

THE UNIVERSITY OF CHICAGO

THE METROLOGICAL MOUNTAIN:  
'TRANSLATING' TUBERCULOSIS IN PERIURBAN BOLIVIA

A DISSERTATION SUBMITTED TO  
THE FACULTY OF THE DIVISION OF THE SOCIAL SCIENCES  
IN CANDIDACY FOR THE DEGREE OF  
DOCTOR OF PHILOSOPHY

DEPARTMENT OF ANTHROPOLOGY

BY

STEPHEN KINGSLEY SCOTT

CHICAGO, ILLINOIS

AUGUST 2009

Copy © 2009 Stephen Kingsley Scott  
All Rights Reserved

For my my parents



Is There an Indigenous Tuberculosis?.....	203
Foreign matters: The early debate	
The médico and the científico	
First translation: Indigenizing the bacillus	
Second translation: Pathologizing the cholo	
Remaking the “Indigenous Tuberculosis”.....	229
Trials of strength: The wartime tuberculosis	
Third translation: TB as “occupational disease”	
Conclusion .....	242
<i>“What Will It Be, These Things?”</i> .....	245
4. DESIGNATION: RECRUITING PATIENTS IN THE PUBLIC DIAGNOSTICS LABORATORY .....	255
Sputum-Smear Microscopy and Lab Results on the TB Control Platform.....	261
Case-Finding on the TB Platform .....	272
Passive recruitment and the (un)recognizability of the cough	
Active recruitment and community-based interviewing	
Clinical consultation and the neighborhood CS	
Creating the representative sample	
Transporting samples	
Programming and campaigning	
Making Sputum Speak: Inside the Public Diagnostics Lab.....	319
Preparing slides	
Reading slides	
Having the eyes, but also the heart... to solve controversies	
Quality control	
Conclusion: Designation, At Last .....	342
<i>“El Abandono”</i> .....	348
5. CONSCIENTIZATION: ARTICULATING TB PATIENTHOOD IN DIRECTLY OBSERVED THERAPY.....	359
Treating Tuberculosis in the Sala de DOTS.....	361
TB patienthood and the ‘career timetables’ of directly-observed therapy	
The weakest link: the limits of the directly-observed therapy	
Teaching Tuberculosis in the Sala de Reuniones .....	380
TB conscientización as communicative labor	
Sensibilización	
Testimonios	
Conclusion .....	419

<i>“All Campaigns Are Victorious, They Only Require Persistence in the Heart of A Women”</i> .....	421
6. COMMENSURATION: COMMUNITY MOBILIZATION AND HOUSEHOLD CONTROL “OUT THERE” .....	431
Epidemiological Vigilantes and Ethnic Emblematicities .....	440
De pollera	
Aymaracized-Spanish	
El Alto, 2004: The Home Visit (Visita Domiciliaria).....	455
Conscientization-at-a-distance	
Comadreando-by-degrees	
Conclusion .....	487
BIBLIOGRAPHY .....	489

## LIST OF FIGURES

### Figure

1. “The city below” from the viewpoint of “the city above” .....	8
2. Map of Bolivia .....	41
3. Map of El Alto and La Paz.....	41
4. El Alto, Andean City .....	43
5. Estimated TB incidences at scales of contrast, 1990-2004.....	56
6. Map of global TB burden by reported TB incidence, 2004 .....	57
7. <i>Plaza Minero</i> , commemorating El Alto’s historic relation to mining.....	89
8. Reported TB incidence and TB control services in Bolivia, 1971-2004 .....	106
9. “With passport ready”: The fate of relocated miners.....	129
10. “The disease of poverty” .....	132
11. TB articles in major Bolivian newspapers, 1984-2004.....	135
12. “No señores: tuberculosis is not a disease of miners”.....	148
13. Figurations of public agency and passive patienthood .....	155
14. Counter-figurations of public agency and active patienthood .....	156
15. TB’s “epidemiological chain”.....	170
16. “Despite being those that maintain the family they have to fight against the disease of the poor”.....	174
17. “A sick person infects another person each month”.....	177
18. <i>Pongo</i> in La Paz, 1876.....	186
19. Artist’s rendition of the Ministry of Public Health and Social Prevision.....	201
20. Plans for the Instituto Nacional de Bacteriología “Montes,” 1919.....	219
21. Indigenous recruits en route to the Chaco, 1932.....	232
22. <i>Instituto Nacional de Tórax</i> , opened in 1959, as it is today .....	241
23. “More or less the campo”.....	246
24. “Decision Tree” for TB cases.....	252
25. Sample TB <i>laboratorio</i> .....	262
26. Representation of <i>Mycobacterium tb</i> on the wall of a neighborhood CS .....	265
27. The official diagnostic protocol for TB case-detection under DOTS .....	267
28. TB Billboards in El Alto: “Let’s struggle against tuberculosis” .....	280
29. TB community outreach in neighborhood plaza, El Alto .....	287
30. A smaller, older neighborhood <i>Centro de Salud</i> in El Alto.....	291
31. A sample clinical history, with the “diagnosis” <i>sintomático respiratorio</i> .....	295
32. Labeled <i>vasito</i> , or sputum specimen container .....	303
33. Sample solicitation form for TB services .....	305

