worse, miners had "practically no" protection against these insalubrious conditions. There was no potable water in the mine, leaving workers to drink whatever contaminated water they could find. Miners too had to undergo rapid temperature and pressure shifts because of the lack of protocols to ensure miners underwent a gradual readjustment to conditions at the surface. It did not require extensive knowledge to conclude that conditions in the mine were harsh.

[17] Guillermo Zarrabal Aguilera, "Informe General Sobre la Exploración Sanitaria de San Francisco del Oro, Chih. Y Algunas Consideraciones sobre las Bronquitis Crónicas de los Mineros," *UNAM*, 1937, 22. See also Juan Cardenas, "Informe General Sobre la Exploración Sanitaria de San Francisco del Oro, Chih. Y Breves Consideraciones Sobre Tuberculosis Profesional de los Mineros, *UNAM,* 1937.
[18] Ibid., 28.

Some 95% of residents of San Francisco were subjected to these conditions on a frequent—if not daily—basis. Perhaps unsurprisingly, Zarrabal observed a "powerfully notable" commonality in "the frequency…of the conditions" of sick people in the community. Most common were respiratory conditions, and most common of all was silicosis. Frequently, interstitial lung diseases like silicosis are the result of sustained environmental or occupational exposure to certain fine particles (silica, asbestos, coal dust, beryllium, etc.). In the short-term, silica-related inflammation hampers the ability of the lungs to eliminate excess mucus, explaining the high prevalence of respiratory infections among miners. After years of working in a mine, the normal anatomy and physiology of the lung becomes perturbed as silica dust causes free radical damage that precipitates inflammation, and thus scarring. Affected miners, for instance, usually have low lung capacity, causing dyspnea and hypoxia. In addition, patients with silicosis are vulnerable to infection with tuberculosis, as silica dust hampers the ability of immune cells to fend off infection.

Silicosis was a medico-legal issue of critical importance across an array of industries. The terrain that pasantes encountered in the late 1930s was not, however, virgin: miners and unions had been concerned with silicosis for several years already. In April 1934, representatives of 27 miners' organizations met in Pachuca, Hidalgo. These representatives were there on behalf of 12,256 miners working in at least ten states. Together, this group negotiated the formation of a new broader union, known as the *Sindicato Industrial de Trabajadores Mineros Metalúrgicos y Similares de la República Mexicana* (SITMMSRM). The new group had special interest in "sustaining and bettering the rights and benefits established in the Federal Labor Law." In addition to guaranteeing for miners' economic wellness, SITMMSRM was also concerned with guaranteeing health rights for these workers. During the Cárdenas years, the

union was behind "various fights for the health of its affiliates." The reason for this was that mining companies, and in particular, company physicians, dragged their feet in complying with the terms of settlement and disability set forth in the LFT.[19]

Pasantes were eager to lend their support to advocacy efforts on the behalf of workers in this ongoing effort. From their observations in San Francisco, Zarrabal and Cárdenas believed that company doctors were technically "competent"— possessing the intellectual and material resources necessary to care for workers—but that they were still providing "deficient care." They argued that the recommendations that company doctors offered were not principally oriented toward curation, nor to the prevention of disease progression. Rather, they treated miners "symptomatically," with the goal of returning miners to work as quickly as possible, often despite the protestations of the worker "expressing that he cannot [return] underground."[20] For patients who were too sick to return to the mine, and who were seeking some remuneration from the company for their disability, Zarrabal observed that company doctors would often understate their level of functional disability, "tipping the balance in favor of the company's interests, without thinking of extorting a human scrap who already gave his life to serve the firm."[21] The problem was not one of medical knowledge, but rather one of social and emotional commitment: this care was "amoral," and thus, inadequate to the task at hand.[22]

It was incumbent upon young physicians of the "new orientation" to remedy the situation. After having worked at the American Smelting and Refining Company (ASARCO), in Aquiles

[19] Camacho, "'El trabajo mata,'" 154. Others have written on silicosis in other contexts: for example, Angela Vergara, "The Recognition of Silicosis: Labor Unions and Physicians in the Chilean Copper Industry, 1930s-1960s," *Bulletin of History of Medicine* 79.4 (2005): 723-748; David Rosner y Gerald Markowitz, "Consumption, Silicosis, and the Social, Construction of Industrial Disease," *The Yale Journal of Biology and Medicine* 64 (1991): 481-498; Óscar Gallo y Jorge Márquez Valderrama, "La enfermedad oculta: una historia de las enfermedades profesionales en Colombia, el caso de la silicosis (1910-1950)," *Historia Crítica* 45 (2011): 114-143.
[20] Zarrabal, "San Francisco del Oro, Chih.," 29
[21] Ibid.
[22] Ibid.

Serdán, Chihuahua, pasante Alfonso Álvarez Bravo observed that the problem of silicosis in Mexico was of "great importance." As Mexico had been blessed to have one of its "greatest riches" be mining, the nation had many of its workers descend into the ground day in and day out to support this large, extractive industry. Despite this need, Álvarez argued that "unfortunately," the legal guidance and regulation surrounding the diagnosis of silicosis and concomitant determination of disability eligibility were "almost null." There was still "disagreement among Mexican physicians as to the medicolegal value that should be given to the different means of exploration that can be applied in these patients."[23] For Álvarez, "the correct resolution" of these problems were of "great significance to guarantee the rights of the parties" involved in mining. It was the hope that his work could serve as the "principal basis to deal with [these cases] justly."[24] Developing a more just paradigm for determining liability would "translate into a greater harmony between Capital and Labor."[25]

One practical knot to resolve concerned the interpretation of radiographs. While histopathological findings could definitively demonstrate silicosis, the ability to gather samples of lung tissue from miners was rather limited. Determining the company's disability payments for sick-but-living miners demanded an alternative means of diagnosis. The next best modality available was a chest x-ray. Pasante Matias Ramirez Calvillo, who had served in Contra Estaca, Sinaloa in 1938, described the complexities of radiographic interpretation. He wanted to help combat "enemy number one for the miner"—silicosis—and viewed his description of the associated radiological findings as a "noble" endeavor to the Society to which he felt "a

[23]Alfonso Álvarez Bravo, "Contribución al estudio medico-legal de la silicosis," UNAM, 1937, 5.
[24] Ibid.
[25] Ibid.

debtor."[26] To begin with a reference case, Ramirez offered a chest x-ray of a healthy 18-year-old man. As could be appreciated, the bright areas on the image—the less dense parts of the body, containing air—were the lung areas. They looked full and tall, from the apices in the neck, down to the diaphragm and without any discolored areas suggesting nodules or scarring. The silhouette of the heart appeared of normal size, and vasculature around the hilum—the root of the lung, where the pulmonary arteries entered each lung—appeared normal and without inflammation or congestion.

In an x-ray of a diseased individual, however, pathological changes were noticeable. Instead of clear, bright open-air spaces—as seen in the normal control—this person had several dark areas suggestive of nodules and scarring toward the apical region. The hilar region, also unlike the control, was congested and nodular as well, suggestive of an inflammatory response—as lymph nodes are found in the hilum—or of silicated nodules there. In terms of the cardiac silhouette, it perhaps appeared slightly more globular, particularly on the right side of the heart. This could be suggestive of yet another sequela of silicosis: *cor pulmonale* caused by persistent pulmonary hypertension.[27]

While the interpretation of radiographs is often seen to be "objective"—after all, images of the body are based in material reality—in fact, the core of the medicolegal issues related to silicosis were fundamentally borne of the subjectivity inherent in reading the images. Pasante Cárdenas noted that according to the LFT, tuberculosis was a professional illness, "always and when there has existed a prior case of silicosis."[28] The problem was that the physicians working

[26] Matias Ramirez Calvillo, "Breves consideraciones sobre silicosis e informe de servicio social en el mineral de Contra Estaca, Sinaloa," UNAM, 1937.
[27] As the normal air-transmitting architecture of the lung becomes obliterated by fibrosis, so too does the vasculature. As it becomes more difficult for blood to transit through pulmonary capillaries, blood pressure in the lungs increases—known as pulmonary hypertension. The right side of the heart, not evolved to pump against higher pressures, grows to compensate. This can be a harbinger of right heart failure, decompensation, and death.
[28] Cardenas, "San Francisco del Oro, Chih," 35.

for mining companies, when reading patient radiographs, often argued that visible lesions were "common tuberculosis," largely unrelated to the "sclerotic processes provoked by inhaled silica." By calling it common tuberculosis, rather than silico-tuberculosis, the company thus avoided liability. They were able to do this due to a pathophysiological fact: at an advanced stage of tuberculosis—where there may have been an array of infectious lesions in the upper lung fields—it would be more difficult to distinguish between tuberculous lesions and sclerotic lesions caused by silica inhalation. As such, making determinations about level of disability demanded that a reader interpret a broader clinical history, a step that evidently company doctors—per Zarrabal and Cárdenas—evidently did not do. Rather, the company doctor—based on his loyalty to *his employer*—offered a stilted interpretation of supposedly "objective" radiological findings, to the company's benefit. "A right and a professional moral norm is violated," wrote Cárdenas, every time company doctors gave their patients a percent of disability "much smaller than what, in reality, is appropriate."[29] Doctors inadequate emotional identification with the plight of workers added insult to injury.

To illustrate this emotional failure more vividly, Cárdenas included about a dozen case studies. One patient, G.R.P., a 38-year-old male had worked as a machinist for a decade. After five years on the job, the patient noticed chest pains, dyspnea, and a cough, which was initially dry, but progressed to a cough productive of mucus. These symptoms were stable for about three years, until they got worse: the patient noticed weight loss, loss of appetite, and the expectorations from his coughing began to have a purulent appearance streaked with blood. At that time, the patient requested an examination from the company doctor and a financial settlement for his condition. Unsurprisingly, the patient was diagnosed with tuberculosis, but the

[29] Ibid.

company doctor deemed his level of incapacity to be 10%, a reflection that the company deemed the patient's condition to be minorly related to his decade of labor in the mine. Cárdenas and his co-pasantes performed an assessment and determined that the patient's case had merited 100%.[30]

Consequently, Cárdenas attempted to find a mode of assessment that would foreclose the ability of company doctors to put their thumbs on the scale in favor of the employer. For this, Cárdenas decided to establish a natural history of silica disease. When miners fell ill—whether with pneumonia or with tuberculosis—they fell ill in a recognizable manner. In general, workers would first present with an acute bronchitis, then another, which would then become a recurrent complaint. After enough of these episodes, the bronchitis would become chronic—a consistent cough, dry or productive of some mucus. This was the harbinger of "the first grade of pulmonary sclerosis." "The picture is completed," Cárdenas continued, "with the appearance of dyspnea and thoracic pains."[31] At that point, complications would develop, including "superimposed conditions," tuberculosis being one of them, associated with anorexia, night sweats, and the classic finding of hemoptysis. By trying to establish a definitive natural history of the disease, beginning with silica exposure, through worsening interstitial disease (with visible sclerotic lesions visible on x-ray), and often culminating in tuberculosis, Cárdenas was advocating for a system that guaranteed that miners would have their level of disability marked commensurate with the actual responsibility of their employment.

At least one pasante was interested in pushing the status quo a little further. In his 1937 thesis, Mario Santillan Villaseñor asked "Should acute bronchopneumonia be considered a professional illness?" Santillan's project was inspired by "the pain of our working class," in particular, "the necessity…to search for one more relief for the needs of our worker and in

[30] Ibid., 37.
[31] Ibid., 34.

particular, our miner."[32] At that point, "acute attacks of bronchopneumonia" were not considered to be professional illnesses. But Santillan justified the inclusion of bronchopneumonia as a professional illness by reference to the poor conditions that miners encountered, particularly, the rapid temperature shifts that workers had to endure when exiting the mine. After their eight-hour shift, workers had to depart the mine and head to a locker room, subjecting them to a "a brusque cooling," which Santillan considered to be "a predisposing factor for the development of an illness of…pulmonary character." "Debilitated, by excess work or by the defects that have affected them in the mine," Santillan argued that the worker's body was rendered particularly vulnerable to pneumonia-causing organisms.[33]

While pneumonia may sound less serious than a case of silico-tuberculosis, one of Santillan's patients, I.A., a 40-year-old miner, showed just how grave a "simple" pneumonia could be. One day, the patient experienced a "chill" leaving the mine. Three days later, he began to experience "intense chills" and "profound sweating, severe flank pain, localized in the back side of the left hemithorax, followed by frequent, spasmodic cough accompanied by bloody mucosal expectoration and headache."[34] The patient was also complaining of shortness of breath and little urine production. As for the patient's past medical history, he also had many cases of bronchitis, perhaps unsurprising, given his years of work in the mine. On initial examination, the patient's temperature was elevated to 39˚C. His heart rate was 120 beats per minute—making him tachycardic—and his respiratory rate was 50 breaths per minute—markedly tachypneic above the 14 breaths per minute commonly taken as average. Concerned with pulmonary pathology, Santillan performed a comprehensive lung exam. On inspection, he

[32] Mario Santillan Villaseñor, "Debe considerarse el broncopneumonia una enfermedad professional?," UNAM, 1937, 11.
[33] Ibid., 45.
[34] Ibid., 29.

found that amplexation—an assessment of the capacity of the expansion of the chest wall with respiration—was diminished on the left side. On percussion, he found that referred vocal vibrations were reduced at the bases of both lungs. On auscultation, the pasante found a "vesicular murmur" on the left; the sound of inspiration was "loud, almost blowing."

Santillan's exam findings were suggestive of diminished air flow to the lower left segment of lung. These, paired with the patient history, pointed to a lung infection. The pasante diagnosed I.A. with acute bronchopneumonia, due to either influenza or a cold, with a guarded prognosis. From the patient's vitals, it seemed he may have already been septic. He was treated with "general antiseptics and balneotherapy." This did not improve the patient's condition. Santillan attempted treatment with anti-bronchopneumonia vaccines and respiratory antiseptics, as well as cardiopulmonary analeptics. But these were ultimately unable to address the magnitude of the infection, and I.A. died twelve days later.[35]

While some of his explanations may have been off-base—namely, his assertion that rapid temperature fluctuations led to pneumonia—Santillan still made a legitimate point about the risk posed by mining. Frequent exposure to silica can hamper the response of immune cells of the respiratory tract. It would thus not be any great leap to suggest that a miner may be more likely to contract pneumonia than someone not subject to the unhealthy environment of the mine every day. Evidently, however, good *medical* sense was insufficient to change the behavior of company physicians, whose clinical judgement had been perturbed by perverse incentives. As a result, Santillan's advocacy was meant to change hearts, more than change minds. His impetus for writing was the "little regard held for our working classes, as well as the lack of prevention for [medical] accidents." Physicians were systematically "making victims of our working class,

[35] Ibid., 31.

ignorant and ill or not prepared for the dangers to which they were exposed."[36] Workers needed an advocate to defend their interests against egotistical and greedy employers *and* company doctors. Students were happy to oblige.

***"The ideal of economic redemption"***

On March 18, 1938, President Lázaro Cárdenas informed the Mexican people that he would be taking the unprecedented step of nationalizing Mexico's oil industry. The move, while exceptional, represented the culmination of several decades of ongoing conflict between oil companies and the Mexican State. With the inclusion of Article 27 in the Constitution of 1917, the Mexican people claimed "ownership of the lands and waters within the boundaries of the national territory," and correlatively, the nation claimed "the right to impose on private property such limitations as the public interest may demand, as well as the right to regulate the utilization of natural resources that are susceptible of appropriation, in order to conserve them and to ensure a more equitable distribution of public wealth." Between 1917 and 1938, the Federal government did not bear the legal teeth established by Article 27, even as Presidents periodically saber-rattled internationally on issues of oil. In March 1938, however, President Cárdenas finally availed himself of this right in response to a years-long labor dispute between the oil companies and the oil workers union (STPRM). While initially the favored approach had been arbitration to avoid economic disruption, the oil companies were intransigent in the face of both a Federal commission report and the Supreme Court, feeling confident that Cárdenas wouldn't nationalize the industry. Rather than lose face, Cárdenas called their bluff. [37]

[36] Ibid.
[37] Knight, "The Rise and Fall of Cardenismo," 281-2.