34. The makeshift modes of transporting sputum samples.....	309
35. TB <i>hoja de monitoreo</i> , monitoring chart .....	311
36. “Programming” at the monthly staff meetings at the CS.....	313
37. Map of TB diagnostic laboratories in the Department of La Paz .....	320
38. Poster depicting the steps of sputum smear microscopy, or <i>baciloscopía</i> .....	322
39. Re-labeled TB <i>frescos</i> , on the docket .....	326
40. Creating the sputum smear in the hood.....	328
41. Staining slides using the Ziehl-Neelsen method.....	330
42. Stained slides .....	331
43. “Reading” slides.....	334
44. BAAR under the microscope.....	338
45. The quality control lab at the <i>Instituto Nacional de Tórax</i> .....	340
46. Typing up lab results .....	343
47. The pair-part structure of TB designation.....	344
48. Front cover of TB flipchart, <i>El Abandono</i> .....	352
49. TB flipchart, <i>El Abandono</i> , re-presented, part 1 .....	354
50. TB flipchart, <i>El Abandono</i> , re-presented, part 2.....	355
51. Sample DOTS <i>ficha de tratamiento</i> .....	361
52. Inside the <i>sala de DOTS</i> .....	363
53. Directly-observed therapy, in ideal form.....	365
54. Backside of a patient’s <i>ficha de tratamiento</i> .....	368
55. DOTS poster: “Tuberculosis, you can beat it!”.....	370
56. World TB Day Poster: “DOTS cured me—it will cure you too!”.....	393
57. Dr. C performing a labeling routine.....	408
58. “Thanks for the support Pepelucho”.....	423
59. “We already warned you, the Aymara man is better than the system”.....	424
60. <i>Manzaneras de salud</i> , at the mayor’s campaign rally .....	425
61. Dr. José Luis Paredes, “Pepelucho” .....	426
62. <i>Manzanera de salud</i> , with certificate and <i>sombrero</i> .....	428
63. Sample TB <i>acta de compromiso</i> .....	432
64. Sample record of home visit ( <i>visita domiciliaria</i> ).....	433
65. <i>Manzaneras</i> descend on El Alto.....	441
66. <i>Manzanera</i> emblematics delimiting neighborhood blocks.....	442
67. Map pinpointing tubercular households at the neighborhood CS.....	444
68. <i>Aph’api</i> at weekly <i>manzanera</i> meeting.....	446
69. <i>Cholita</i> commodity fetishism.....	451
70. <i>Manzanera</i> Poster: “Open your door to the <i>Manzaneras</i> today!” .....	455
71. <i>Medias aguas</i> construction type in El Alto .....	460



## LIST OF TABLES

### Table

1. Science vs. advocacy: Recommended calibration of message form to audience .....	390
2. “Packaging the message” .....	391
3. Perspectival language ideologies associated with ‘Aymaracized’-Spanish.....	454

## LIST OF ABBREVIATIONS

ACSM	Advocacy, Communication, and Social Mobilization Program
BAAR	<i>Bacilo Ácido-Alcohol Resistente</i> Acid-Fast Bacteria
BCG	Bacillus Calmette-Guérin (TB vaccine)
COB	<i>Central Obrero Boliviano</i> Bolivia Worker's Center
COMIBOL	<i>Corporación Minera de Bolivia</i> Bolivian Mining Corporation
COMSIB	<i>Confederación de Médicos Sindicales de Bolivia</i> Union Federation of Bolivian Physicians
CS	<i>Centro de Salud</i> Health Center
CSUTCB	<i>Confederación Sindical Única de Trabajadores Campesinos de Bolivia</i> Unique Confederation of Rural Laborers of Bolivia
DALYS	Disability-Adjusted Life Years
DIMUSA	<i>Dirección Municipal de Salud</i> Municipal Health Board
DOT	Directly Observed Therapy
DOTS	Directly Observed Treatment, Short Course
DOTS-C	Directly Observed Treatment, Short Course- <i>Comunitaria</i>
FSTMB	<i>Federación Sindical de Trabajadores Mineros de Bolivia</i> Union Federation of Bolivian Mine Workers
IEC	Information, Education, and Communication Program
INB	<i>Instituto Nacional de Bacteriología</i> National Bacteriology Institute
INLASA	<i>Instituto Nacional de Laboratorios de Salud</i> National Institute of Health Laboratories
INT	<i>Instituto Nacional de Tórax</i> National Thoracic Institute
MDR-TB	Multi-Drug Resistant Tuberculosis
MSPS	<i>Ministerio de Salud y Previsión Social</i> Ministry of Health and Social Prevision
NGO	Non-Governmental Organization
PAHO	Pan American Health Organization
PNCT	<i>Programa Nacional de Control de la Tuberculosis</i> National Tuberculosis Control Program
RBH	<i>Revista de Bacteriología e Higiene</i> Journal of Bacteriology and Hygiene

SEDES	<i>Servicio Departamental de Salud</i> Departmental Health Service
SR	<i>Síntomático Respiratorio</i> Respiratory Symptomatic Person
TB	Tuberculosis
UNESCO	United Nations Educational, Scientific, and Cultural Organization
USAID	United States Agency for International Development
WHO	World Health Organization

## ACKNOWLEDGEMENTS

The attribution of authorship, my training tells me, only emerges at the end of a project, and often at the cost of erasing the countless individuals and ideas that have been involved in its production, from its inception to its completion. So many years in the making, it gives me pleasure to acknowledge all those that have helped me along the way.

I have been fortunate as a student at the University of Chicago to have had the support of a number of extraordinary teachers and mentors. Many of them have served on my dissertation committee at various points, most up until the very end. Others provided intellectual support over the years in and out of classes, conferences, workshops, and office hours. First I would like to thank my committee members, Michael Silverstein, John Kelly, Joe Masco, and Alan Kolata. This project went through so many transformations and so often threatened to come undone at the seams as it seemed to rush in so many different directions. I am grateful to the guidance, vision, and patience they offered me to keep it keep moving in a productive direction and see to its eventual, if slow conclusion. More than anything, I have learned from them, each in their own way, what it means to be an anthropologist and a scholar. Nadia Abu-El Haj served on this committee in its initial stages and I would like to thank her for helping to get the ball rolling. Susan Gal has been a tremendous help over the years, always willing to offer critical commentary and a fresh perspective on the broader themes of the project. I owe a big thanks to Anne Chi'en, the Department Administrator. Without her encouragement and oversight, most especially in the final stages—indeed in the final weeks and even days—of my write-up, right up until the eve of my defense, I'm not sure this would have come to pass.

I must thank the National Science Foundation, the Fulbright-Hays Foundation, the Tinker Foundation, and the Social Science Division at the University of Chicago for generously supporting this research and its write-up.

This project has been shaped, too, in countless ways by the intellectual milieu of student life at the University of Chicago. In particular, I would like to thank Anya Bernstein, Paul Kockelman, Alison Kohn, Kate McGurn, Alex Mawyer, Clare Sammells, Cassie Fennel, and Patrick Hajovsky, all of whom read drafts of this dissertation at some stage or another and provided critical insight and commentary. I would like to thank the cohort of Bolivianists, many fellow students in Chicago, that made my experience in the field such a memorable one: Clare Sammells and her husband Chris Exner, Molly Callahan, Kate McGurn, Miguel Centellas, Ben Smith, Jay Sosa, Maria Bruno, and last but far from least, Alison Kohn. A special thanks, in fact, goes to Alison Kohn. I am especially appreciative of her unflagging belief in my competency as an ethnographer, when I had all but convinced myself otherwise. I would also like to acknowledge the absolutely crucial role that Hilary Dick played in the write-up of this dissertation, selflessly devoting an inordinate amount of her brief year at the University of Chicago to showing me how to better formulate my ideas, as well as teaching me how to strike a better balance between academic and everyday life.

In Bolivia, I would like to thank most especially Romay Alvarado, Rolando Torrico, Nelly Salgeiro, and their respective families, for opening up their homes and hearts to me as much as opening up doors necessary to this research. Miguel Huanca and Juan de Dios Yapita, my Aymara instructors in the US and in Bolivia, respectively, deserve a special thanks for the patience and pleasure they showed in teaching me about Aymara language and culture—and as

dear to me, Aymara humor. In Bolivia, too, I am thankful to the dozens of public health officials, healthworkers, and community volunteers that welcomed me into their lives as a researcher and treated me as a colleague even when I asked the silliest of questions. I would also like to thank the men and women of Mercado Munaypata, who always had a warm cup of coffee and a warm seat at a bench ready for me—I would like to thank them all for serving as my family away from home.

So many other people deserve to be acknowledged here too. I will mention Marlous van Wayenburg in particular, for her incredible devotion to ensuring that this dissertation project finally reached its end. My sister, Stacey, challenged me to finish this dissertation by beginning one of her own—and nearly completing it—in the time I took after returning from the field. Without the love, care, inspiration, and encouragement of my parents, William and Sally Scott, I would never be where I am now, never be who I am now. As in all facets of my life, they were fruitfully involved in this dissertation research and write-up. I will never forget the weekend my father spent at my side, as a sounding board of sorts, helping me to push through one of the most difficult points in my write-up, devotedly helping me to struggle through a complex web of ideas that were far from his own field of expertise. And I will always cherish the near nightly telephone chats with my mother, where she called to see how I was doing, what progress I had made, and to constantly remind me that, even when it might not seem like much, I indeed was making progress.

## INTRODUCTION

“Metrology is the vast enterprise to make the outside into a world in which machine and facts can survive.”

—Bruno Latour, *Science in Action*

“Being lifted like this into regions whose air he had never breathed before and whose sparse and meager conditions were, as he well knew, both unfamiliar and peculiar—it all began to excite him, to fill him with a certain anxiety.”

—Thomas Mann, *The Magic Mountain*

“We do not think of the designing of a radio station or a power plant as a linguistic process, but it is one nonetheless.”

—Benjamin Lee Whorf, “Language, mind, and reality”

Like most tuberculosis patients in periurban Bolivia, my first real encounter with the conceptual world of state-sponsored TB control began with a simple, standardized text: the patient’s treatment card, or *ficha de tratamiento*. Like most local healthworkers in periurban Bolivia, however, my first real encounter with the *actual practice* of conducting state-sponsored TB control—TB control as it is daily performed, on the ground, in the thick of things—began with the difficult, time consuming, ever-ambiguous, and always frustrating struggle of trying to get the periurban patient, as a complex, socially-located biographical person, to “fit” into the narrow conceptual world organized and enacted through that simple, standardized, but absolutely crucial genre of text, the patient’s *ficha*.