In his radio address, part of Cárdenas' justification for the expropriation was the rapaciousness of oil companies, their "economic privileges" won on the backs of "miserably underpaid native labor."[38] These companies made a great deal of wealth. But what were the "social contributions of the companies" to the Mexican people? Nothing. "In how many of the villages bordering on the oil fields," President Cárdenas inquired, "is there a hospital, or school or social center, or a sanitary water supply, or an athletic field, or even an electric plant fed by the millions of cubic meters of natural gas allowed to go to waste?"[39] The disparities were glaring. The companies took care of foreign workers, but gave nothing to local workers. It was an unjust system of

> comfort for the foreign personnel; misery, drabness, and insalubrity for the Mexicans. Refrigeration and protection against tropical insects for the former; indifference and neglect, medical service and supplies always grudgingly provided, for the latter; lower wages and harder, more exhausting labor for our people.[40]

The fact that health figured into a national radio address marking the momentous occasion reveals the extent to which Cárdenas believed the health and wellness of Mexican labor was an important political issue when it came to the oil industry.

While 1938 was the high point of Cardenista radicalism, it was clear that the DSP's interest in monitoring the health situation of workers within the oil industry had existed for several years prior to the President's proclamation. Since the inception of the SMS, pasantes had been placed at oil refineries for their *servicio*. There, they discharged their duties, namely, ensuring that the communities of oil workers and the refinery departments themselves were safe and healthy. In 1936, Gonzalo Reyna departed from the *Facultad* for his assignment at El

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[38] "Document #7: "Speech to the Nation," Lázaro Cárdenas (1938)," *Modern Latin America, Brown University Library* https://library.brown.edu/create/modernlatinamerica/chapters/chapter-3-mexico/primary-documents-with-accompanying-discussion-questions/document-7-nationalization-of-oil-lazaro-cardenas-1938. Accessed Feb 10, 2022.
[39] Ibid.
[40] Ibid.

Aguila Refinery in Tampico, Tamaulipas.[41] He began his time at the El Aguila Refinery observing every step of the process by which sulfuric acid was produced. The workers who brought the raw sulfur to the plant were without mask or glasses. This was clearly not an ideal situation, as it was "logical to suppose" that in the transport process, some large amount of "extremely irritating dust" would be kicked up: he had observed that workers in close contact to the sulfur would within a minute, "begin to sneeze," accompanied by "a persistent and constant tearing."[42] The Company had provided masks and eye protection to workers, but they were masks "similar to those used during the World War" and "due to their size," they were awkward for the workers to use. Workers simply tolerated "a chronic conjunctivitis."[43] Workers also received gloves, which were made of suede on the palmar surface and canvas on the other side. This was somewhat unhelpful, given that "the acid exercises its corrosive action…over these materials." As for the workers' clothes, it was "common" wear, and "current among our workers, which does not serve to protect."[44] The collecting tanks for the sulfuric acid were located on the highest level of the plants, posing a risk of spilling acid onto workers on the floor below. This was made even more concerning as these tanks were "found without lids" and

[41] Gonzalo Reyna, "Refineria de petroleo 'El Aguila,'" UNAM, 1937, 12. See Jonathan C. Brown, *Oil and Revolution in Mexico* (Berkeley: University of California Press, 1993), 146. The Compañía Mexicana de Petroleo "El Aguila," S.A. was formed in 1909 by British engineer Weetman Pearson, known as Lord Cowdray. Prior to 1909, Pearson had acquired a variety of oil holdings under the auspices of his civil engineering company, S. Pearson and Sons, Ltd., which had undertaken some works projects at the behest of the Porfirian government. This company had acquired some oil wells in the first few years of the century around the Isthmus of Tehuantepec, with success starting in 1908. As the oil segment of the business was spun off into El Aguila, it enjoyed support from ruling clique. The board of El Aguila was filled with several prominent Porfirian elites, which provided the corporation useful political connections to facilitate the establishment of new national contracts. El Aguila was a major player in the Mexican petroleum industry: by 1918, El Aguila was producing 16.9 billion barrels. But the fact that its operations were wholly centered in the Southern oil fields around Tampico and Veracruz somewhat limited its output. Despite this, its Tampico refinery, finished in 1914, was considered "the greatest of all Mexican refineries." Even as the Revolution disrupted oil production and made it difficult to import machinery, the Tampico refinery remained the crown jewel of El Aguila.

[42] Ibid.

[43] Ibid., 14.

[44] Ibid., 16.

lacked "any indication that noted the danger posed by the contents…of a liquid with corrosive properties."[45]

From these open tanks, tubes conveyed sulfuric acid to a group of agitators, where the acid was mixed with crude oil, lead oxide, and hydrated cal for the purification of raw oil into more refined petroleum products. Workers tasked with agitator oversight were responsible for taking samples from the agitator to monitor the process of purification. Often, workers performed the task "without any protection at all." This sometimes had severe consequences for their health and wellbeing, as Reyna illustrated by a richly-described case study. Patient R.G. was a 45-year-old male employee of El Aguila who had been admitted to the Company Hospital for convulsions and cyanosis. At 2am on January 13, R.G. was brought to the hospital by coworkers "in a state of excitation with irregular convulsions," who had found him shortly before, unconscious by his coworkers on the floor. Such was the level of the patient's convulsions that for fear of him falling out of bed, he was tied to it. The attending physician that morning gave him a dose of morphine, then a few hours later at 8am, one dose of Vitacampher, a cardiac tonic. At 10am, due to persistent motor excitation, he received another dose of morphine. At around 3pm, he was phlebotomized of about 80mL of blood, and received 1500 mL in fluids. That morning, the patient's temperature was 38.5˚C, which disappeared by that afternoon. Upon physical exam, the patient's neurological findings were unsurprisingly concerning. The patient was persistently unconsciousness throughout the day. His reflexes were absent, and his pupils were dilated. Two acid burns were found on the patient's body—one of 5cm in diameter in his left axilla; the other of 10cm located on the right buttock.[46]

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[45] Ibid., 15.

[46] See Glenn Jones, "Illuminating Gas Poisoning," *American Journal of the Medical Sciences* 137 (1909): 89-95 for a sense of treatment of gas exposure. For a more contemporary commentary, see Tee L. Guidotti, "Hydrogen Sulfide: Advances in Understanding Human Toxicity," *International Journal of Toxicology* 29, 6 (2010): 569-581.

The patient's convulsions gradually spaced out and had abated by 9pm that evening, and a few hours later, the patient regained consciousness, though with "very marked dysarthria."[47] When that had improved, the patient was able to give his history. He recalled that at 11pm on January 12, he had gone to collect a sample in Agitator number 8. He opened its lid, and then lost consciousness. Upon further questioning, R.G. told Reyna that he had sometimes felt nauseous when opening the lids of the agitators, and that at least four times, when opening the lids, he had noted "a sweet taste" in his mouth. In his three years in the job, however, he had never lost consciousness. Over the next few weeks, R.G. recovered "his intellectual faculties and voluntary movements little by little"; by February, "he was almost recovered."[48]

The following year, pasante J. Cedillo spent his *servicio* about 225 kilometers to the South at another one of El Aguila's sites, at Poza Rica, Veracruz. The Company's massive petroleum output "marked the rhythm of civilization and progress," which Cedillo sardonically defined as the roar of "ships and destroyers, planes and factories in charge of so many fratricidal wars of this twentieth century."[49] Evidently, there was some level of ill-will toward El Aguila. Some of this was related to the Company's foreign ownership and its exploitation of Mexico's resources, a legacy of "great legends and crimes and tricks to take possession of those lands." Veracruz and its citizens had "paid with its blood and its misfortunes." The other part of Cedillo's pique stemmed from immediate professional concerns: the indifference of the Company toward its workers' health. Like Reyna, Cedillo observed that the Company was not eager to supply basic minimum protection for workers. Unsurprisingly for a community located on Mexico's Gulf, Poza Rica had a very high burden of malarial disease. As seen above, malaria

[47] Reyna, "Refineria de petroleo," 19; 17.
[48] Ibid., 20.
[49] J. Cedillo, "Prueba escrita sobre la exploración sanitaria del campo petrolero de Poza Rica, Ver.," UNAM, 1938, 16.

prophylaxis was a labor- and resource-intensive endeavor; in the case of Poza Rica, Cedillo estimated that 10,000 pesos yearly would be required for these projects.[50] The problem was that Poza Rica did not enjoy the technical and administrative benefits necessary to pay for these projects. Poza Rica did not have near its site an office associated with a DSP/Veracruz coordinated *Unidad Sanitaria*. It lacked public health officials and physicians and monetary support. According to Cedillo, the Chief of Coordinated Sanitary Services of Veracruz had "aimed to enter into an agreement with El Aguila." For whatever reason—Cedillo did not specify—the arrangement had never come to fruition. Perhaps this was because the cost for constructing a new office for the Sanitary Services would amount to 40,000 pesos, with annual maintenance fees totaling over 100,000 pesos.[51] Though obligated by Article 193 to provision for local public health, El Aguila, in its incarnation as a British concern, would never have to follow through: shortly after Cedillo's service, the holdings of El Aguila became part of PEMEX. While Poza Rica had a dark past, Cedillo saw a bright future ahead, supported by "the gallant and patriotic attitude of the Government that…feels the impulse of generous blood of the Mexicans who will put this long-suffering country in the tier of Sovereignty and Freedom that it deserves, among the friendly concert of all the *Pueblos* of the Earth."[52]

The disdain and distrust that pasantes held for the oil companies was evidently also shared by workers. This, in turn, created its own set of health problems that pasantes had to address. For example, pasantes in various industrial contexts commented on the high prevalence of sexually transmitted infections among workers. At Poza Rica, Cedillo described a "vicious circle that was very difficult to break": oil workers infected a "large group of prostitutes who

[50] Ibid., 59.
[51] Ibid., 60.
[52] Ibid., 17.

came to the region always pursuing oil camps," and so on. This smoldering problem was ignored by El Aguila. Perhaps El Aguila figured it was unnecessary to intervene upon because it was not obligated to cover STI treatment, based on the stipulations of the LFT. Nonetheless, it was a subject that concerned *workers*, and considering that the employers were foreign entities, the reporting and treatment of STIs came to be colored by an additional veneer of distrust.

One pasante, Jose Luis Pier Caceres, observed how this distrust exacerbated the problem. Pier was stationed at El Ebano, San Luis Potosí, at one of the refineries belonging to El Aguila's bigger competitor, La Huasteca, an American concern.[53] At El Ebano, Company physicians offered treatment for sexually transmitted infections "outside of regular service hours"—given that the STIs were not an occupational illness—but the doctors were required to fill out documentation of the visit, which "stayed registered and archived at the hospital."[54] Per Pier, it was a common phenomenon for employees to arrive at the Company clinic, "alleging" that their complaint of "joint and muscle rheumatisms" were the result of chills received during work hours. The implication was that in fact, these were the symptoms of STIs, which the workers wanted treatment for. Erring on the side of suspicion, Company doctors would—not

[53] See Brown, *Oil and Revolution in Mexico*. While El Aguila is often discussed as the paradigmatic foreign oil interest in Mexico, it is worth pointing out that the British concern was in fact only the second largest in the country. The largest, which had interests in both the Northern and Southern oil fields of the Gulf Coast, was the Huasteca Petroleum Company, established by Edward Doheny. In 1900, Doheny arrived in Mexico. Doheny, a tycoon of sorts, had had a sort of turbulent go of things since his first successful mining enterprise in Los Angeles. Trying his luck in Mexico, Doheny traveled to San Luis Potosi where he bought a 28,000-acre hacienda called "Tulillo"—located about 55 kilometers from the port of Tampico, Tamaulipas—for $32,500. On May 14, 1901, Doheny dug "the first oil well in the Mexican Republic." This site, known as "El Ebano," in the state of San Luis Potosí, was a rather modest success, yielding only 50 barrels a day. Not to be discouraged, Doheny parlayed this small yield into a successful paving enterprise, forming a contract with the *Ayuntamiento* of Mexico City to pave its streets. In a few years, Doheny was able to sign contracts in other Mexican cities—Guadalajara, Morelia, Tampico, for example—for paving. In the meantime, he expanded his oil portfolio, building a refinery at El Ebano and continuing exploration for further sites of asphalt ooze. Doheny held the Northern properties in the name of the Mexican Petroleum Company; the Southern in the name of La Huasteca.

[54] Jose Luis Pier Caceres, "Informe sanitario sobre el campo petrolero 'El Ebano,'" *UNAM*, 1938, 25.

unreasonably—argue that these complaints were symptoms of a sexually transmitted infection, meaning that the employee would have to pay the fees and have a record placed on their file.

It was little wonder that the employees did not seek care for STIs at the Company Hospital. There existed a "prejudice…among the majority of workers" that contended that La Huasteca tried to "harm them in every way possible."[55] They thus went elsewhere for treatment. This was a risky proposition, however. "By not understanding the gravity or consequences" of STIs—potential infertility in chronic chlamydial and gonorrheal infections; neurological, cardiovascular, and soft tissue sequelae in late-stage syphilis; to say nothing of the risk of transmission to sexual partners and vertical transmission to children—employees "auto-instituted treatment based on home remedies or medicines based on the advice of their coworkers." These were either ineffective in curing infection, or caused their own deleterious effects. For those who wanted treatment by a licensed individual, workers typically waited until a free Saturday or Sunday, when they could go to the Port of Tampico to see a doctor for treatment there, provided they had the time and the money. "In realizing the difficulty presented to the workers in receiving due attention to these illnesses," Pier established a care structure outside the oversight of La Huasteca. In the train station of El Ebano, about a kilometer and a half from the Plant, Pier established a little office specifically for the treatment of STIs for employees and their family members. During his *servicio* in El Ebano, he treated 238 cases of gonorrhea and 32 cases of primary syphilis.[56] Notwithstanding the Labor Code's guidance on STIs, Pier believed free treatment of workers' sexual infections was an issue worthy of his time and engagement.

While both pasantes and workers expressed their displeasure with foreign oil companies, it is important to note that health conditions themselves did not necessarily distinguish foreign

[55] Ibid.
[56] Ibid., 26.

firms from Mexican one. Workers regularly worked in dangerous conditions in Mexican companies. Pasantes also—somewhat grudgingly—had to concede that oil workers often lived relatively contented, healthy lives. Pasante Pier, stationed at El Ebano, described the relative comfort of those working at La Huasteca.[57] Some of this had to do with pay and the relative economic stability and benefits granted to technicians in the oil industry. Many lived in comfortable, company-sponsored lodgings, and were able to attend an on-site casino. Statistically, too, the oil companies showed their relative safety. At oil terminal of Mata Redonda, Veracruz, another important holding of La Huasteca, pasante Jose Szymanski Rojas observed that the company contributed "very little contingent for the statistics of professional risks, as can be seen in the archive of the Company hospital." Wages and amenities were good at Mata Redonda, and those favorable "social and economic conditions" permitted workers to have "a more bearable life," one in which they could "to pursue their aspirations and desires."[58]

Faced with some level of cognitive dissonance, pasantes paired their reluctant acknowledgment of good conditions at oil plants with a condemnation of conditions, both economic and environmental, *outside* the walls of the oil plants. Any comparison of the "lifestyle, sanitary, social, and economic conditions" of the oil workers of Mata Redonda with the lives of others in the Republic, wrote Szymanski, would have to acknowledge the wide gulf between them.[59] Szymanski thus kept a critical edge to his report on life in Mata Redonda, turning the oil workers' comfort into a cudgel against La Huasteca. This was a way to understand the realities of health and hygiene in a manner that would permit pasantes to not get crossways with the orthodox position articulated by President Cárdenas—namely, that oil

[57] Ibid., 39-42.
[58] José E. Szymanski, "Breve estudio sanitario de la terminal de Mata Redonda, Ver. Pertenciente a la Huasteca Petroleum Company," *UNAM*, 1938, 72.
[59] Ibid.

companies were leeches and hurt the health and wellness of Mexicans. Concretely, the sanitary conditions of communities near the Mata Redonda were "quite defective." Ejidatarios working the land near the plant had lives that were "quite sad," the "chaos of their existence" giving them many opportunities "to reflect upon the reality of their misery":

> All yearning, all impetus to place themselves in a situation that improves their genre of life, all illusion that temporarily alleviates the moral abatement of these people, soon they turn into a painful cry of their misery that as a pitiful echo is heard in every home.[60]

Szymanski noted the existence of "bad smells" in town, which came from the volatile chemicals being processed at the refinery. "Generally, at dawn, when there are very few air currents," the odor would blanket the town. This was not merely an inconvenience but was actually deleterious to the health of the community. These gases were pungent and irritating, leading townspeople to cough. Sometimes, they led to the deaths of chickens in town. It was not for nothing that townsfolk referred to these gasses as "Wicked Winds."[61] "Perhaps," Szymanski supposed, these gases had been the reason for the "various cases of asthma" in and around the community. The oil industry was not fundamentally interested in anyone who was not a shareholder and any benefits to oil workers came at the expense of more vulnerable Mexicans.