It was the raining season in El Alto, early 2004, and the streets of the city's neighborhoods had been transformed into slippery rivulets of mud and sewage. The walls of the small, neighborhood health center, or *centro de salud* (the CS), had started to buckle and crack, sprouting prodigious streaks of mold and mildew. The waiting room was cold and musky, and an array of pots and trashbins occupied the concrete floor, collecting rainwater from the leaky roof. Estele, the CS's head nurse, or *licenciada*, had wanted a handful of nursing students from the municipal university—the *señoritas*, as she called them—to pay a home visit, or *visita domicialia*, to the residence of a TB patient, a man in his early-30s, who, more than month prior, had returned a positive sputum exam, or *baciloscopia*, the official means of creating a new TB patient in Bolivia, a person with legal entitlement to state-sponsored TB treatment. As Estele explained, the man had attended the first few weeks of treatment, then abruptly stopped coming, seven months shy of completing his daily regimen of noxious, antitubercular drugs—ethambutol, isoniazid, pyrazinamide, and rifampicin—swallowed under her watchful eye.

Professional surveillers of pill swallows, that's what nurses had become under DOTS, Estele once joked to me, a joke that global TB control officials themselves often make. DOTS is the World Health Organization's (WHO) current global TB strategy, aimed at stemming the creation and spread of drug-resistant strains of tuberculosis through the "direct observation" of the patients' daily drug intake, among other things—a program only recently introduced in Bolivia.

Rooting around in a cardboard box, fortified from the elements by dense layers of scotch tape, Estele came up with the man's treatment card. "Very *skiiiiny*," she recalled, handing it to Sandra, one of the nursing students nearing the end of her training. Estele was worried the man



had “abandoned” treatment, worried for him, but also for herself: with DOTS the continuing employment of nurses like Estele increasingly turns on “capturing” new TB patients and ensuring that they “comply” with the 8-months daily drug regimen prescribed by the DOTS strategy. Estele wanted Sandra and two others to go into the neighborhood and locate the man, a thankless task that local healthworkers describe, quite aptly for this time of year, as a kind of local fishing expedition, as *pescando pacientes*, “fishing for patients.”

Printed on the surface of the treatment card is all one needs to know to enact the daily routines of DOTS in its therapeutic modality. Here one finds the relevant information about the patient: name, age, and sex; official diagnosis and a summary of lab results; a list of family contacts and other co-residents; a large box into which patients are asked to sketch a map locating their homestead in the neighborhood, with directions from the CS. Here, too, one finds the patient’s treatment schedule, the key means of calibrating the biographical patient to the institutional ‘timetables’ of DOTS: a grid of boxes, each box representing a day, eight months in total. By observing patients as they consume their drugs, then dating and initialing the respective box on their treatment *ficha*, healthworkers at the CS perform the quintessential act of “supervised pill swallowing,” the technical hallmark of DOTS. Holding this text, then, one grasps an entire world of sociotechnical possibility, one that assembles space, time, and agency into an institutionally-regimented genre of therapeutic action, mapping, at the same time, therapeutic action into the broader epidemiological order of TB control, where patients become partials of a statistically-represented population. It is this text, ultimately, that connects the neighborhood CS to the greater national and, from their, global TB control network, transforming

its musky, moldy, leaky, dilapidated rooms into an irreducible local outpost for delivering global biomedical knowledge.

But holding this text, too, one quickly notes the marked gap between the orderly world of its printed surface and the disorderly worlds incised through its everyday usage. In practice, the string of dated and initialed boxes representing the march of therapeutic progress are just as often accompanied by a string of dated but initial-less boxes, sometimes accompanied by a bright red dash: the marks of missed treatments. Too many of these and local healthworkers begin to speak of an “abandoned” treatment, a “missing” patient—a “noncompliant” patient in the discourse of global TB control. In the periurban neighborhood, one comes to see, the institutional timetables of DOTS too often fail to calibrate the biographical time of patients, with their constant travels in and out of the city, to their rural communities, to the regional markets where they buy and sell goods, and so forth. In practice, too, the maps sketched by patients on their treatment cards—the key lifelines for locating them when, and if, they “go missing”—are often crudely drawn, with shaky, unlabelled lines that fail to correspond in any conventional way to the neighborhood they purport to represent, a shortcoming not so much of the patient but of the neighborhood itself, where streets often bear no names, or multiple names, and where, in any event, there are few signposts, and where the difference between a street and footpath is less than clear-cut. Here, in the periurban neighborhood, a more intimate geography prevails: the ‘neighborhood’ as it is experienced is less a territorial unit than a network of intersecting kin- and vocational-relations, domestic units linked not so much by spatial proximity as by acts of material and symbolic exchange. One quickly realizes, holding this text, that the sociotechnical world of state-

sponsored TB control more often than not fails to relate to, to faithfully map, the everyday, spatiotemporal worlds of present and future TB sufferers.

“Scientific facts,” Bruno Latour has written, “are like trains, they do not work off their rails. You can extend the rails and connect them but you cannot drive a locomotive through a field” (1999:266). Here, in the periurban neighborhoods of El Alto, the same can be said of the sociotechnical forms presumed upon for the effective extension and enactment of the global DOTS strategy. Inside the networks that connect the periurban CS to Bolivia’s national TB control program, headquartered in La Paz, and from there to places like Geneva, London, and New York, the headquarters of global TB control organizations like the WHO, the Stop TB Initiative, the World Bank, and the Global Fund for AIDS, Tuberculosis and Malaria, and again, back out to the countless research laboratories and respective scientific literatures in which the “facts” of TB are produced—inside these networks, the standardized sociotechnical forms of DOTS can travel with only minor glitches, with predictable deformations. The rails have already been laid and linked up, so to speak, and to be sure, at tremendous cost and requiring constant upkeep. But “out there” in Bolivia’s periurban neighborhoods, in the thick of practice, the facts and forms of global TB control quickly reach their limits. The neighborhood CS, as a local outpost in this vast global network, is an island of sorts in a sea of exteriority that too often resists mapping, not because it is an unruly and disorderly place in itself, but because the difficult, delicate, and costly work of extending the network-specific tracks in and through which global TB knowledge can be made to circulate is itself an ongoing project, a work in progress—in El Alto, one just beginning.

And yet, laying these rails, as it were, is an absolute prerequisite to conducting state-sponsored TB control in periurban Bolivia, as anywhere. The key purpose of this dissertation is to

examine this process of crafting the networks of practice and connection that enable the circulation of global TB knowledge out there, to places like the periurban neighborhoods of El Alto. To see how difficult it can be to move global TB knowledge out there into these periurban spaces—how easy it can be to “loose” a patient, or, inversely, to “go missing” as a patient—one only needs to follow local healthworkers as they travel off the established rails of the TB control network, out into the neighborhood itself, as they attempt to “drive [the] locomotive through the field,” or, in local terms, to “fish” for a patient. This, following healthworkers out into the neighborhood as a means of tracking the challenging work of getting global TB knowledge to touch ground and circulate, was one of the fundamental field methods employed in this research. The second field method, equally simple, was to follow the production and circulation of knowledge-bearing texts, like the patient *ficha*, as they intersect with, shape, and are shaped by the movements of people, materials, and other texts.

With the “missing patient’s” treatment card in hand, Sandra and two other nursing students set off into the neighborhood, myself tagging along. The map on the patient’s card was of little help. The man had recently moved to the neighborhood from another neighborhood, from his father’s homestead to an apartment his mother rented with several kinsfolk. We knew this from the card itself. What we didn’t know, however, was his address—presumably he hadn’t known either—and the map he’d drawn was predictably inconclusive. We would have to rely upon luck and the goodwill of neighbors, an always precarious proposition. As another local joke tells, when nursing students make the rounds, typically for door-to-door vaccination campaigns, neighbors hide, feign ignorance, and conspire to confuse and send them down the wrong path.

This day was no different. No one we encountered had heard of the patient, nor his family contacts, nor the names of the several streets he'd scribbled on the map. In fact, no one could make heads or tails of the map itself—or at least was willing to do so for our benefit. The patient, it seemed, had fallen off the CS's radar, and after about an hour or so of trekking through the mud to no avail, we came to believe that we too had fallen off the CS's radar. Lost, and tired, and with rain turning to hail, we sought shelter and directions at the local terminus of a minibus line, where two old women in faded aprons labored over a small gas stove, preparing hot tea and a hardy soup for a half-dozen men huddled under a blue tarp. There, Sandra shared with me her frustrations with actually conducting TB control work in neighborhoods like these.

“Look, there are lots of people that are sick, but don't know it,” she told me, gesturing to brick-and-adobe facades of nearby homesteads. “And there are lots of people in these houses, right!? This is what catches the eye, knocking on doors and out come all these people, children and elderly among them!” She explained that, at the time, there were more TB patients enrolled in treatment at the CS than in previous years, 12 TB-positive patients in a neighborhood of roughly 6,000, unofficially placing the neighborhood's rate of reported TB incidence (the standard epidemiological measure) well above the official national average, at 200 cases per 100,000. “And it might be higher if we have the resources to go house-to-house, fishing for symptomatic persons.” But that would cost time, personnel, money, and besides that, political will. 2003 had been a year of campaign against the disease: for the most part, a failed campaign.



**Figure 1**

**“The city below” from the viewpoint of “the city above,” with Mt. Illimani on the horizon**

The chances of another campaign were unlikely. “People here,” she continued, “they don’t realize the importance of TB, don’t do their *baciloscoπia*, don’t even know it’s free... They’re not very well informed about this perhaps.”

Looking out from under the blue tarp, you could follow the minibuses, shiny in the rain, as they made their way down to the center of La Paz, and on the horizon, the snow-trimmed peaks of Mt. Illimani, grainy in the rain and hail. “They’re sleeping in lines down there,” neighbors up here joke, lines at utility companies, government offices, and banks, summing up like that the complex relationship between the two cities, between *la ciudad abajo*, “the city below,” and *la ciudad arriba*, “the city above”—between La Paz, the nation’s capital and predominantly *criollo* city, and the Alto of La Paz, the self-proclaimed “indigenous city” of the

Andes, a patchwork of periurban neighborhoods that climb the steep walls of the Choqueyapu Valley and spill out onto the vast expanse of the Bolivian *altiplano*, 13,000 feet above sea level, now home to almost one million inhabitants, the majority first- and second-generation migrants from rural Aymara-speaking communities and mining encampments.