Pasantes were thus crystal clear about their ideological and emotional commitments to the vulnerable above all. For example, at Poza Rica, Cedillo described how El Aguila had sent "blonde legions of Eagles and Ravens, with their thugs and geologists in search of the coveted liquid." Oil thus signified foreign exploitation: light-skinned people commandeering the "the black gold that Nature…placed in Mexico."[62] So too with La Huasteca: in his thesis, Pier recounted the history of El Ebano, drawing a marked contrast between the American magnates and the local Mexicans they encountered. The tar pits the Americans found at El Ebano there

[60] Ibid., 72.
[61] Ibid., 61.
[62] Cedillo, "Poza Rica"

delighted them, in the hopes that they were the surface-level indicator of a deeper oil deposits. But these tar pits had been "viewed with horror by the natives," as in their experience, anyone who had gotten close "had died irremissibly." They could not understand how "two Americans…would buy from them that which for them constituted a danger."[63] "It was in this manner that a new oil firm came to be installed in the country," wrote Szymanski, after his own history of the firm, "which, from its foundation until the epoch of greatest flowering, gave rise in its jurisdiction to millions of people, Mexican and foreign, who came in search of fortune."[64]

Many individuals found fortune in the employ of the oil corporations. The promise of broader economic progress, however, turned out to be fool's gold. That "concert of work, which made its melodies heard in all the world," concealed a dissonant core, as Mexico had witnessed "the petty and disgusting struggles in pursuit of bastard and low ends":

> Sublime concepts, noble ends, the purest aspirations, sprung up and were formulated on the lips of perverse and corrupted men, which, while enunciating generous ideas, mocked, deep down, the naivety of their listeners and calculated the advantages that their hypocrisy would have to report. Men who in the depth of their soul professed rational and just doctrines, did not hesitate to promote injustice and delay the triumph of good for a selfish motive. Caution and pretense became acts of perversion in the practice of that life…All this bad faith, as a rule of conduct in human relations, came to degenerate in multiple murders committed villainously in the poor indigenous families, simply for having been the owners of lands that aroused greed and ambition. [65]

The industry had corrupted and destroyed the lives of Mexicans, because their very code of ethics had been perverted by the promise of money. Indifference reigned; "Morality and justice," Szymanski wrote, were "preached by immoral and unjust men."[66]

Szymanski's discussion about compassion did not only apply to foreign oil companies, however: it was also directed to Mexicans who had benefitted from oil. "Class struggles sustained by the workers at the service of foreign companies" had permitted Mexican oil workers

[63] Pier, "El Ebano," 10.
[64] Szymanski, "Mata Redonda," 11.
[65] Ibid.
[66] Ibid.

to find comfort, "welfare, and improvement."[67] This, however, contributed to a moral—and emotional—hazard. "The diversity of characters, the passions, diverse interests, etc." in Mexican labor, Szymanski continued, had created a complex situation in which "many noble and human aims collapse." He hoped that the social renovation in progress would permit workers to

> construct with firm determination and character the sanctuary of their emancipation; that they do not puff up with the conquests, that they do not stray from the route that we all wish for their economic redemption. They should be saturated with a sense of conscious responsibility and inject into their hearts a hearty dose of patriotism, so that the step undertaken by our Government may not be transient.[68]

The "new orientation" of Medicine's emotional regime was thus the first step in a national process of emotional renovation. Szymanski expressed optimism that when the oil industry was reconstituted, under the auspices of a national corporation, owned by Mexicans, for Mexicans, the people would see reflected in it the "the patriotic and honored men that…sacrificed their lives for the good of our *Patria*," physicians—and pasantes—surely among them.[69]

By vociferously describing their opposition to oil in medical terms, pasantes linked issues of workers' health at foreign oil companies to broader issues of economic opportunity and justice. The same language bandied about by officials at the *Facultad*, regarding the lack of moral rectitude and social commitment among physicians was deployed by pasantes to justify their involvement in industrial affairs. As Szymanski wrote, it was "of enormous necessity to provide our cooperation, mainly medical" to Mexico's vulnerable, and thus, it was "incumbent…upon the industrial physician, under the title of social prevention" to support "measures directed to protect the worker in the broadest way possible."[70] "To give moral and material relief to them is to redeem them from their own bondage," he wrote: "why then do we

[67] Ibid., 72.
[68] Ibid.
[69] Ibid., 11.
[70] Ibid.

not reach out to lift them up and rid them of their overwhelmed oppression and guide them on the path of progress?"[71] Demonstrating that the oil industry was morally bankrupt, pasantes' demonstrable compassionate feelings for workers made them ideal individuals to fill that void.

***"A form of security"***

In 1910, at the end of the Porfiriato, the City of Monterrey in the Northern State of Nuevo León had emerged as "Mexico's Chicago." Its influence as the nation's signature industrial center—dotted by smokestacks and crisscrossed by railroad lines—was indisputable, after several decades of Don Porfirio's careful cultivation toward economic modernization. Various governmental incentives had permitted Monterrey to develop both manufacturing and heavy industry, in addition to an extensive transportation network, which made the city the lynchpin in an international market system that linked Mexico's industries with United States markets to the North, and transatlantic markets via the port of Tampico.

While Monterrey was the apple of the eye of the Porfirians, it became a thorn in the side of Cardenistas some thirty years later. Heavy industry, which once enjoyed a virtual *carte blanche* from the Porfirian government, had also experienced a "new orientation" in the years following the Revolution. As in other domains, there were continuities to be sure: the post-Revolutionary regime was not opposed to occasional violent crackdowns on union activity that had been common during the Porfiriato. Broadly speaking, however, the terms of economic modernization changed in the wake of the Revolution. The paradigm successfully employed by Monterrey's industrial elites during the Porfiriato—namely, welfare capitalism and company unionization—did not work as effectively as it once had. This was accentuated during

[71] Ibid., 73.

Cardenismo, a period in which the State was perhaps most avowedly pro-labor and pro-socialization, and in which industry perhaps feared full socialization more than it had before.

The heightening of labor tensions in the early part of the Cárdenas sexenio boiled into open conflict in Monterrey in late 1935-early 1936 as "radical" unionists mobilized against industrialists. In response to a strike at Vidriera Monterrey—the product of a militant union's victory—so-called "independent" unions and their industrialist patrons organized an opposition march. The march, planned for Mexico's Constitution Day on February 5, 1936, brought out about 50,000 residents of the city, decrying the influence of Communists (and Cardenismo, for many) and extoling the virtues of the Mexican nation. Two days later, to address this flash-point, President Cárdenas made a trip to Monterrey. In typical low-key style, he arrived unannounced via rail to Monterrey's central station and grabbed a cab, asking the driver to take him to where the strike was going on, spending some time walking around the city's modest neighborhoods, meeting with workers. Eventually, Cárdenas made his way to meet with industrialists. Concerned by Communist infiltration, they opposed the organization of the CTM, which they saw as a wedge to undermine the comity between workers organized in company unions and management. Cárdenas stood strong on the necessity to organize workers, even as he denied connection to Communism, and pledged his continuing commitment to supporting independent unionization. The President spent a few more days in Monterrey: the first day was marked by another march, this one of over 25,000 workers and labor allies, which Cárdenas supported with a speech denouncing company unions. The second day, Cárdenas gave a speech later referred to as the "Fourteen Points," which outlined his views of the role of government in labor. Of note was this line: "The businessmen who have wearied of the social struggle can hand

their industries over to the workers or the government."[72] One may recognize a threat similar to the one of "full socialization" that had rattled the physicians in the *Academia*.[73]

This was the political environment that pasantes encountered when they arrived in Monterrey's company clinics just a few months later. While most of the conflict centered around economic issues, health was understood as an important component of worker welfare as well. Company unions had prided themselves on the health and wellness benefits they had offered (even if workers were more likely to see curanderos): the Cuauhtémoc Brewery's company society advertised the services of their "honorable and competent doctors" to workers.[74] At the American Smelting and Refinery Company (ASARCO), "radical" unionizing efforts homed in on the dangerous conditions at the plant, leading one worker to argue that due to their economic vulnerabilities, workers needed to "sacrifice [their] health at the altars of labor."[75] The LFT, management/worker hygiene boards, disability settlements, and the question of what sort of health care services were provided to workers and when, were all issues of import to both labor and capital and—we might add—to the Cardenista State. Pasantes were thrust into the thick of it: virtually everything they were responsible for overseeing intimately touched upon issues related to the conflict. There was no choice but to navigate these waters carefully, and construct a solution that was workable on the shop floor.

Pasante Luis Hinojosa Berrones performed his *servicio* at a particularly heated location: the Vidriera Monterrey, S.A., the factory that had precipitated unrest just a year before. The plant, a glass manufactory located on the North side of Monterrey, was a subsidiary of Cuauhtémoc Cervecería, the nation's most prosperous beer producer. Ostensibly in pursuit of a

[72] Snodgrass, *Deference and Defiance,* 218.
[73] Ibid., 213-18.
[74] Ibid., 72; 159; 85.
[75] Ibid., 152.

strategy of vertical integration, around 1909, the Garza Sada family acquired exclusive rights to automated bottle-making technology and opened a glass manufactory. This subsidiary, the Vidriera, while instrumental in cementing Cuauhtémoc's market power in beer, became an important holding for the Garza Sadas in its own right. Throughout the 1920s, the Vidriera diversified its output away from bottle production, as it developed further glass product lines such as crystal and plate glass, and eventually china and ceramics.[76] By 1935, the company had 1600 employees across an array of departments.[77]

Hinojosa observed an array of occupational hazards in many of them. Hinojosa distilled hazards into four broad categories: dust, humidity, carbon monoxide, and heat.[78] First, various sands and salts such as silica, sodium and calcium carbonate, and dolomite were brought from both the United States and other areas of Mexico to the Vidriera via railcar. Upon arrival, the sand was washed, then dried, and grains of larger size would then be ground to an appropriate fineness. Hinojosa observed that silica dust had the capacity to irritate both skin and mucous membranes upon first exposure. Long-term exposure had the potential to lead to interstitial lung disease (silicosis) and superimposed tuberculosis. Humidity above 8%, as existed in the washing room, had potential to give rise to "colds" and rheumatisms. Carbon monoxide (CO), meanwhile, was a concern in the Foundry, where sands would be heated in gas furnaces to 2400 and 2700˚F, as the incomplete combustion of impurities in the sands could produce CO as an undesired product. Sustained exposure to CO meant binding of CO to hemoglobin in red blood cells, eventually leading to hypoxia, altered mental status, coma, and eventually, death. High

[76] Ibid., 16. The company exists to this day, known as Vitro. No longer a mere subsidiary of a brewery eager to pursue vertical integration, Vitro is one of the world's largest producers of glass products.
[77] Ibid., 191.
[78] Luis Hinojosa Berrones, "Mechanismo de Producción, Agentes Patógenos y Accidentes de Trabajo en la Vidriera Monterrey, S.A.," *UNAM*, 1938.

ambient heat in the Foundry could give rise to burns of both the skin—the pasante noted localized erythema around the face—and especially the eyes, where heat and "luminous rays" of the ovens was posited to give rise to conjunctivitis, blepharitis, xerosis, premature arcus senilus, and cataracts. There were many ambient threats to health at the Vidriera; quality personal protective gear and good ventilation would go a long way to protecting workers from them.

In addition to these environmental threats, however, there was a more looming threat: work accidents. Hinojosa defined work accidents in a manner as he learned from his professor of Hygiene at the *Facultad*: "Dr. A. Pruneda says: 'they are alterations in heath that the worker suffers by a cause that occurs suddenly. This distinguishes them from professional ailments in which the action of the cause is continuous and for a long time.'" Suddenness was a key feature, but Hinojosa was willing to grant a wide array of possible effects from work accidents: "medicosurgical lesions, psychic perturbations, functional perturbations, or death."[79] As for the causes of work accidents, Hinojosa suggested that they depended upon both work conditions ("machines insufficiently protected," "the speed of production," "number of work hours," "ventilation," etc.) and the worker himself ("Negligence or ignorance," "the intention to produce an accident for financial gain," "the alcoholic state in which an individual presents to work").[80] The latter, also referred to as "human factors," Hinojosa also described relative to demographic details about workers. Certainly, work experience (or lack thereof) would be a potential concern. So too would things like gender—"women by their constitution are more liable than men for accidents by reason of their sex"—and age—youth came with "inexperience, restlessness, and

[79] Ibid., 25.
[80] Ibid., 26.

rebelliousness against all discipline," while older age came with a dimming of the sensory organs and "a diminution of physical resistance."[81]

Hinojosa had good empirical reason for devoting several pages to work accidents. According to data at the Vidriera, in a four-month period between October 1937 and January 1938, the factory had a total of 996 incidents. This was seemingly an eyebrow-raising number, considering that a total of about 800 workers regularly employed there. As Hinojosa pointed out, however, most of these were relatively minor ("injury in the upper extremity" and "contusion in the lower extremity" were the modal complaints) and only about a sixth of all incidents resulted in employees having to be off work (42 of 281 in October, for instance).[82] Even so, the situation was perhaps not so rosy as Hinojosa—or the data—suggested: "burns of 1st and 2nd degree of the upper extremity," which accounted for between 5-10% of the total accidents each month, typically left "vicious scars: deformed, contractile, or with a strong tendency to make keloids." Though injuries were non-disabling, that did not mean that they were not serious.

Workers should, according to Hinojosa, have confidence that "the safety of his person and his coworkers comes before his work." Companies were obligated to care for workers if they were injured and take seriously safety efforts around the workplace. Hinojosa projected confidence that the Vidriera would do right by its workers. As part of the broader effort for prevention, the Vidriera, he wrote, was interested in giving "medical attention to its workers, not only for those harmed in accidents and those suffering from professional ailments, but to patients of any sort, with the exception of venereal disease." The company also offered its employees regular physical exams, to keep abreast of their employees' health, in addition to an intake physical exam upon hiring to assess a workers' health prior to any sort of occupational

[81] Ibid.
[82] Ibid., 27.

exposures. Hinojosa contended that physical exams—in particular, the intake exam—were "a form of security, as much as for the worker as for the company." This was not because he understood workers' rights to a safe environment as a good in and of itself. Rather, he understood workers' rights as inherently and inextricably linked to the issue of productivity. The company would surely not depend upon "the same efficacy and performance from a healthy worker as a sick one."[83] Industrial accidents were thus doubly costly:

> it must be said that work accidents translate into enormous losses for the industry in direct relation to the increase or decrease in their frequency, as they elevate the cost of production and what's more, they introduce suffering to the worker that sometimes leaves him incapacitated for work; and if there exists a settlement, this cannot at all make up for the lost health of the worker.[84]

As such, when the company guaranteed for the needs of its injured employees, the owner also had the knowledge that the security of the worker would translate "into efficiency," motivating the firm to "keep work accidents to a minimum." Guaranteeing worker health was not only the humane thing to do, but the profitable thing.