Looking out, Sandra grew pensive and reformulated her thoughts. “It’s not that people aren’t worried at all about this disease,” she told me. As part of her training, she and two classmates had been interviewing neighbors about their basic knowledge and perceptions of tuberculosis, aiming to create a “community diagnostic” of TB in the neighborhood. “Look,” she said, “there are times when people are very worried they have TB, worried to go to vend, especially those that are *comerciantes* (merchants), let’s say...” Here, she grew excited, her frustration palpable. “And- And information doesn’t knock on doors, no? One has to search it out. And if one doesn’t search it out, one doesn’t have it, as they say. And if one doesn’t have it, one can’t say if they’re healthy or ill... One just doesn’t *know!*” Sandra shrugged. “That’s just how it is here, Stephen.” *Así nomás es aquí Esteban.*

*Information doesn’t knock on doors, not by itself, not here, not in neighborhoods like these—a powerful, if poetic way of summarizing the key dilemma at the center of this research: the everyday challenges of global technoscientific projects as they touch ground and seek to extend their networks in what Stacey Leigh Pigg (2001) has aptly, if ironically, called “out-of-the-way parts of the world,” places on the fringes of global knowledge production, but places that, especially in the ambit of global health, are at the same time its very *growth edges*. Here, on the growth edges of global TB control, even the most mundane practices of communicating public*

health knowledge “out there” in the periurban neighborhood, of getting it to travel across the threshold of the periurban homestead and into the hearth of the home, is an extraordinary, institutional achievement. Enough of an achievement, in fact, to constitute a major administrative challenge, one upon which everything else rests. Sandra’s frustration is but the tip of the iceberg of a much larger institutional anxiety at the core of Bolivia’s national TB control program. A truism of public health holds that microbes don’t respect social boundaries. This is not entirely true. A more careful phrasing would suggest that microbes thrive in the hospitable spaces carved out by social boundaries, in the often vulnerable human bodies that inhabit those spaces, especially when those spaces and the bodies that inhabit them are shaped by political-economic inequalities and differential accesses to collective knowledge and resources. But the same cannot be said of information. Unlike microbes, information is too timid before social boundaries, too susceptible to blockages of movements across differences and inequalities. Social boundaries form the limits of acts of *informing*, just as acts of *informing* index and reproduce the divides on either sides of boundaries.

This, the fickleness of information transfer across divides, is something we too easily overlook, “we” at the centers of what Latour, in his characteristic way, has called the “empire of double-click information,” where knowledge is conveniently packaged as ready-made information, readily available in one’s own home through the simple double-click of a computer mouse (Latour 2003). From the centers of double-click knowledge, as it were, where the conduits in and through which information travels have already been layed, bridging space, time, and social boundaries and scales, where they have become routinized enough to take for granted, “we” quickly become habituated to the belief—the ideology—of “the transfer of exact



undistorted information [...] of nondeformation, of immediacy, of the absence of any mediator” (ibid.:146). We forget all the collective work of mediation that comes before, that continues to run in the background, uncountenanced, but nevertheless necessary to sustain these everyday practices, and she believes they make possible.

I was reminded of Sandra’s insightful comments not so long after completing fieldwork, in 2005, while watching an interview with Gonzalo Sánchez de Lozada, former president of Bolivia. “Goni,” as he is called, had hired James Carville’s political consulting firm, the same that ran Bill Clinton’s 1996 electoral campaign, to direct his own bid for the Bolivian presidency in 2002. As Rachel Boynton’s excellent documentary of the campaign, *Our Brand is Crisis* (2005), explores, Carville’s firm relentlessly conducted focus groups with Bolivians to help formulate its broader campaign, an American-style media-savvy campaign the likes of which Bolivia had never before seen. After the election, Goni retained the consulting team to help him implement his policy agenda, which included, notably, deepening the neoliberal political and economic reforms that he had spearheaded in the 1980s, as government minister, and in the 1990s, in his first term as president. Less than a year into his second term as president, however, (and right in the midst of my fieldwork, in 2003), Sánchez de Lozada was forced to resign the presidency and flee to the sanctuary of Washington, DC, after a bloody social conflict over his proposed policy initiatives (primarily centered in my fieldsite, El Alto, I might also add) left over 60 Bolivians dead and hundreds more wounded. Toward the end of Boynton’s documentary, in a follow up interview after the ouster, a morose Sánchez de Lozada sits in a somber gray suit, on a park bench with the Washington Monument visible in the background, trying to make sense of what had gone wrong for him, why, as it were, “democracy” had failed to “spread” to Bolivia.

“Only in the United States,” he remarked wryly in his perfect English (for, in fact, he was raised in Chicago, and attended the college at the University of Chicago)—“Only in the United States,” he said, “could one think that information could change a people.”

Here, at least, he was partially correct. But, in the end, was it really the inability of Bolivians to act on “information” that made the difference: the failure of Bolivians to heed the word of democracy, as he supposed? Thinking back, to the weeks and months before the social conflicts and culminating ouster, I recalled my own encounters not with the media-savvy informational campaign that Goni’s political consulting firm had designed to muster popular support for his policy agenda, but with all the local work of social mobilization that oppositional movements in El Alto had conducted in the city’s neighborhoods. I recalled one encounter in particular. During my fieldwork I spent considerable time in a neighborhood market, sipping coffee, eating lunch, and practicing my Aymara with a group of market vendors I’d met during my first travels to Bolivia, in 1997. Mid-2003, at one of the monthly meetings of the neighborhood market syndicate, two neighborhood men from now president Evo Morales’ political party MAS (*Movimiento al Socialismo*) had asked to speak at the meeting about Goni’s proposed policy changes, notably, his controversial bid to export the nation’s natural gas reserves. At the meeting, in a mix of Aymara and Spanish, and in the more common vernacular ‘Aymaracized’-Spanish, the two neighborhood men explained in detail to the mostly female market vendors, the very local consequences (as they saw it) for them of the president’s proposed policies. The market women were quite taken by the exposition, and asked countless questions. It was not surprising to me, then, that weeks later, when the social conflicts over the policies heated up, the broader federation of market vendors to which this local chapter belonged, would play a

key role in ousting Sánchez de Lozados's government. In fact, it was a sight to behold more than 100,000 women marching down to El Alto, from La Paz, in two single-file lines, demanding Goni's resignation. I was also not surprised to catch a quick glimpse of my vendor friends in footage reproduced in Boynton's documentary, carrying large wooden posts or *callupus*, shouting the key slogans of the oppositional movement.

“Information,” it would seem, *can* change minds outside of the United States, on the peripheries of the double-click empire. But it does so only when the local networks—networks of translation and trust—have been carefully crafted, cultivated, and extended. The strategic blunder of Goni's post-electoral policy campaign, one might argue, was not so much a mistaken assumption about the capacity of Bolivians—by which he really meant, Bolivia's majoritarian popular classes, the periurban and rural *clases populares*, Bolivia's Other—to act as rational recipients of state communications. Rather, it was the failure of his campaign to craft, cultivate, and extend the very networks that might be capable of effectively translating the “message” in and to the places that, in this case, counted most. It was the hubris of a well-entrenched belief, presumed upon by Goni and his American political consultants, that the “universality” of neoliberal economics and American-style democratic politics, adapted to the “local context” through a handful of focus groups conducted in the plush presidential headquarters in La Paz and subsequently amplified through the mass media, would be sufficient to carrying the “message” out there, in the periurban neighborhoods and rural communities in which most Bolivians live. Meanwhile, the local opposition groups, especially the MAS operatives, were, on the other hand, busy sending out local mediators of their counter-message, going to local neighborhood markets and other venues of periurban popular publicness—busy cultivating and extending the networks

that, to return to Sandra's words, might get information to cross social boundaries and actually "knock on doors."

This is an oversimplification of things, no doubt, as much in the case of Bolivian politics as in the case of conducting state-sponsored TB control in periurban Bolivia. But there is, nevertheless, a crucial theoretical point here, perhaps even an important practical lesson, one that opens up an often overlooked line of ethnographic inquiry at the same time as it overturns—I hope—many of the presumptions that we, as scholars, often make about how knowledge moves and travels and communicates or fails to communicate in a locally compelling way. The fundamental conditions that shape, limit, mediate, and make possible the compelling communication of the "messages" of science and medicine are no different than those of liberal democratic politics, even if they take place in different modalities, at different sites and locales. Like "spreading" liberal democracy, "spreading" global science and medicine rests upon more than the presumed "universality" of the message. This is something that anthropologists in particular have long argued, of course. But in this dissertation I hope to call ethnographic attention to the preliminary work required, in the first instance, of laying down the local tracks—the discursive pathways of material and conceptual connection—through which ideas and practices can travel, can become communicable and enactable, linked up to their target worlds, made capable of being acted upon. To draw on Stacey Leigh Pigg's work on global HIV/AIDS prevention programs in Nepal, this is the problem of "how information gets to people, how people come to participate in the gold standard that is the germ theory of disease, how they might begin to think about actions in the name of disease prevention" (2001:489).

In periurban Bolivia, on the growth edges of global science and medicine, this is a practical problem that local healthworkers like Sandra and Estele, in all their professional frustrations, know very well, and rarely take for granted—something they struggle daily in and against and toward. It is a set of questions they too pose for themselves, if not in these precise ethnographic terms. How to get global TB knowledge to travel, to traverse local social boundaries in periurban Bolivia, boundaries that are linguistic, economic, political, legal, spatial, and conceptual? What kinds of social forms and discursive practices are adequate to this task of communicating global TB knowledge on the peripheries of the empire of double-click information? How do periurban Bolivians come to recognize TB as a particular kind of pathology that can be adequately addressed—and effectively counteracted—by state-sponsored health agencies and the global knowledge they mobilize to that end? How, in short, to get information about TB to “knock on doors” in a persuasive and (one hopes) therapeutically and epidemiologically consequential way? These questions serve as the point of departure for this dissertation research.

Based on fieldwork conducted in El Alto’s municipal laboratories and neighborhood health centers, among local neighborhood associations, TB patients groups, and in tubercular households, then, this dissertation offers an ethnography of state-sponsored TB control, focusing more particular on the contingent and often heterogeneous networks of connection assembled to introduce, stabilize, and progressively extend the global forms of sociotechnical knowledge currently designed and privileged for controlling disease. My intention here is less to criticize these networks, as ideology or as effect of power—for this would be to presume too much of them, to presuppose a fundamental strength in theory, where in fact, in practice one encounters a

fundamental weakness—but to scrutinize them ethnographically, to see how they *work*. How, that is, they are assembled and hang together in the first place, how they endeavor towards a consistency strong enough to exert or enact a form of power, even domination over the world: a crucially, a domination over the microbe as much as over the human body that it inhabits, over the socionatural terrain across which disease, like information, is communicated.

As this dissertation argues, controlling the spread of tuberculosis is a contemporary global project that increasingly turns upon controlling the movement of information and the scientific knowledge it bears, getting it to circulate out beyond its primary sites of production, into places once considered out-of-the-way parts of the world. But as I show, on these growth edges, this is a project that rests upon a much broader cultural process of building and extending the complex and contingent networks of local actors in and through which information can move across divides, a fundamentally local project that involves a tremendous amount of collective will and work, and one that comes at a high social cost. It is, ultimately, a project that is less about information than *transformation*. From the vantage point of ethnography, the global culture of TB control is best conceived as culture of *transformation*. The world of information no more conquers the world of infection, than information knocks on doors—or infection knocks on doors, for that matter. What happens, rather, is that the world “out there” comes to be transformed, little by little, to fit the strategic order of the world “inside” global TB control networks. The successes or failures of any culture of control lies, in this respect, in the extent to which it adequately *transforms* the world—the world of infection, the world of local cultural practices. This is a difficult, fraught enterprise, and as this dissertation shows, it is rarely achieved, at least not fully and never seamlessly. But it is nevertheless a requirement for

“success,” as global TB experts put, or, for producing “domination,” as critics, always after the fact, might say. This fundamental process needs to be studied in its own right: that is our goal here.