Fellow pasante Aradio Lozano also considered the Vidriera's great "concern and attention…for the health of its workers" to be a "praiseworthy trait."[85] This made it an exemplar in issues of industrial hygiene, which Lozano argued "should be imitated by all the other industries in the country." It was important, he continued, to keep in mind that it was "better to prevent than cure," because even though workers were guaranteed some sort of remuneration for their injuries and disability, "neither a settlement, nor free medical attention" would be "sufficient to compensate the worker" in the case of a grievous injury or death caused by work in one of Mexico's factories. Real care—by companies, and by extension, by physicians—meant an earnest investment in industrial hygiene. This was not only the ethical thing to do, as the

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[83] Ibid.
[84] Ibid., 32.
[85] Aradio Lozano Rocha, "Proceso de Elaboración, Fuentes de Peligro, Patología e Higiene, en la Industria Vidriera en Monterrey, N.L.," *UNAM*, 1937, 48.

pasantes regularly emphasized that the wellness of workers was paramount, but it was also the profitable thing to do. "All the effort toward accident prevention will be greatly repaid in the future," Lozano wrote, as preventing accidents and illnesses meant reducing absenteeism, "diminishing the capital for settlements and paid sick days," as well as reducing payouts for medical expenses and medicine. Beyond avoiding lost labor, Lozano argued that routine medical care would enhance labor output, by "increasing the quantity and perhaps the quality of production and thus utility.[86]

Across Monterrey, recognizable by its tall smokestack, sat the Fundidora Iron and Steel Works, where pasante Luis Garza Treviño performed his *servicio* as part of the Foundry's medical service division. The Fundidora was established in 1901, Latin America's first integrated iron/steel mill. The years of Revolution and concomitant inconsistent steel demand hampered the company's growth until the mid-1930s, when the Fundidora finally found stable, profitable growth that it would enjoy for decades.[87] As for its labor relations in the 1920s and early 1930s, the Fundidora was intent on treating its employees as part of the "Great Steel Family," giving them opportunity to live in the well-appointed Colonia Acero at the foot of the smokestack. As "family members," workers had access to a company school; a recreation center that had a billiards hall, a barber shop, and a library. Workers also had access to an interest-free loan program; while workers and administrators alike used the program, "the most common loan request cited the need to cover medical expenses, a testimony to the dangers of steel work and the limits to the company's medical services" throughout the 1920s.[88] In a sort of paternalistic mode of preventative care, the Fundidora pushed company athletics to inspire a "wholesome

[86] Ibid., 48.
[87] Snodgrass, *Deference and Defiance,* 17.
[88] Ibid., 90.

lifestyle" and "increase labor efficiency," by means of offering alternative diversion to the allure of the city's cantinas and brothels—sites awash with "racial toxins." The Fundidora formalized its form of welfare capitalism in 1928, with the organization of a workers' cooperative. The "cultural practices" associated with the Great Steel Family "enhanced the bonds established through the daily rigors of steel production." It was "in the furnaces and workshops," however, "where paternalism met its limits": by the early 1930s, 60% of all employees at the company experienced some injury requiring medical attention each year. [89] The Fundidora responded by rolling out a Campaign Against Accidents, "promoting it as the first of its kind in Mexico, even as poor hygiene and safety conditions persisted at the level of the workshop floor. In the face of this threat, and of the inadequacies of the Fundidora's provisions for disability settlement, workers coped by sharing their wages with injured colleagues, a heavy dose of "black humor," and a patriotic sense that fallen comrades had "died for the homeland."[90]

When Garza arrived a few years later—after the passage of the LFT, and after the limits of the Fundidora's welfare capitalism had been tested by radical unions—he observed firsthand just how dangerous it was to work there. Like the glass industry, the plant was a perilous place for workers: raw iron was heated in the "high oven"—a structure of over 25 meters tall—then sent for steepening, lamination, and foundry work. The ovens had potential to expose workers to burns from high heat and toxic fumes, particularly upon emptying the molten metal. In general, workers greatly needed superior personal protective commitment across all departments: thick canvas gloves and metal covers for work boots for the workers unloading iron from the railcars would have been of "indubitable practical utility"; goggles for those observing the ovens to

[89] Ibid., 100.
[90] Ibid., 101-2.

protect from ocular damage from heat and infrared rays; aprons and leggings for those present as molten metal was released from the ovens.[91]

Despite the dangers lurking around every corner of the Foundry, Garza mostly approved of the work that the company was doing to keep its employees safe. The Foundry had "been concerned with the safety of its workers," all 3000 of them. The Foundry offered medical services to its workers in a well-appointed Infirmary, which was "equipped with all modern advances: sterilizers, autoclaves, x-rays...consultation rooms for occupational and non-occupational illnesses, a treatment room, and an operating room" for urgent procedures.[92] The company also organized "a committee of safety" made up of eight people, four of whom were workers, to address outstanding issues of health and hygiene at the Foundry "with the object of avoiding work accidents." Finally, understanding the importance of propaganda in spreading hygienic knowledge, the Foundry had also painted, in the most prominent areas of the plant "instructive murals with advice to avoid accidents," likely a product of the Campaign Against Accidents rolled out a few years earlier.[93] One mural painted on an exterior wall informed workers that "The invalid is nullified in the fight for life," encouraging them to take care of themselves. The text was written against the backdrop of a series of smokestacks set against either a rising or setting sun. It was perhaps an inadvertent depiction of the ambiguities of industrial labor: key to a new dawn for the nation, a portent of the decline of the health and wellbeing of workers in the name of industrial modernity. Perhaps there were elements of both.

Garza discovered that it was not always so easy to thread the needle of industrial hygiene, worker's rights, and economic productivity when the issues played out *in vivo*. While at the

[91] Luis Garza Treviño, "Fuentes de Peligro Patologia e Higene en la Industria del Fierro y del Acero," *UNAM*, 1937, 29.
[92] Ibid., 30.
[93] Ibid.

Foundry, Garza had observed that there was one department—Lamination—where hygienic reform posed a particular challenge. In Lamination, workers placed ingots into ovens to heat them until they were red-hot. At that point, one worker would take the ingot and place it into a rod mill, consisting of a series of rollers that would transform the hot metal into the desired caliber, be it to produce a rod or a wire. Garza stated that his description of work in Lamination was inadequate to the task of conveying just how dangerous conditions were in the Department: "heavy work, excessive heat, and the constant risk of burns" surrounded workers at every shift.

Garza was at a loss for any sort of easy fix to make work in Lamination any safer. "Any sort of personal protective equipment would be ineffective," Garza noted dryly; "red-hot rods do not respect leggings, aprons, nor any other mode of protection."[94] There really was no way to make Lamination any safer by changing conditions there. The work was simply what it was. In this setting, Garza could only argue that the "substitution of manual labor for special machines," or automation, as was done in the United States, was the only path forward. Indeed, during Garza's time at the Foundry, the company had undertaken a modification in the rod mills in Lamination "that cause[d] so many accidents." While the innovation helped Lamination workers "avoid the constant danger" they were exposed to, it also meant that seventeen workers were put out of work. "Unfortunately," Garza continued, "these sorts of reforms are not easy to bring to fruition." "The inconvenience of all modifications of this nature" were two-fold. First, and perhaps most obviously, automation was expensive. This was due to the cost of buying and adapting new machinery to the industrial workflow. Automation was made even more expensive in the wake of the 1931 Labor Law. Garza quoted Chapter XIII, Article 128:

> When by the installation of machinery, or of new work procedures, the Firm has the need to reduce its personnel, it may terminate the work contract, with the remaining workers, paying them as

[94] Ibid., 29.

> compensation the quantity stipulated in their respective contracts, and in the absence of an agreement, the equivalent of three months' salary. [95]

It never came to this at the Foundry. In the wake of the automation, the remaining workers held a general strike, in "a show of protest" and solidarity. This was the second reason that automation was a difficult reform to undertake: opposition by workers, even if it meant that workers were spared from perilous work conditions by that automation. The strike continued until the Foundry relented and rehired the laid-off workers. Garza concluded his description of the affair with a rather sheepish statement. It was possible that, in the wake of the labor disruption, that "the Firm had little remaining desire to do similar innovations, given that when they do, it is in large part with an economic end."[96] A company-wide work stoppage was surely not a recipe for maximizing profits. Laborers were opposed to automation, however, even if it meant they be exposed to dangerous working conditions. They needed to work.

Evidently, the interests of physicians, workers, and management did not always align in a manner that would satisfy all involved parties: sometimes management resisted hygienic reform for economic reasons, and sometimes workers opposed it. Nonetheless, there *were* areas in which the interests of all parties could indeed be satisfied, and Garza discussed them with enthusiasm. He recommended that the Foundry offer both initial and periodical physical examinations for workers. This was ultimately to the benefit of both workers and management. By regular examinations, physicians could keep abreast of the facets of workers' health that would most impact their ability to remain productive, implying that clinical information gained by industrial physicians would be shared with management. Health information would be of use to management, Garza wrote, because it would permit managers to give employees "a job in

[95] Ibid.
[96] Ibid.

accordance with their physical and mental capacity," while "removing the people ill-suited for them." Garza believed that this reform, in addition to basic hygiene and sanitation, would be sure to reduce the number of industrial accidents "by over 50%." This was clearly something "of collective benefit." The Foundry would be "greatly benefitted" because it would avoid "the payment of great settlements and salaries for those same accidents."[97] Workers, meanwhile, could be shielded from accidents that led to "considerable impotencies and disabilities that no settlement is able to repair…sometimes even death, would be avoided." For those injured or who fell ill—and surely, there would be some, even with perfect hygiene—company doctors could use exams to help reorient and rehabilitate "disabled or defective workers," redeploying them to "determined places" in the firm to preserve some of their productivity. Rather than being "nullified in the fight for life," as the propaganda posters had it, workers could "continue to be useful to themselves, to their families, and to society," by the intercession of physicians.[98]

Pasantes thus reflected on the careful *pas de deux* between labor and capital and how Medicine could contribute to the stabilization of that relationship. Medical student Roberto Morelos Zaragoza aptly described the tensions, from the perspective of the physician-trainee. "We may see all of humanity," he wrote, "thanking and triumphally saluting the advances that in…industry and transport are constantly presented to us." The benefits of mechanized progress were surely manifest for many of Mexico's citizens. But so too were the disabled workers who had been mangled by precisely these advances. "This same humanity," Morelos continued, was "echoing with infinite wails to receive its members injured in strange ways by the intricate machineries that constitute the triumphant [bulwark] of mechanical progress.[99]

[97] Ibid., 30-2.
[98] Ibid.
[99] Morelos, "Lineamientos Generales," 11.

As a young physician, with a passionate interest in caring for workers, Morelos felt he had something to offer. During his medical education, Morelos had offered two years of service to teamsters, "two years," as he put it, "of labor in contact with our working people." His extensive experience in industrial settings had permitted him to describe the problems of industrial injuries, as "borne of them, under the action of the mechanisms of steel," a problem that had the potential to cause grievous bodily injury or death for these workers, in their endeavors to guarantee for Mexico a productive future. In his thesis, in a manner that clearly demonstrated his extensive experience in industrial settings, Morelos offered about a dozen clinical cases that described the array of occupational illnesses and injuries contracted by workers in the course of their industrial work.

Of them, two seemed to best represent the practical and philosophical issues associated with industrial accidents. The first was the case of N.N., a petty laborer, who demonstrated that even minor accidents could lead to severe, lifelong disability. N.N. had initially injured himself with a nail on his right hand. Following the injury, he had "received the usual preventative serums" and was sent on his way. "Despite this," Morelos recounted, the patient developed a large phlegmon, so large that it "covered the whole hand and the lower half of the corresponding forearm." The initial infectious process had progressed to osteomyelitis, as the infection had "destroyed the bones of the first row of carpals." This was successfully controlled by a series of incisions that aimed to drain the phlegmon. After sixty days, the infection finally resolved. But the patient was left with the sequelae of serious infection. Almost all the soft tissue of the right hand "had been replaced with fibrous scar tissue." As a result of this extensive scarring in the hand and forearm, his wrist was left fused and stiff in pronation and the fingers, "simulating a hand in ulnar claw," were also fused. To regain some level of functioning with the hand, the

worker had agreed to undergo a reconstructive surgical procedure. To reverse the contractions caused by the scar tissue crossing the wrist joint, the surgeons aimed to perform a neo-articulation procedure. As for fine dexterity of the fingers, a neo-articulation was undertaken "in the metacarpophalangeal joint of the thumb, to allow him the motions of grip."[100] Following the procedure, the wrist and thumb were immobilized with a cast for nine days. The patient had regained functioning in those joints "in a rather limited form," but Morelos noted that the procedure had left the worker with "a hopeful possibility for the future."[101]

The other case that held an important conceptual charge was that of laborer who claimed a severe injury for secondary gain. This N.N., a mechanic, claimed that he had been hit hard in the leg and testicles while at work and was brought to the hospital "on a stretch, in the middle of great wails." At the hospital, the physician "carefully" examined the patient. He did not find any trace of recent trauma—despite the patient's cries—and suggested to the patient that "he rest a while and afterward, he could return home." The doctor left the patient and continued to see his patients. At the end of the day, when the doctor was walking out, N.N. surfaced and asked the doctor if he had any reason to be admitted to the hospital. The physician told the patient that an admission would not be necessary because he had no injury that needed to be treated. The patient, who Morelos labeled the "pseudoinjured," was outraged, claiming that "he wasn't being treated as he should." He got into a moving truck and left. The episode was not over, however. A few days later, the "patient" returned to the hospital, followed by a union representative to lodge a complaint against the doctor. Morelos noted that the man "took the smallest pretext to not be re-examined." The pasante concluded that this case was one of "gross malingering [*simulación*]." While this case was obvious, Morelos argued that it was not always so easy to

[100] Ibid., 17.
[101] Ibid., 18.

parse: "on some occasions, [they] constitute true problems and only a great deal of experience, acquired over many years of contact with these people, can resolve them satisfactorily."[102]

These two cases underscored why physicians needed to be intimately involved in the world of work. Between their compassion and knowledge of science, physicians could recreate industrial spaces to make them more salubrious for workers. Were workers injured, doctors would be responsible for reconstructing the bodies of laborers to help them become productive once again. The second case revealed that doctors also had an additional role to play, one that was not immediately obvious: protecting the interests of management. By offering advice to keep workers safe, doctors would keep costs down. By honestly assessing workman's compensation claims for their veracity, or by assessing workers at intake appointments or at regular exams as Garza had proposed, doctors could ensure no malingering took place, optimizing the workforce for maximal productivity and efficiency.

As such, industrial physicians had to do more than just care for sick patients. They had to consider preventative services, medicolegal work, sanitary oversight, administrative oversight, and indeed, careful political optimization between management and labor. With this broad portfolio, specialized training would be essential. Consequently, Morelos argued that the creation of institutes of industrial surgery and medicine were essential to training occupational physicians to understand how to serve as votaries for economic progress. He offered an aspirational prospectus as to what an industrial medicine institute might look like. His first stipulation was that such an institute would only treat industrial ailments and accidents. Any surgical or medical services that could take attention away from industrial concerns "technically, scientifically, or economically" would be forbidden, such that physicians and trainees there

[102] Ibid., 21.

would have "no other means of distraction."[103] Morelos used statistical data on industrial accidents and ailments from Hospital Colonia in Mexico City, a center for railroad workers, as a model to build out the services an institute *should* offer. These would include:

- Traumatology services offered in both an outpatient clinic and on two inpatient wards, one for soft tissue injuries ("abrasions, contusions, punctures" and burns both chemical and thermal), and the other for injuries to bone and the central nervous system ("traumatic injuries to the head and face," "fractures of the base of the cranium," "fractures of the pelvis").
- An Ophthalmology service for both in- and outpatients.
- A General Surgery service for non-traumatic, work-related ailments ("hernias, operable gastroduodenal ulcers, abscesses") who could operate in at least three operating rooms.
- An Internal Medicine service, addressing occupational illnesses
- A Dermatology service (for dermatitides from exposures to volatile chemical irritants)
- A Syphilis service. Morelos justified this by reference to the language of Article 326, Section VI of the LFT, which guaranteed coverage for specific occupations, and not for general STI treatment.
- An array of anesthesiologists, physiotherapists, radiologists, nurses, pharmacists, and laboratory techs.

Evidently, at least in Morelos' mind, physicians had a vital role to play in mediating the relationship between workers and management, where "that science and art of the Surgeon enters the action." For him, the "mechanization and motorization of human activities" had demanded that doctors engage in new forms of study.[104] Physicians and surgeons were now "obliged to pair the balance of progress and bring our studies, our research, that is, our knowledge, to the height that will be indispensable to prevent and cure these new forms of trauma.[105] Physicians needed to harness their compassionate engagement with vulnerable Mexicans, as well as their scientific and clinical acumen, to the benefit of all. Industrial doctors were thus a special group: compassionately committed to the needs of working people, but fair in its approach toward management. Doctors would be a vital lynchpin to guarantee the terms of modernization in Mexico proceeded in a manner that was as just, efficient, and productive as possible.

[103] Ibid., 34.
[104] Ibid., 12.
[105] Ibid., 11.

***"So as not to disappoint the hopes of those who trust him"***

Though Monterrey was a critical site for industrial and labor politics during the Cárdenas era—and thus an ideal site for medical students to observe the finer points of managing the competing interests of hygiene, productivity, and politics in work settings—these dynamics were not isolated to the Northern urban center. Across Mexico—from Monterrey to Mexico City, but also from Campeche to Michoacán—pasantes encountered workers toiling in inhospitable conditions. These were not merely related to the challenging biomes in which citizens worked. It was also related to the intensity of the manual labor required to bring Cardenista aspirations a reality. Pasantes who performed their *servicio* on State-sponsored infrastructure projects had a delicate political situation to traverse. These weren't foreign oil companies or private corporations; rather, these were often entities of the State, ostensibly working in service of the same vulnerable Mexicans that pasantes were. As in industrial settings, however, pasantes navigated a compromise position, which permitted them to care for workers in the service of the Cardenista State's larger modernization efforts.

One of the State partners that hosted pasantes *en servicio* was the *Comisión Nacional de Irrigación* or CNI. The CNI, founded in 1926, representing the institutionalization of "hydraulic politics" in Mexico. Like the legal justification for the postrevolutionary State's careful interest in the national oil industry, the CNI's foundation was justified by Article 27 of the 1917 Constitution, which granted the State ownership over all waters. During the Porfirian era, water-workers were integral to the Porfiriato's modernization efforts.[106] The Porfirian State's legal authority was challenging to wield, given that historically, it was local governments, not the Federal government, who had regulatory rights over water. Porfirians worked to strip localities

[106] Agostoni, *Monuments of progress.*

of these historical rights, with the aim of centralized, rational modernization under Federal authority. These public works projects supported emergent business interests, and Porfirians lent their support to industry claims to water rights against resistant localities or tribal groups under the guise of "resource management." As mentioned before, there were more continuities between the Porfiriato and the post-Revolutionary State than the latter would perhaps have liked to acknowledge; the Federal government's enthusiastic control over water rights was one of those continuities. Though the State's interest in water continued after the Revolution, the Federal government's involvement in water would now be to "achieve a development that would truly benefit society," overseen by the newly formed Secretariats of *Gobernación* (Interior) and *Agricultura y Fomento*, with the goal of the "real exploitation of natural resources."[107] In 1926, a new Commission was proposed that came to be the CNI. Throughout the 1920s and 1930s, the CNI was responsible for developing and constructing irrigation dam projects across the country. Its literary organ, known as *Irrigation in Mexico*, "asserted that the Mexican State had put in motion the mechanisms that would permit irrigation in the arid regions of the country." It is perhaps not surprising, then, that the CNI's slogan was "For the greatness of Mexico."

During the Cárdenas Administration, the CNI facilitated the President's agrarian politics. Questions of hydraulic infrastructure and land redistribution in the form of ejidos—central to Cárdenas' land politics—were inextricably linked. Following the redistribution of parcels of land that were already fertile—La Laguna, Coahuila, for instance—the President was intent on developing new zones for ejidal development. These often came from lands that were unsuitable for agriculture without irrigation. By 1937, some members of the CNI felt that the redistribution of lands was done "*en seco*," a sort of play on words meaning both short but also literally dry:

[107] CONAGUA, *Semblanza Histórica del Agua en México* (Mexico City: SEMARNAT, 2009), 66-7.

the government lacked access to "irrigated lands, rainfed land, or pastureland that could be irrigated." Many new ejidatarios thus did not enjoy the resources necessary to successfully grow agricultural goods and transport them for sale on the market. The CNI helped manage the slack. In 1936, the CNI organized eleven irrigation systems and worked to strengthen pre-existing irrigation works. This was undertaken "with the goal to improve and distribute benefits between the diverse rural sectors in a more equitable fashion."[108]

It was in this context of national economic and agricultural modernization that pasantes arrived at CNI worksites for their *servicio*. Eleno Carillo, for example, was commissioned to serve in a camp about 15 kilometers southeast of Morelia, Michoacán. The CNI was in the home state of the President to work on a dam near Cointzio. According to Carillo, the goal of the Cointzio dam was to harness the waters of the Rio Grande de Morelia to provide irrigation benefits for "many ejidos." At the worksite, about 1500-2000 people were regularly assembled, performing the various tasks associated with the dam construction. With this many workers assembled, working there, taking meals there, sleeping there, Carillo stated that the camp merited consideration as a sort of permanent settlement.[109] As such, Carillo offered a review of hygienic factors in and around Cointzio that mirrored those performed at other *servicio* sites.

The region around Cointzio was challenging. The area was dotted with many small streams and ponds, which would expand during the rainy season. This was the climate favored by mosquitos; it was little wonder, then, that Carillo was especially anxious about protecting workers against malaria. The ongoing concern about malaria was a background concern, however, given the dangerous work that the workers had to perform daily. To build the dam, the

[108] Antonio Escobar Ohmstede and Israel Sandre Osorio, "El Agua subsumida en la tierra: La reforma agraria en el cardenismo" in *Lázaro Cárdenas*, 239.
[109] Eleno Carillo Orozco, "Contribución al Estudio del Saneamiento de Campamentos de Trabjadores," *UNAM*, 1937.

region's terrain would need to be altered. The CNI tasked the work camp with first raising a five-kilometer length of the nearby railroad to a higher level, to prevent flooding of the line once the dam was installed. The group also had to construct a tunnel of about 90-100 meters, which would alter the course of the Rio Grande de Morelia for the dam. Because of the need to build embankments, dig a tunnel, that is, to change the grade of the land, the CNI camp often deployed dynamite. "A lot of dynamite" according to Carillo: "many thousands of kilograms of explosives a month."[110] When this dynamite detonated, it "a large quantity of rocks" were "projected in the air," which injured workers who had not been able take shelter against the falling debris. The dynamite was stored in the general storerooms for the workcamp, which also happened to be where night watchmen would sleep, often directly "upon the crates of explosives." Given that these watchmen would sleep breathing a "charged atmosphere, saturated with dynamite vapors," they would wake up "with strong headaches, nausea, etc." This sort of phenomenon also occurred when workers were dynamiting in tunnels, exposed for "an indefinite time to the vapors of booming explosives." The area would be "well-saturated with dust," and fumes, no doubt: it was thus no surprise many workers suffered from "momentary losses of consciousness, strong headaches, anemia, etc."[111]

Even if the dynamiting proceeded uneventfully, the resulting unstable terrain posed its own risks to the welfare of the workers. He wrote that sometimes, as workers would be "furrowing a hill to allow for passage of the railroad," for example, "some portion of what had already been excavated would collapse." The men would fall, yielding various small injuries, contusions, fractures, etc., but the injuries could be severe. Carillo once attended with Dr. Ruano, the chief physician for the Irrigation Work. That day, they saw four workers who had

[110] Ibid., 18.
[111] Ibid.

been buried under a partial cave-in of a four-meter-deep ditch they had constructed to lay pipe. Because the earth was muddy, due to it being the rainy season, it was not easy locate the workers to rescue them. By the time the workers were found, one had died of asphyxiation. The other three were brought to receive medical care. They must have been critically ill: Carillo and Ruano needed to use "artificial respiration" and "injections of cardiotonics" (presumably Vitacampher) to stabilize the workers. The workers did, ultimately, survive. In another instance, Carillo saw a worker who had been injured during construction, leaving a broken femur. Yet he was unable to help the worker, who had to be evacuated to receive care at the hospital in Morelia. He did not have adequate supplies to perform even basic stabilization for the injury, "not a bed, chaise-longue [sic], nor any other piece of furniture where to perform explorations" of the fractured leg; the camp lacked anesthetics "and other indispensable things."[112]

Carillo "very much deplored" that his labor had been deficient, but he was incredulous about the conditions in which he had to practice. The Cointzio site lacked a devoted clinic building, so Carillo had set up in a "narrow wooden hut" that also served as a storeroom. This meant that medical care was provided in "the area of the greatest work activity." The clamor and disruptions of work polluted the exam room. "The explosion of dynamite, the unloading of trucks, filled with materials, stone, wood, and others; tractors, dredging machines and others; the raining of rocks, great dust and other disturbances, make staying there almost dangerous," Carillo noted. Under these "terrible conditions," "the auscultation of a heart" was "less than impossible to perform." It was "irritating and degrading," that he, as an almost-doctor "imbued in my social responsibility" was forced to care for workers in such an unsuitable place.

[112] Ibid., 43.

The building was fully loaded with all manner of implements for the CNI: "nails, pickaxes, shovels, chains, wire, mining helmets, lanterns, batteries for dynamite and others," but it held very few of use to a clinician. All that was present was a "single dirty wooden table, very dusty and semi-destroyed." Carillo lacked basic medicines, as the CNI "always put difficulties or did not provide the…medicine that was required for [the treatment of] certain conditions." It was only in "exceptional circumstances" that these medications could be obtained by the physicians.[113] He was also never supplied, and indeed, never did receive, a set of surgical instruments, which would have permitted him "to perform a wider and more effective medico-social labor." Finally, because the clinic was so close to the worksite, the materia medica that *was present* in the cramped storeroom/clinic was constantly under threat of breaking or become contaminated. With every explosion, all sorts of supplies—"bandages, antiseptics, syringes" would be covered in dust, making asepsis a total fantasy; antisepsis, an uphill battle; and even basic hygiene, an unlikely proposition.[114] It seemed "truly incredible" that Carillo had to work in such conditions given that the CNI, a "dependency of the Government," was "funded by the millions of pesos in its budget." "Oh, irony!" he sardonically added.

During his time at Cointzio, Carillo challenged local authorities to rectify the situation. The pasante was regularly in contact with the General Superintendent of the dam project, Engineer Reinaldo Schega, to beg him to construct a devoted clinic space somewhere a little further removed from the dynamiting. This ongoing tension developed into outright hostility. By Carillo's telling, Schega grew "indignant" at Carillo's "somewhat demanding attitude towards the health of the workers." The Engineer began to "harass" Carillo. From there, the relationship deteriorated. Carillo was not even able to obtain from Schega "a small electric grill"

[113] Ibid., 44.
[114] Ibid.

to boil his instruments for sterilization. In retrospect, Carillo lamented the heightening of tensions: "How I regret, with sincerity, not having been understood not even by professionals who surely interpreted my attitude…as too demanding!" But Carillo stuck to his position as the guardian of the vulnerable: it had been his "duty to do it, almost demand it, for the good of the workers." What had been the "prize" for his efforts on behalf of the workers? Schega had called for Carillo's dismissal, before the pasante had completed his *servicio* term. Carillo lamented having encountered this man, who "despite being a professional"—not unlike a physician—possessed "such a hostile, uncompromising and unjustified attitude" toward Carillo, and by extension, toward the health of the workers under his direction.[115]

Despite his unfortunate dismissal, Carillo was forthright in offering concrete suggestions as to how to improve health at Cointzio. He suggested that the CNI take more seriously the role of the physician at the camp, and that it support better medical services there. Much of this reinforced the pasante's commitment to caring for the needs of workers. Indeed, two of Carillo's suggestions could only be understood as related to hygiene if using a broad, social-medicine lens. The first was that the SEP send "some number of teachers" to teach the workers to read and write. Instruction for existing workers would be "obligatory," and future employment would only be open to literate workers. The goal would be to better spread "the rudiments of hygienic education" to the workers, and in so doing, avoid unnecessary illness and injury. The second recommendation was a request for the CNI to raise the minimum wage of laborers.

Again, pasantes' compassionate advocacy for superior health and safety provisioning for workers was not mutually exclusive with the desire to maximize their productivity. Like his peers working in Monterrey's industrial plants, Carillo suggested that all workers receive an

[115] Ibid., 81

initial and periodic physical exam. This would be the ideal opportunity, Carillo wrote, to administer vaccines to prevent outbreaks of infectious diseases, like typhoid and smallpox. The physician could also acquire information about workers' "social characteristics, environment, economic capacity…'education,' and other factors." Physicians could also learn of the workers' "aptitudes and inclinations," following up with "the necessary investigations" to confirm a worker's "talent and mechanical aptitude," their "mental capacity," the "speed of their reflexes," etc. in accordance with the "scientific support given to us by psychometry and psychotechnics"—namely, the fields responsible for measuring mental capacities and the application of psychological principles to control the behavior of individuals.[116] This data gathering would permit the "rational selection of workers," thus avoiding deaths from work accidents and maximizing productivity. "At the same time," he concluded, "a great deal of time would be saved yielded to workers due to occupational illnesses and accidents." So too would money be saved, as injured and sick workers received full pay as they were healing, to say nothing of "settlements and expenses for medicine and other substances."[117]

Carillo hoped that the CNI would accept his recommendations because he believed they would help them accomplish their broader mission. To be sure, they would help grant pasantes "immense satisfaction" that their efforts amounted to something. These recommendations, which aimed to support the health *and* work productivity of workers under the CNI's employ, were sure to "help the government of the Republic, our University, and most especially, our *Facultad de Medicina* to try to work for a better, bigger, healthier Mexico."[118]

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[116] Ibid., 64. For more on psychotechnics, see Andreas Killen, "Weimar Psychotechnics between Americanism and Fascism" *Osiris* 22, 1 (2007): 48–71. Killen discusses the use of psychotechnics in Weimar Germany as a means to "usher in a streamlined new order of social harmony and productivity" (49).
[117] Ibid., 63.
[118] Ibid., 83.

In addition to improving land by means of irrigation, the development of a national rail system was a major infrastructural undertaking of the Cárdenas years. While the oil expropriation of 1938 is often seen as the marquee act of economic nationalism of the Cárdenas years, the President's nationalization of the rail industry in June 1937 was also a significant one. Like the oil expropriation, Cárdenas' rail expropriation came at the tail end of a long series of labor disruptions in the industry, including a strike of 45,000 rail workers in 1936, and a national hour of work stoppage by the CTM.[119] The railroad nationalization came at a time of particular economic vulnerability for the industry. With the end of US investment in rail—which, during the Porfirato, had been vital for the industry's formation—and the strong competition that rail had from the highway system, the system was in a crisis, needing a reform of the "the regressive fare system" as well as an investment of at least "100 million pesos to modernize installations and rail equipment, reduction of the exploitation coefficient" to make the railroads profitable once more.[120] A Congressional Joint Commission that met between January 15-30, 1937 concluded that the industry was in the midst of a "positively grave situation" with "absolute neglect" of the industry: a lack of manpower, supplies, and tools; a lack of routine inspection of locomotives and other equipment; and the high prevalence of patronage, sinecure, and transactions for personal gain. From the perspective of health, these railroads traversed mosquito-infested regions, making their workers vulnerable to malaria. One medical student, Guillermo Teran Gómez, painstakingly mapped the various *Anopheles* species dominant across each rail line.[121] To illustrate the gravity of the situation across the nation's rail network when it came to infectious disease prophylaxis, he claimed that the nation would need to invest "a

[119] Carillo, "Salud pública," 169.
[120] Begoña y Lazo, "La administracion obrera," 204.
[121] Guillermo Teran Gómez, "Breve studio sobre la lucha antipaludica en los ferrocariles nacionales de Mexico," UNAM, 1937, 48.

fabulous sum of money," given just how cash strapped the railroad was. Between malaria, poor management, and labor unrest, the industry was floundering. If rail was to play a role in the development of Mexico's internal market, a drastic step was necessary: namely, nationalization.

While the nation acquired a large system of rail in 1937, Teran's map reveals that there were still vast swaths of the country—including areas with the potential for good economic output—that were not integrated into the national transportation grid. It stood to reason, then, that they ought to be, leading to several largescale rail projects during the sexenio. In 1937-1938, following the nationalization, Francisco Barrios performed his *servicio* with the Division of Puerto Mexico, part of the construction project building a Southeastern rail line linking the Gulf state of Veracruz with Campeche. "Anyone visiting the places where the Southeastern Railroad is being built," he wrote, "could do nothing but smile and acknowledge the absolute impossibility of doing any prophylactic effort."[122] Barrios found the conditions simply overwhelming when it came to ensuring health and safety for the workers in the "impenetrable jungle." *Anopheles* and *Culex* mosquitos were ubiquitous, placing the workers at risk for various illnesses, not merely malaria. Water provisioning was ad hoc at best, consisting of wells dug haphazardly among the stagnant ponds and human waste. Part of the challenge Barrios encountered was also related to the lack of institutional support for any sort of hygiene effort: he described an "administrative anarchy" that reigned along the construction route, which made hygienic improvements unlikely. He encountered "incomprehension, little aid, apathy, and almost coercion…by some administrative personnel in the Division."[123] Perhaps this was related to the fact that the budget for hygienic interventions was limited. As Barrios noted, Mexico was

[122] Ibid.
[123] Francisco Barrios Granguillhome, "Condiciones sanitarias de la Division de Puerto Mexico, Veracruz," *UNAM*, 1938, 29.

intent on engaging on this modernization project in a cost-conscious manner. "It is well known," he argued, "that great nations, when they undertake an endeavor of the same nature and magnitude or greater than this one, a large percentage of the budget is devoted to medical labor." In Mexico, "precisely the opposite: in the construction budget, minimal is the part devoted to medical services." "Nevertheless," Barrios wrote, "we see it is possible to try." While the budget was stacked against pasantes, they would nonetheless what they could with goodwill alone, for the good of the workers, and the nation.[124]

In Pustunich, Campeche, also near the Southeastern rail line under construction, pasante Armando Perez also had his hands full. Campeche was a state with "undeniable wealth," but its terrains were still "virgin." It was the President's wish to "take maximum benefit of the inexhaustible sources of wealth" in the Yucatán, supporting this project to extend Mexico's National Railroad network into the Yucatán. But it would not be easy. Campeche was covered in jungle, and there were "vast extensions of terrain" that were "totally uninhabited," and that resisted any attempt by humans to breach them.[125] The President's push to better integrate the Yucatán into Mexico's market demanded an extensive effort to shatter the walls of rurality. Perez had heard the expression "Railroads are not built solely with rails and ties" on many occasions before, and after having served as a physician in Pustunich, he began to understand that the dictum "encapsulated a great truth."[126] Beyond the raw materials and labor required to build the railroad—the ostensibly easy part—Perez observed that success also meant an extensive effort to defeat the "strongest enemies of man": disease. Malaria was the chief foe of rail workers in the region. Endemic to the Yucatán, the disease burdened the populations of

[124] Ibid., 30.
[125] Perez, "El Estado de Campeche," 35.
[126] Ibid., 41.

Pustunich to a great extent: between 1931 and 1935, indices of mortality for malaria averaged around 300 deaths per 100,000. Further, the state lacked the resources necessary to engage in hygienic practice, both due to lack of qualified individuals and lack of infrastructure at all—potable water, lines of communication, transportation access, were all actively being built. The pasantes there really were evangelizers of health, spreading the gospel of hygienic modernity to Mexico's rural corners. Perez understood that any successful modernization effort articulated in the *Plan Sexenal* depended on the ability of the State to coordinate "the organization of medical services": as Perez described it, medical services were the "unitary institutions" that protected "the human machine" as it was harnessed to reshape water and earth and harness them for productive potential. Just as an engineer accompanied an expedition, to help keep up steam shovels and locomotives; so too should a doctor monitor the human machine to preserve its productive capacity. Without physicians around, to supervise, control the environment, and repair malfunctioning laborers, the post-Revolutionary State's modernization project hung in the balance.[127]

Perez gained this insight while working as the medical authority for a workers' cooperative known as "Venustiano Carranza" in Pustunich. About a hundred workers were part of the cooperative, situated near a ready source of timber. At the camp, a variety of workers contributed to the production of rail ties for the government's ongoing rail-laying project. Some went into the forest to search for suitable trees, which were then brought back to camp for processing. Once at camp, another group trimmed and cut foliage off the trees, at which point two men who worked on the machine cut the trees into pieces suitable for ties. To support their efforts, cooks, mechanics, and carpenters and others worked at the canteen, built shelters, and

[127] Ibid.

repaired machines and tools. While sanitary conditions were not ideal in this camp, they were not bad, either. According to Perez, he was able to offer some encouragement to workers to improve hygiene in camp, in the hopes of staving off avoidable absenteeism. Residents took to using chlorinated water for cooking and drinking. They more systematically and hygienically disposed of their garbage. They tried to control flammable and explosive substances more carefully. Perez held a hygiene conference for workers—related to "principal mechanisms of the production of disease," particularly of a zoonotic nature, and the "benefits of corralling domestic animals"—but this was of limited benefit. "Due to the tiredness of the workers and the excess of labor that almost always existed," Perez only hosted one conference for the workers.[128] Sometimes the work toward a modern Mexico would have to overshadow hygienic reform.

Notwithstanding these difficulties, Perez believed that the management of poor working conditions was "unquestionably" central to "obtaining the optimal fruit of the work and the greatest yields from the energy of the worker"—and relatedly, to the ultimate success of the pasante.[129] In these labor camps, workers were on shift for at least eight hours at a time, sometimes more, performing what Perez referred to as "indubitably intense physical labor." Often, workers' hours were shifted early in the morning, to permit teams to "take advantage of the least hot hours of the day." It was true, Perez wrote, that workers in Pustunich had "moments of rest." But their capacity to work to such a great degree, without reaching absolute exhaustion, he found remarkable. He did a sort of back-of-the-envelope calculation for energy intake and output for an average worker. He estimated that a 70kg man doing intense labor would require about 3300 calories daily, with about 15% of those coming from sources of protein. In observing workers' diets, however, he calculated that a worker only consumed about 1600 calories a day,

[128] Ibid., 58.
[129] Ibid., 43.

and with only about 100 grams of chicken, one egg, and 150 grams of beans, would not nearly approach the 495 calories daily required from protein. "Why does the worker," Perez wondered, "not become totally physically exhausted?"[130]

He had two provisional answers. The first was that work was not as "monophasic" as supposed, that there were "variations" in tempo, and such that when confronted with feelings of more intense exhaustion, a worker took advantage of "rather long periods of rest." The other reason Perez offered was racial. He contended that workers in Pustunich were habituated to the harsh climates of the Yucatán—the heat, malaria, etc. Perez believed that there existed among these workers—many of whom were likely of Maya background, located as they were in the Yucatán—"an elevated index of resistance." This, he argued, "could potentially be compared with that of the Oriental races" who worked intensely, lacked adequate nutrition, and yet did so "without great detriment to their organisms."[131]

Though pasantes were generally sympathetic to the plight of many rural laborers working in harsh conditions, there was still an interest in ensuring that workers retained maximal productivity despite those hard conditions. As experts in physiology, doctors had an important role to play in oversight of the workplace, to optimize conditions to maximize health, and concomitantly, maximize productivity. Perez was thus not the only pasante interested in the question of how laborers were able to be so consistently productive. In 1938, for example, medical student Mario Chazaro worked to understand how the human machine ran optimally for maximal efficiency and productivity. Work, as a physiological phenomenon, consisted of repeated actions performed by the bodies of workers on an object of some sort. Evidently, there were ways to work safely and productively, and there were ways that would lead to injury and

[130] Ibid., 60.
[131] Ibid., 61.

disability. While the Labor Code regulated various industries to make them more salubrious—to encourage industries toward "right" principles and away from "wrong" ones—it was not perfect: it suffered from omissions and "defects that must be pointed out to avoid as much as possible the harmful effects that derive from an erroneous disposition."[132] The "right" way to work was, for him, an empirical question, one that could be solved by reference to physiology. That correct answer was one that redounded to the "benefit of the worker and the employer." This was thus the perfect place for the physician to intervene.

Chazaro's thesis, rather than focusing on occupational illness or accidents, focused on a more subtle, though omnipresent, concern in industrial settings: fatigue. As part of his attempt to rationalize more adequately what he referred to as the "human machine," Chazaro offered a broad definition of industrial fatigue. Citing Morris Viteles, an American industrial and occupational psychologist, Chazaro offered a tripartite definition of the phenomenon, consisting of functional ("the appreciable reduction of productivity"), the biochemical ("a physiological state that involves changes in the organic functions by the appearance of chemical products of fatigue that break the humoral equilibrium"), and the personal ("a sensation of lassitude or tiredness").[133] These were all avatars of the same pathophysiological process. Work required a worker to exert a force on some object. For a worker to exert that force, energy was needed. The human machine acquired that energy from eating and spent it by performing work. But work did not merely depend on energy balance. There was something about the work itself, the worker, or its environment, which altered the quantity of work. For example, like a combustion engine, the burning of energy in the human machine was never done in a complete manner. While an automobile would spew out carbon monoxide as the result of its incomplete

[132] Mario Chazaro, "Contribución al studio de los factores para evitar la fatiga industrial," UNAM, 1938, 11.
[133] Ibid., 12. See Morris Viteles, *Industrial psychology.* (W W Norton & Co, 1932).

combustion, a human body would produce toxic metabolites, which would contribute to the physical sensations—muscle soreness, tiredness, loss of mental acuity—associated with fatigue. Under normal circumstances, the body could preserve appropriate equipoise, disposing of these toxins as they were produced, and thus preserving a state of wellbeing. If work was too strenuous, however, the system would be perturbed, the byproducts of incomplete combustion would accumulate, and the worker would become fatigued.[134]

As for any combustion engine, efficiency was determined by the work performed per the amount of energy expended; in an industrial context, doing more work at a given energy expenditure was more profitable, as a worker could produce more without adding rest or another meal. As such, the goal was to maximize worker efficiency, by modifying things like the environment (temperature), the inputs (nutrition), or facets of the "machine" itself (special training). While nutrition was clearly of critical import to the scientific management of worker fatigue, maximizing productivity did not merely depend upon the arithmetic of energy management. During their labor, workers were acted on by both static and kinetic forces and generated them during their "periodic" actions. Given that modern work demanded repetition, it stood to reason that these repeated movements would lead to "alterations in the tissues and organs in accordance with the general law of Physiology, in which the function produces the organ."[135] This would explain, for example, why muscles hypertrophied with repeated use, or atrophied in the absence of use. Given this biophysical feedback, it was imperative to assure that workers avoid the "morbid influences of faulty positions."[136]

[134] Ibid., 20
[135] Ibid., 10.
[136] Ibid.

Doctors, by virtue of their knowledge of physiology, were well-suited to prescribe interventions in a "methodical manner" that would protect workers from the deleterious effects of work done "wrongly."[137] For his part, Chazaro recommended standard hygienic interventions—ventilation, lighting, temperature control, etc.—to make the environment as hospitable to the human machine as possible. He suggested the introduction of regular breaks. Chazaro also highlighted the importance of the conscientious oversight of worker/management "safety commissions" by physicians with the hopes that doctors complete "their mission by monitoring the exact observance of the regulations on preventive measures for accidents at work."[138] He made this recommendation in conjunction with others that should be recognizable: for example, that physicians undertake a comprehensive exam of workers, or that "a better selection of the worker should be made according to his abilities and hobbies."[139] Having offered the typical array of recommendations favored by medical students, at this stage, Chazaro also—perhaps unwittingly—ventured into the realm of management consulting. He suggested that employers establish certain economic conditions, ostensibly to make psychological conditions as salubrious as possible. The worker deserved reward for his services by means "equity and establishing adequate incentives so that there is some motivation among those who excel in the best performance of their work."[140]

Industrial psychology did not merely apply to industrial laborers. Doctors too would benefit from structuring work in ways that incentivized their good clinical work. "It is required," Chazaro wrote, "that the industrial physician have true enthusiasm and self-denial in the very important role that he has to perform, but it is necessary that he be well-paid so that he can

[137] Ibid., 39.
[138] Ibid., 41.
[139] Ibid.
[140] Ibid.

dedicate himself entirely to developing a true social work studying his specialty hard and not to disappoint the hopes of those who trust him." One way to accomplish this was "to improve the medical services of the industries both with regard to immediate attention in the event of accidents and to carry out periodic medical examinations with a tendency to prevent accidents."[141] If doctors were given a position in industry, in society, that reflected their true import to economic success, they could control conditions on shop floor across the country to guarantee that workers were happy, healthy, and thus, productive.

***Conclusion***

The SMS permitted pasantes across the nation's various worksites to work toward addressing some of the suffering of workers. Students were happy to play an array of roles in work contexts: guarantors of the legal protections of the LFT, protectors of vulnerable Mexicans against both foreign and domestic capital, defenders of industrial capacity, moderators of worker's productivity. Pasantes often navigated these responsibilities in novel ways, which reflected the complex political, ideological, and emotional dynamics at play when pasantes delivered care to the nation's proletariat. Though pasantes' propositions for Medicine's future engagement with the world of work were diverse, they reflected certain *a priori* beliefs of the Cardenista State: on one hand, a desire to recenter the neglected worker in the national political spirit, and on the other, a commitment to economic and infrastructural modernization along capitalist lines. Pasantes linked these potentially-conflictual currents by recourse to compassionate paternalism. Physicians could give "pride to the Mexican Medical Community for being the first to offer—free and disinterested—[care], the product of so many years of study

[141] Ibid.

and privations, to the [workers], humble and cut-off from fortune, who in the bed of pain devour their torture in impotence and hopelessness.[142] In their efforts, pasantes thus worked to guarantee a certain future for Mexican capitalism, in which workers were healthy and happy, industry was productive and profitable, and the Cardenista State could enjoy the fruits of a healthy, modern workforce.

[142] Zarrabal, "San Francisco de Oro," 17.

## CONCLUSION:
## Navigating the complexities of medical care

"In the first days of October," wrote Fernando Salinas Guacucano, of the *Facultad* Class of 1942, "I left for the north, to the state of Coahuila, to place myself in charge of the *Servicio Médico-Social* in the town of 'Escobedo.'"[1] He explained, with narrative flair, that he had embarked on his *servicio* "with the fervent desire to support with my grain of sand the great crusade for the Hygienization of the Nation that *Salubridad Pública* [had engaged in] for the last few years."[2] The pasante expected a profound challenge in his time away from the familiarity of the halls of the *Facultad* in Mexico City, but he had done his best to prepare for it:

> The abrupt change, in all things, between the capital and the town where I acted as doctor, was abrupt [indeed]. At least, I did not make illusions nor dream of a paradise. From the time I left, I cheered the fact I was to fight tenaciously against prejudices that always exist in small towns and which unfortunately persist in other larger cities.[3]

Salinas viewed the *servicio* not merely as a chance to perfect his clinical skills or laboratory technique; rather, he had been eager to perfect his skills of social engagement. Being in Escobedo had inspired Salinas to "continuously philosophize about my plan of action." His "desire was to auscultate and see"—note the use of clinical language— "human misery in all its forms to try to alleviate the despair of those who suffer." It had been a labor of love, done "with all my affection and without holding back any of my modest knowledge."[4]

The student had a "double motive" for his commitment to the task at hand: "in the first place, because it was my obligation to respond in the best way possible… as a display of

[1] Fernando Salinas Guacucano, "Exploración sanitaria del municipio de Escobedo, Estado de Coahuila," UNAM, 1942, 1.
[2] Ibid.
[3] Ibid.
[4] Ibid.

gratitude to the Nation that has rendered me hospitality and knowledge." Salinas had appreciated the beneficence of the nation that had offered him an education and an opportunity to care for others. But his second motive was more personal in nature. Salinas had seen "in Escobedo, the image of one of the many hundreds of towns that exist in my dear and distant home region, in the same or perhaps worse conditions, even though the Government of my Nation has not done nor has any intention to remediate it." Though for years, in his own region, he had seen suffering and want, it had been the SMS that had offered him a measure of perspective to translate his life experience into something he could understand. That is, Salinas' time in Escobedo transformed his understandings of home from the mere day-to-day experience of want into a disciplined, narrativized, and politicized explanation of structural inequality and human suffering. Salinas offered "one grand conclusion: that Mexico is the laboratory that serves as the vanguard for the rest of Indo-America, for its experiences have served as a guide and norm for the aggrandizement of our *raza*."[5]

In 1939-40, as various candidates jockeyed for support from the official party to succeeded President Cárdenas, it was clear to Cardenistas across various levels of the State apparatus that the high Cardenista tide had receded. The halcyon days of Cardenista social engagement slowed precipitously after the 1938 oil expropriation. Conservative forces resisting change—such as the Monterrey industrialists—had sapped the President's political capital. In health, this was seen vividly in the shelving of Cárdenas' planned Social Security initiative: "We are getting the oil first for the good of the nation," Cárdenas said to his Interior Secretary, "then, in time, Social Security."[6] It cost political capital to establish social programs; there was a time and place for advancing social justice.

[5] Ibid.
[6] Michelle Dion, "The Origins of Social Security in Mexico," 67.

Now was time for consolidation. It was thus an ideal time to advertise the *sexenio's* accomplishments, both to celebrate them, but also to advocate for their importance, given the uncertain political future. For those involved in Cárdenas' public health infrastructure, the successes were several—rural health, ejidal medicine, industrial health and hygiene. Special attention was paid by those at the top of that infrastructure to a signature policy success in their minds: the *servicio médico-social*.

In 1940, Doctor and General Siurob wrote a pamphlet published by the DSP.[7] This pamphlet was written in English, submitted for the Panamerican Health Executives Conference. Clearly, Mexico was proud of how far its "new orientation" had gotten the nation, and was eager to share their successes with its Latin American brethren. As in his 1936 pamphlet, the cover graphic proved instructive: at the foreground of the still-life sat a microscope, amid sheathes of wheat. In the background sat an anvil and hammer. Upon the anvil rested a brazier that contained an eternal frame. Truth came not from any one of these entities in isolation—not agriculture, industry, or science—but rather from their mutual instruction and their direction toward the most valuable aim of all: the cultivation of the Mexican nation, the *pueblo*.

With one sentence at the beginning of the text, Siurob relegated much of the work of General Rodríguez and the Porfirian hygienists to the dustbin of ineffective, un-social medicine: "Social medicine was born in México as the consequence of a failure of Preventative Medicine in rural centers."[8] In the previous era, peasants—"underfed men with leathery skin, squalid women prematurely old, children with flaccid stomachs"—had no one to call for medical assistance but "liberal doctors, although due to [their] exhausted economic capacity, *would lack*

[7] Doctor and General José Siurob, *Social Medicine in Mexico* (Mexico, DF: Departamento de Salubridad Publica, 1940).
[8] Ibid., p. 3

*entirely of medical care.*"[9] In Siurob's words, he had the idea in 1936 "to establish Services in wich [sic] preventative and curative medicine would be mixed with social work." Once Siurob had seen the path illuminated by social medicine, medical care had improved,

> the peasants, after receiving for the first time its [sic] help, were objectively convinced of the importance of hygienic practices advised to them in each case of a relative's serious illness and learned to appreciate them in their full value, constituting themselves as voluntary publicity agents among their fellow workers.[10]

In terms of the SMS, Siurob concluded that the "forethoughts" of the likes of himself, Baz, and the President, had been accomplished. Hundreds of pasantes had come and gone, providing the DSP with vital information about life in rural Mexico. A large number of students had returned to the site of their SMS, "giving excellence services and acquiring at the same time that practice highly educative for the doctor of the daily clinic."[11] Of that number, some were surely destined to become Mayors, Representatives, or Senators, who "would bring to those posts the vivid impression of the observed needs and firm wishes to do something about them, with whatever power they have at hand."[12] Through the SMS, then, Siurob saw Progress was made; Medicine had been injected with a heavy dose of social engagement. In his later reflections, Siurob believed that his endeavors as Secretary of the DSP had been the first that "structured medicine upon scientific and social bases." Looking back, he was "honored to have discharged this highly revolutionary duty, for the good of the country."[13]

In 1940, Dr. Miguel Bustamante also published an article at the end of the Cárdenas administration, in *The Annals of the American Academy of Political and Social Science*. In the article, Bustamante offered an authoritative account of the health of the Mexican health system

[9] Ibid., 4.
[10] Ibid.
[11] Ibid.
[12] Ibid.
[13] Siurob, *Memorias*, 53.

for American academics and theorists. As he had in 1934, Bustamante devoted his article to rural populations. The state of Mexico's health was different in 1940 than it had been in 1934, however, as over the course of *sexenio*, Mexico had transformed. To offer members of the American Academy a sense of the structures responsible for ameliorating rural mortality in Mexico, Bustamante outlined the changes made in the organization of the Federal Health Department in Mexico. In 1930, the Department had 14 bureaus; by 1939, that number had swelled to 23 bureaus. Only one bureau had been phased out: the now somewhat archaic, "Anti-rabies Institute." Eight had been added, including the "Rural Hygiene and Social Medicine Bureau", the "Water Supply Bureau", the "Mental Hygiene and Anti-alcoholic Campaign Bureau", the "National Housing Commission."[14] If these structures accomplished what their names suggest they did, a rural dweller would be transformed into a citizen with working plumbing, a clean and well-ordered domicile, a well-adjusted psyche, 'appropriate' relationship to alcohol, and this would provide them a strong work ethic. Now, Bustamante conveyed that his career's work and twenty-two years of post-Revolutionary hygienic reform "promise[d] to mold a nation working for its health and united in a sound program of disease prevention, health promotion, and medical attention directed toward the fulfillment of the country's duty to give a healthy life to all its people."[15] Although challenges remained, the path illuminated by the great hygienists, marched along by Revolutionary heroes, was being followed.

As part of the array of institutional successes of the Cardenista state, Bustamante was sure to include the SMS. "The National University," he wrote, "has established the requirement that all medical students shall, before graduation…spend six months in a rural town that has no medical practitioner." "This procedure," he continued

[14] Bustamante, "Public Health," 158.
[15] Ibid., 161.

> helped to place medical service of a permanent character within reach of the people, for, after graduation, many of the medical students return to the provinces and small towns, thus breaking with the strong tendency of members of their profession to remain in the large cities.[16]

Shortly after his article in *The Annals*, Bustamante published an article in the *Revista Mexicana de Sociología* to discuss the SMS in detail. The program had responded "to the need to prepare students, keeping in mind two recent facts, one of a scientific character, the other of a social regional character." Bustamante contended that the biological sciences had evolved, modifying "the type of daily professional exercise and the concepts that govern it."[17] In the Cardenista years, Medicine had widened its scope, meaning that practitioners need not merely provide curative services—"the noble function of the doctor"—but also preventative ones. It was now incumbent upon students to "know and observe the causes of illness and death that constitute collective problems."[18] This was a bequest of social medicine, which had so thoroughly changed the way that medical practice was understood: now, "everything obliged the student to extend his interest in life from one person, to an interest in life for many individuals." This would build a better Medicine in the years to come. Knowledge of "the geographic, economic, pathological, political, and cultural" would grow, demonstrating to the nation's young doctors how best to "serve their collective."[19]

To be sure, like any incipient social program, there were some weaknesses. Lack of institutional experience was "an inevitable stumbling block" for any new program. So too was "the scarcity of economic resources and the short time for working in the country," the latter a problem that pasantes regularly described in their theses. The program had also been undermined variously "by the malicious resistance of caciques and curanderos who understand,

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[16] Ibid., 160.
[17] Miguel Bustamante, "El Servicio Médico Social de la Universidad," *Revista Mexicana de Sociología* 2, 2 (2nd quarter, 1940): 5.
[18] 6
[19] 9-10

better than the young pasantes, the strong social and educational role of the rural doctor."[20] Overall, however, the SMS had been—and continued to be—a health program of great importance in Bustamante's estimation. For vulnerable Mexicans, the program had clearly provided access to quality, quasi-stable health care. For the nation's public health bureaucracy, the SMS furnished them with "authentic reports on numerous aspects of Mexican life" written by "youths still enthusiastic and optimistic." For the UNAM—which had clearly experienced several years of conflict—the SMS permitted it to play the politically-useful role of "defender of the greatest wealth of the country, which is human life."[21] For medical students, the program was an invaluable learning opportunity. It had eliminated the "brusque interruption between strictly student life and that of the graduated physician," and in so doing, had permitted a structured, yet comprehensive opportunity for students to be drawn "closer to the biological and social problems of the country."[22]

Pasantes themselves had felt the wave of transformation wash over them as they trained to become physicians. In 1939, former pasante Manuel Velasco Suarez reflected upon the SMS' first years of existence, offering an evocative description of how intellectual engagement consonant with the "new orientation" transformed life for medical students, patients, and the institution of medicine itself. By going to rural places, pasantes had embarked upon a path to modernity.[23] Or, perhaps, more appropriately, "paths":

> To the four cardinal directions of the Republic went young hearts of a new generation of doctors and many they found there, in the ejido, in the rural hamlet, in the miserable population, in the mine or factory, the motive of whose lives, the end that they had not considered, feeling the pain, sickness, and misery of peoples whom we owe everything, and for whom we formed the University.[24]

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[20] 8
[21] Ibid., 9
[22] Ibid., 13
[23] Manuel Velasco, "Breve Comentario," 128.
[24] Ibid., 129.

In their wake, the first few classes of pasantes had left a variety of successes. More students were staying behind; more resources facilitated the expansion of medical care into places that had never known Medicine before. A veritable encyclopedia of knowledge about life in rural Mexico had already been collated from the reports heading back to Mexico City every month. In the years to come, the SMS could truly become the great crossroads of all forms of human knowledge, provided it continue to be supported.

On May 10, 1939, Dr. Alfonso Pruneda offered an address to the *Academia Nacional de Medicina* to solicit such support. Pruneda began his address by acknowledging, the "special deference" that had been granted him by Gustavo Baz—certainly no stranger to the *Academia*, and at that point, the Rector of the UNAM—to review documents related to the first few years of the SMS. The SMS was "one of the most effective manifestations of the tendency, begun clearly in 1925"—when Pruneda was Rector of the then-National University—to "move the university closer to the *pueblo*." As he described it, the SMS was "one of the most important steps" taken to resolve two practical problems: "the scarcity, and in not a few cases, absolute lack of medical assistance" in rural places, and "the concentration of doctors in important population centers." The program also permitted medical students to "come to know, before receiving their title, very important aspects of the real exercise of the profession," namely, that there were "many medical, sanitary, economic, and other sorts of problems, in which the intervention of one who follows the career of medicine"—that is, medical students—could be very useful, particularly "if the sentiment to contribute [took] root in him, in his sphere of action, toward the betterment of the collective."[25]

[25] Alfonso Pruneda, "El servicio medico social de la Universidad Nacional," *Gaceta Medica de México* (1939): 144

Pruneda described the activities that pasantes had accomplished over the preceding two years, demonstrating "the many possibilities for the *servicio médico-social* to be of benefit to the community." They had offered "free medical care to the needy, to workers on the railroads and roads, to agrarian communities, to peasants in general, to inmates." On their *servicio*, many pasantes confronted "autochthonous charlatans or curanderos, exhibiting or counteracting their action; in other places, the residents, lacking medical education and with blind confidence in the traditional methods of cure…did not pay attention to the pasante," making their job—as we have seen—particularly difficult.[26] In industrial settings, pasantes had seen "many problems related to occupational medicine," and some students devoted their receptional theses to "the detailed study of work-related illnesses." Pasantes founded "groups and institutions of social work, education and public assistance." Across all settings, pasantes gathered data that revealed "to the University and to respective authorities, the situation encountered" in rural Mexico, including information about "endemic infections related to existing social conditions" and "the life of certain indigenous tribes."[27] These pasante theses contained "important facts for national medicine," which Academicians might incorporate into their practice.

Like Bustamante, Pruneda shared certain difficulties the program had experienced thus far. Students had had a hard time acclimating to life outside the capital, and in particular, to the actual clinical practice of medicine as opposed to theoretically understanding it. Some were frustrated by having one additional requirement to satisfy before graduation, others by the array of challenging conditions on the ground: the lack of adequate financial support, the lack of medicines and resources, the "ignorance and lack of medical education of townsfolk, the hostility of curanderos and charlatans, and the lack of comprehension of authorities and rural teachers

[26] Ibid., 146
[27] Ibid., 147

who refused to cooperate."[28] This had "produced diverse reactions among pasantes." These challenges were central to the program's successes, however: these hard conditions had made

> pasantes feel the difficulties of medical practice, not to discourage them, but to strengthen within them the qualities that anyone following the career of medicine should have, especially in these times, in which their horizons, their possibilities, and their responsibilities have grown.[29]

These challenges demonstrated to pasantes "that the profession that they will follow is not primarily a way to make money, and that professional life does not require ostentations."[30] In this way, the SMS ensured that "socializing medicine" was not merely a "political instrument," but rather a means to put health "within everyone's reach." Pasantes were clearing the way for a global "transformation that Mexico could not escape."[31]

The positive reflections of these various thinkers in 1939-1940 may have amounted to happy-talk. Following 1938, they must have begun to recognize that the high Cardenismo of 1935, that had given rise to the SMS, was no more, and that a conservative pall had settled over the nation's politics. As these thinkers may have expected or perhaps feared, Mexican political life was indeed different during the Ávila Camacho years. The 1940s saw an embrace of war-time sobriety and corporate conservatism, or as Alan Knight describes it, "industrialization, social conciliation, and national consensus."[32] Under the new President, Cárdenas' Secretary of Defense Manuel Ávila Camacho, the State's priorities would be closing some of the yawning chasms in Mexican social and political life. The Ávila Camacho *sexenio* worked mightily to thread the needle between the Right—disempowered and disorganized following Juan Andrew Almazán's Presidential loss in 1940, but satisfied with Cárdenas' departure—and the Left—smarting from Cárdenas' refusal to throw his support behind fellow Michoacán Francisco

[28] Ibid., 148
[29] Ibid., 149
[30] Ibid.
[31] Ibid., 151.
[32] Knight, "The Rise and Fall of Cardenismo," 307.

Múgica, yet operating under the postulates of popular-frontism. In 1940, following a contentious Presidential campaign, Ávila Camacho stated unequivocally that he was "a believer," a statement of faith that would have been unthinkable coming from Calles in the 1920s. Ávila Camacho abandoned Cárdenas' project socialist education, instead pushing the "anodyne slogans of the regime": family, Catholic custom, national unity, democracy, and anti-fascism and anti-communism.[33] His industrial policy favored management by means of easy credit, favorable tax policy, friendly courts, and a pliant CTM collaborative with the State's more conservative policies. In agriculture, the ejido lost the State's de facto support, resulting in a reorientation of land tenure toward private ownership as ejidal distribution and litigation over land ownership slowed, to landlords' benefit. As such, while Ávila Camacho "offered all things to all men," it was clear that the overall trend of his administration was rightward, relative to Cardenismo.[34]

This relative conservatism also evident in the realm of health. The Cárdenas *sexenio* had seen the peak of Federal expenditures for social concerns in a proportion not seen again until the height of the Mexican Miracle, with overall expenditures often exceeding projected expenditures.[35] The percent of the projected budget devoted to social endeavors—defined by James Wilkie as public health, welfare, and assistance—grew from 3.8 to 8.2 percent between 1934 and 1940. After the 1938 budget, however, in which saw the largest increase in spending in a one-year period (3.3 to 6.1 percent), the growth rate markedly abated, following the oil expropriation. Actual expenditures remained between 6 and 7 percent and projected expenditures hovered around 8.5% for the last Cárdenas years and first few of the Ávila Camacho administration, until the 1943 budget, when both figures began to fall, likely an effect

[33] Ibid., 307.
[34] Ibid., 298.
[35] James E. Wilkie, *The Mexican Revolution: Federal Expenditure and Social Change Since 1910* (Berkeley: University of California Press, 1970), 33-35.

of Mexico's involvement in World War II.[36] Expenditures by the DSP and its successor as a percent of the total budget tracked this as well: a marked increase early in the Cárdenas *sexenio*, followed by a reversion to the mean. Ejidal medicine was also on the chopping block. In 1936, ejidal clinics had been 96% federally-funded; by 1943, clinics only received 42% of their funds from Mexico City, and served only a third of the patients seen during the Cárdenas years.[37] Only three additional clinics were created in 1938 and 1939; the Second *Plan Sexenal* of 1941 reorganized the ejidal services to provide curative, rather than preventative care.[38] The remaining funding burden was passed onto the ejidatarios, both by raising contribution rates and by more rigorous enforcement of those contributions. This signaled an end to the broad-based Federal support of rural medicine that characterized Cardenista health institutions.[39]

While the spirit of the Ávila Camacho era was palpably different than the years of high Cardenismo, certain programs persisted, or indeed, were expanded, centralized, and institutionalized. To accomplish a vision of national unity and relative class comity (undergirded by a commitment to a US-oriented capitalist modernization), the State leaned on institutions created during Cardenismo—like the CTM or CNC—and transformed them into top-down corporate entities. By 1940, the public health revolution was too on the path to institutionalization, often a dirty word for revisionists who view the State party's evolution into the PRI as a sign of the betrayal of the social justice "spirit" of the Revolution. The Avilacamachista State established social security, that pipe dream of Cárdenas, in 1943 under the auspices of the *Instituto Mexicano de Seguro Social* (IMSS). It would become one of a few

[36] Ibid., 166.
[37] Kapelusz-Poppi, "Physician Activists," 44.
[38] Carillo, "Salud pública," 173; 178. Curative care would require a lesser investment than preventative health along social medicine lines, given the high cost of—and logistical difficulties of—eradicating many endemic diseases like malaria and "social diseases" such as alcoholism and syphilis.
[39] Kapelusz-Poppi, "Physician Activists," 44.

bodies that would, in coming years, be responsible for distributing health-related rents to the State's corporate groups. In the late-1950s, IMSS was supplemented by President Lopez Mateos' establishment of the *Instituto de Seguridad y Servicios Sociales de los Trabajadores del Estado* or ISSSTE, a source of social security and services for Mexico's state employees.[40]

As seen from Fernando Salina's 1942 thesis, the SMS was one of the Cardenista-era institutions that survived the conservative retrenchment. Though the tenor of politics changed after 1938, pasantes were still going out to rural regions, with their handbooks and a little case of medicines, to cater to still-vulnerable populations. In fact, not only did the SMS persist, but it was expanded and institutionalized. Between 1936 and 1946, 3157 students went on *servicio*. In 1942, the Ávila Camacho Administration wrote the SMS into the Mexican Constitution via a modification of its Articles 4 and 5. With this, the program was expanded nationwide, to require all *professional* students to perform social service before receiving their degrees.[41] In 1945, Congress passed a law instituting these constitutional changes.[42]

By 1960—the halcyon days of the Mexican Miracle—17,156 pasantes of medicine had performed a *servicio*. In 1975, under President Luis Echeverría, who consciously cultivated a sort of neo-Cardenista spirit, the *servicio social* was reformed again. In 1978, the *Comisión Coordinadora del Servicio Social de Estudiantes de las Instituciones de Educación Superior* (COSSIES) was established, creating a national body for the standardization, coordination, and support of the thousands of students departing for their *servicio* every year. Evidently, the *Servicio Social* remained a program of some significance to the PRI, to the extent that

[40] Informal workers, a large percentage of Mexico's economy, would not have coverage until *Seguro Popular* was established in 2003. As of January 1, 2020, *Seguro Popular* is no more, replaced by the *Instituto Nacional de Salud para el Bienestar* (INSABI). Stephen Niblo, *Mexico in the 1940s: Modernity, Politics, and Corruption* (Wilmington: SR Books, 1999) has a section devoted to science and medicine in the 1940s, but it is a survey.
[41] Mazón Ramírez, "El Servicio Social Médico," 6-7.
[42] Meza Huacuja, "De la Universidad," 639.

Echeverría's successor, José Lopez Portillo, placed his son at the head of COSSIES in 1980. It survived the end of the PRI's monopoly on power in 2000, as power passed from the Revolutionary Party to the PAN for the first time. It persists today.

The SMS is now a mature program, thoroughly institutionalized and part of Mexico's social and cultural fabric. Mexico is quite a different country, socially and politically, than it was in August 1936, when the first cohort of pasantes ventured forth to rural and neglected environments. Medical practice, too, is quite different, as are the terms of the social contract that defines the duties and responsibilities of the State to Medicine and vice versa. The question of the SMS' role in mediating that boundary today is one for another dissertation.

In *this* dissertation, however, I have endeavored to understand the SMS' role in responding to ongoing conflicts between Medicine and the Cardenista State through the 1930s. During the Porfiriato, Medicine in Mexico set itself apart from more charismatic empiric healers with whom it competed for patients by adopting a scientistic and affectively neutral emotional regime. By the 1930s, however, this strategy had outlived its usefulness. Cardenistas, with their interest in stimulating a mass politics of the traditionally-neglected, were concerned with the reform of institutions that were not consonant with their "new orientation." Medicine was one such institution. In keeping with its relative debility, the Cardenista State did not command, but rather cajoled and subtly threatened to abrogate the profession's autonomy. It critiqued physicians' inadequate commitment to caring for the vulnerable.

Medicine, concerned with protecting its autonomy, responded. While it condemned any attempt to wholly subordinate Medicine to the State, many physicians saw a social and political opportunity in altering the social contract. The profession opened its old castle to meet the people. In medical education of the 1930s, this was reflected in curricular reform that

foregrounded the tenets of social medicine for young trainees—those who would be responsible for moving Medicine forward. Tensions persisted, however. As Cardenismo was engaged in a pitched battle regarding socialist education at the UNAM—a battle with stakes familiar to Medicine, namely the abrogation of the University's autonomy—physicians, as represented by Dr. Gustavo Baz, saw an opportunity to negotiate a settlement of benefit to all parties. The product was the SMS, which ceded the State's point regarding Medicine's emotional inadequacies and aimed to correct it by compelling medical students to venture out to the nation's rural corners, its indigenous communities, its workcamps, mines, and factories inhabited by peasants, Indians, workers, the vulnerable, put-upon, and "primitive" people that Cardenistas hoped to welcome into the national political community.

Pasantes went off to their *servicio* sites. While Medicine and the Cardenista State set forth practical and philosophical goals for the *servicio*, the complexities of providing medical care in resource-poor settings predominantly structured reality. During their *servicio* and in their receptional theses, pasantes did their best to satisfy the institutional and emotional expectations of both Medicine and the Cardenista State, while also responding to the challenges facing them. They thus gave form to a new emotional regime, that of the "new orientation," that of the compassionate, socialized physician. In rural places, pasantes stole pipe from oil companies to make plumbing for sick villagers and did epidemiological study to understand the prevalence of thyroid disease at the base of Popocatepetl, to demonstrate their commitment to social medicine. Pasantes fused racialized beliefs, eugenic ideas, and paternalistic compassion to justify a role for physicians to play in the "redemption" of Mexico's "backward," "ignorant" populations. In industrial settings, pasantes triangulated the needs of State, labor, and management, justifying Medicine's role as guardian of national productivity and capitalism. Irrespective of setting,

pasantes' compassion for the vulnerable animated the way they engaged their patients. Their compassion served as a matrix within which students could transform broader beliefs about the Mexican nation—modernization, national capitalism, eugenics, hygienization—into the concrete political action of clinical care.

As a case study, the SMS allows us to shed light not merely on issues of relatively narrow academic, historical, or historiographic interest. It encourages us to wrestle with certain conceptual themes that transcend geographic, temporal, or disciplinary context:

One important theme that weaves itself through this dissertation is the fact that Medicine is unavoidably political. The profession often likes to keep politics at arm's length, for both practical and sociological reasons. Staying "apolitical" per se allows physicians to not fall victim to polarization, and thus, preserve close relationships with diverse patients. It also ensures that the profession does not overstep its bounds, alienating the electorate or the State in such a way that would hamper its ability to remain independent. One physician reflected on this affected apoliticism in a prominent blog for physicians, residents, and medical students:

> When I started working as a resident physician and later went on to my attending physician role, I had countless family members, friends, and colleagues who know my passion for social and political advocacy advise me against being outspoken on social media regarding my beliefs. Statements such as "doctors should remain neutral in the public sphere," "you may not get a job based on your views," and "patients may be turned off" all echoed in my social circle.[43]

For the author—and for many medical students and residents and patients—that proposition evokes an internal tension. Though physicians may not explicitly participate in "capital-P Politics"—and though some physicians may deny that they wield political power—the very practice of medicine is a political act:

> After all, aren't politics and social policies inextricably linked to the practice of medicine?...Aren't we all appalled by the neglect of marginalized communities and patient populations? Isn't there frustration in our voices when we are arguing with an insurance provider and pleading the party on

[43] Jessica Kiarashi, "Why doctors should get political," *Kevin MD,* https://www.kevinmd.com/blog/2020/03/why-doctors-should-get-political.html. Accessed November 14, 2021.

> the other line to authorize this very essential diagnostic test or drug that a patient needs? Aren't we all sick and tired of this fight, and shouldn't we be allowed to express that without fear that we will lose our jobs? As I become further entrenched within the world of medicine, I see more and more why politics is intimately related to the practice of medicine and, in fact, in some instances a necessity.[44]

For a profession so thoroughly concerned about the social and power dynamics between various sorts of groups and individuals, politics is indeed central to the practice of medicine. Virchow knew it; we should be aware of it as well.

As a corollary to this, we must recognize that feeling is an intimate and inextricable part of Medicine's politics. Every doctor/patient interaction involves an emotional orientation. In adopting a certain form of relating to patients, doctors inevitably enact a certain form of politics, as their emotional orientation influences the conformation of the particular doctor/patient relationship and the power relations inherent in it. Discussions regarding diversity of practitioners, how to deal with patients' refusal of vaccines, how best to describe patients in electronic medical records, how best to interact with patients while taking notes on computers, even wait times in clinical spaces relate to Medicine's emotional relationship to its constituents, if you will. They all involve the question of how doctors should treat their patients, with "treat" signifying not merely "clinically intervene upon," but also "relate to as fellow human beings." Daily, the centrality of emotion to medical care and medical education is manifest, in every encounter that attending physicians, residents, and medical students have with patients.

Notwithstanding Medicine's penchant for rationalization and apoliticism, however, it seems that contemporary Medicine has at least an inkling that feeling is important to successful practice. Understanding the emotional life of patients has been identified as a core competency in contemporary medical education, often represented under the rubric of "Professionalism," and described as a responsibility to demonstrate "compassion, integrity, and respect for others," as

[44] Ibid.

well as "sensitivity and responsiveness to a diverse patient population."[45] Discussions about empathy are pervasive within medical education circles—what empathy is, whether it can be taught or must be innate, whether the medical humanities can instill it, what a "clinical empathy" might mean—and the persistence and interest of the many scholars who have written about empathy reveals the stakes associated with feeling.[46] Empathy is seen as an *a priori* good by humanists, who desire to arrest what many perceive as a mechanization and anonymization of medical care, with a concomitant emotional distance between doctor and patient. It is thought that these conditions cause "burnout" among physicians, a "syndrome" of "emotional exhaustion, cynicism and depersonalization, reduced professional efficacy and personal accomplishment."[47] Some argue that the reinforcement of patient humanity, and the cultivation of physicians' emotional engagement with those patients, is protective:

> If we wish to create wiser, more tolerant, empathetic, and resilient physicians, we might want to reintegrate the humanities in medical education. This is nothing new. Commenting more than 100 years ago on the risk of burnout, Rudolf Virchow exhorted students to cultivate the humanities: "You can soon become so engrossed in study, then [in] professional cares, [then] in getting and spending, you may so lay waste your powers that you find too late with hearts given away that there is no place in your habit-stricken souls for those gentler influences that make life worth living."[48]

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[45] "Core Competencies," *Stanford Graduate Medical Education,* https://med.stanford.edu/gme/housestaff/all-topics/core_competencies.html.

[46] See, for instance, Jodi Halpern, "What is clinical empathy?" *Journal of general internal medicine* vol. 18,8 (2003): 670-4. doi:10.1046/j.1525-1497.2003.21017.x; EB Larson and Yao X, "Clinical Empathy as Emotional Labor in the Patient-Physician Relationship," *JAMA,* 2005; 293(9):1100–1106. doi:10.1001/jama.293.9.1100; Elliot M. Hirsch, "The Role of Empathy in Medicine: A Medical Student's Perspective," *AMA Journal of Ethics Virtual Mentor.* 2007; 9(6):423-427. doi: 10.1001/virtualmentor.2007.9.6.medu1-0706; David Jeffrey, "Clarifying empathy: the first step to more humane clinical care," *British Journal of General Practice*, 2016; 66 (643): e143-e145. DOI: https://doi.org/10.3399/bjgp16X683761; William Branch, "Use of critical incident reports in medical education. A perspective." *Journal of general internal medicine* 20, no. 11 (2005): 1063-7. For a digest of this literature for more general audiences, see Sandra Boodman, "How to teach doctors empathy," *The Atlantic*, https://www.theatlantic.com/health/archive/2015/03/how-to-teach-doctors-empathy/387784/.

[47] Maslach C, Schaufeli WB, Leiter MP, "Job burnout," *Annu Rev Psychol*. 52 (2001):397–422. doi:10.1146/annurev.psych.52.1.397. See HJ Freudenberger, "The staff burn-out syndrome in alternative institutions," *Psychotherapy* 12 (1975): 73–82 and S. De Hert, "Burnout in Healthcare Workers: Prevalence, Impact and Preventative Strategies," *Local Reg Anesth* 13 (2020) :171-183. doi:10.2147/LRA.S240564.

[48] Salvatore Mangione, et al., "Medical Students' Exposure to the Humanities Correlates with Positive Personal Qualities and Reduced Burnout: A Multi-Institutional U.S. Survey," *JGIM* vol. 33, no. 5 (2018): 628-634. See Chantal M.L.R. Brazeau, et.al., "Relationships Between Medical Student Burnout, Empathy, and Professionalism Climate," Academic Medicine 85, No. 10 (October 2010): S33-S36; Krasner et al., "Association of an Educational Program in Mindful Communication with Burnout, Empathy, and Attitudes Among Primary Care Physicians," *JAMA* 302, no. 12 (2009):1284-93.

By nurturing professionals' capacity to emotionally identify with patients, physicians are less likely to fall prey to burnout and its corrosive influences on the doctor/patient relationship.

Though some of the particulars are distinct, the resonances with 1930s-era debates regarding Medicine's emotional shortcomings are familiar. For medical educators keen to improve the emotional resilience of medical students both purposefully and productively, the SMS thus provides some interesting material to consider. It vividly demonstrates the benefits of exposing medical students and residents to the "real world" of clinical care. While some of the ethical dimensions of medical care per se have changed sufficiently as to render the SMS project unworkable for our current moment, the case nevertheless reveals the potential benefits of a national service program for medical students, specifically devoted to exposing students to rural and underserved areas. Clearly, this would involve a great deal of financial and institutional work at the Federal level, as it did in Cardenista Mexico, though there do exist examples of national service programs that may serve as models. As it stands, in the US, there is a sort of proxy for this: certain loan repayment programs exist for residents who choose to serve in rural places, but this is not a commonly trod path for residents. The more common Public Service Loan Forgiveness (PSLF) program incentivizes physicians to seek employment at governmental or non-for-profit organizations, as after 10 years of loan payments, the remaining indebtedness is forgiven. The problem with PSLF, however, is that non-profit organizations do not necessarily always address issues of physician density—think of university hospital systems in urban areas—nor always principally help underserved communities. Recognizing these limitations and challenges in the clinical realm, medical schools and residency programs could at very least be purposeful about the development of their learning environments—doing more to allow for learning away from hub hospitals. Medical schools could work to expand longitudinal

opportunities for students to spend time with patients in a broader array of life contexts, for example, allowing students to see how patients interact with social structures every day.

Prior to entering clinical settings—the crucible within which emotional navigation takes place—students should be given the intellectual tools necessary to cultivate productive ways to manage the complex problems inherent in providing care for fellow humans. As above, the problem of curricular instruction of "empathy" has been recognized many years. Despite this consternation about training physicians who are committed to treating patients compassionately; who view them as complex subjects, rather than objects; medical schools continue to engage in anemic gestures toward "teaching empathy." Some of this is due to lack of resources. Some of it is also due to lack of imagination: in the quest to ensure that educational interventions are "evidence-based," humanistic and social scientific additions to curricula must demonstrate their benefit by means of quantized metrics that show this exposure produced better doctors. As Jeremy Greene and David Jones have noted, however, when medical schools increased instruction in genetics, no testing was undertaken to assess the benefit of the intervention. The reason? "Most medical schools and accrediting agencies simply assume the value of anatomy and biochemistry," and do not offer the same to the social sciences or humanities.[49]

Jim Woodruff has elucidated the underlying conceptual problem at play: the unanticipated bequest of the Flexner Report on medical education has been the diffusion of reductionistic thought in medicine. Deploying systems theory, Woodruff refers to this attitude as seeing patients as "complicated systems," which, as the basic sciences teach, are "solvable," as one would solve a physics problem. As Woodruff has observed, this cognitive strategy fails to provide results when medical students transition from basic science lectures to the hospital

[49] Jeremy A. Greene and David S. Jones, "The Shared Goals and Distinct Strengths of the Medical Humanities: Can the Sum of the Parts Be Greater Than the Whole?" *Academic Medicine* 92 (2017): 1661–1664.

setting to begin their clinical training, leaving students feeling the system makes no sense, that there are no good answers or outcomes, and that they are impotent. This is because, per Woodruff, humans are "complex systems," whose problems are not solvable by recourse to reductionism. Humans and their illnesses are social, cultural, political and emotional entities.[50] The sooner we expose medical students that idea, the better.

Indeed, as Part Two shows vividly, the SMS reveals that it is essential that students develop their emotional politics in such a way as to challenge the structurally racist, misogynistic, classist dimensions inherent in the structures of biomedicine, or indeed, in broader society, rather than reinforcing them under the veneer of "compassion." For that reason, critique, sustained "estrangement," and intellectual disruption must be an indispensable part of curricular interventions designed to improve equity.[51] To ensure this, Jones, Greene, Duffin, and Harley Warner have articulated a nice array of interventions to expand the teaching of medical humanities.[52] As they note, there are clearly challenges for medical schools who may not have historians, sociologists, anthropologists, etc. on faculty, but this need not preclude reform. There are courses that are ubiquitous across curricula that may serve as an ideal anchor for instruction in the principles of the medical humanities, chief among them being medical ethics.

Were they adopted systematically, these reforms would certainly challenge medical students in ways they were likely never challenged before. They would have to navigate Medicine's choppy emotional waters, engaging in self-discovery, challenging their own *a prioris* and presuppositions about disease, about certain types of patients, and about the fundamental

[50] James Woodruff, "Accounting for complexity in medical education: a model of adaptive behaviour in medicine," *Medical Education* 2019: 53: 861–873. doi: 10.1111/medu.13905.
[51] Greene and Jones, "The Shared Goals," 1662.
[52] See propositions articulated in Ibid and in Jones, Greene, Duffin, Warner, "Making the case for history in medical education," *J Hist Med Allied Sci*. 70 (2015): 623–652.

structures—institutional, political, economic, and indeed, emotional—upon which the healthcare system rests. No more hidden curriculum: this would be purposeful recognition of the vital importance of feeling—in its various crystallized forms—to professional development.

Undertaking these reforms would not easy. The recognition of challenge is not a good reason to *not* attempt something, however. In 1942, while reflecting on his *servicio*, pasante Jose Ochoa wanted

> to make evident my deep love for our profession and that which impels us to try to climb one more stair more to be able to make pain distant, to cure the sick, to comfort the suffering, and to try to console the dying.[53]

It was precisely because of the challenges of the overwhelming realities of providing care to Mexico's vulnerable masses that Ochoa's commitment to be a physician—to be a good, compassionate physician—had been nourished.

[53] Jose Ochoa Aleman, "Informe general sobre la exploración sanitaria del municipio del estado de Guanajuato," UNAM, 1942, 1.

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