*The Global DOTS Strategy: How  
To Approach It Ethnographically?*

In 2003, TB control was declared a top national health priority in Bolivia, and the WHO’s global DOTS strategy was adopted as the key sociotechnical form for conducting state-sponsored TB control throughout the country. While local DOTS programs had been implemented in various locales in Bolivia since the mid-1990s, as pilot projects and regional initiatives, it was not until 2003 that the norms of DOTS became a state-mandated institutional reality, setting in motion a new medico-legal regime of TB prevention, detection, and treatment, administered through a new bureaucratic apparatus that reorganized local operations through the flows of standardized texts and biomedical resources, creating a pyramid-like structure of oversight and regulation, linking the very local levels where TB control interventions are carried out, to the regional and national centers where the activities and effectiveness of local TB control programs are evaluated, analyzed, and planned. This signalled, at the same time, the integration of Bolivia’s national TB control program, the *Programa Nacional de Control de la Tuberculosis* (PNCT), into the international regime of global TB governance, with its specific funding structures and the particular scientific, political, and administrative requirements entailed by access to and use of these funds. In short, with 2003, Bolivia joined the ranks of nation-states participating in an emerging global regulatory order, one forged around a basic consensus that the WHO’s DOTS strategy is the most effective means available for managing the spread of the disease.

DOTS is, broadly conceived, the “brand name” for a global ensemble of standardized technical, logistical, operational, and political strategies and commitments for controlling tuberculosis, promoted by global public health and international development institutions and adopted through bilateral agreements by participating nation-states (see WHO 1999). While DOTS (“Directly Observed Treatment, Short Course”) takes its name more specifically from the technical norms regulating patient drug therapy—viz., the standardization of anti-tubercular drug regimens into a “short” 6-8 month treatment course, coupled with the “direct observation” of patient drug consumption in the first phase of treatment—the global DOTS strategy is in fact much broader than standardized drug therapy. Besides standardized drug regimens, DOTS is composed of four other key “components”: a formalized commitment on the part of the governments of participating nation-states to sustained TB control activities, including legal guarantees to citizens for access to free, state-sponsored bacteriological examinations and antitubercular drug therapies; the privileging of sputum-smear microscopy as the criterial (“gold”) standard for all case-detection and case-monitoring practices, backed up by a well-defined network of bacteriological labs with strict quality-control assurances; a government regulated and regularized supply chain for the essential anti-tubercular drugs; and a standardized system of case reporting and information recording enacted through a handful of key textual genres, like the patient treatment card I mentioned above, which allow for the evaluation of local program performance through periodic cohort analyses.

The global DOTS strategy is designed to function more particularly in the context of global trends toward neoliberal health sector reform, where significant domains of national health care systems have been privatized and decentralized, but where primary health care has



been reconstituted as the primary operational site for delivering a limited set of state-sponsored health services to those excluded, for socioeconomic reasons, from access to newly-created markets for health service commodities. By integrating TB detection and treatment into the packet of “essential health services” offered free-of-charge at the primary care level, DOTS aims to reorganize TB control efforts into smaller, local managerial units, the performance of which can be more easily evaluated and tweaked, giving practical form to the “results-based culture” at the ethical core of global governing TB institutions.

In this respect, DOTS can be viewed as much as a *sociotechnical form*—an organization of social and technical forces into a broader structure of goal-oriented collective agency—as a mode of applying medical technology. As the WHO explains in its guidebook to TB control, the basic medical technologies mobilized by DOTS have been in everyday use for decades, in the case of anti-tubercular drug therapies, and for more than a century in the case of sputum-smear microscopy. What is new, however, is their organization into a standardized institutional system or regime, inscribed at the level of global agencies and state institutions. “The problem [of past TB control efforts] has not been the lack of ways to detect and cure TB patients,” the WHO’s guidebook argues; “The problem has been the lack of organization of services to ensure widespread detection and cure TB patients, particularly the infectious ones” (WHO 1999:6). In fact, DOTS can most productively be viewed as a response to the perceived failures of previous TB control efforts, the most conspicuous outcome of which has been the emergence of multi-drug resistant strains of tuberculosis (MDR-TB), owing to the misuse of anti-TB drugs and incomplete or subadequate patient drug regimens. In effect, DOTS aims to kill two birds with one stone: first, to improve treatment success rates, and second, to stem the creation and

spread of MDR-TB caused by incomplete and/or mismanaged treatment regimens (Bayer & Wilkinson 1995).

In global disease control discourse, DOTS is what is called a “compliance-seeking” strategy. In fact, DOTS is perhaps the most salient expression of the constitution of “medical compliance” as its own domain of scientific discourse (Lerner 1997). Generally, the problem of medical compliance is conceptualized in communicative and behavioral terms, as “the extent to which the patient’s behavior (in terms of taking medication, following diets, or executing lifestyle changes) coincides with medical or health advice” (Haynes 1979:1-2). In the case of TB, an entire global research programme is now dedicated to tweaking and modifying DOTS by discovering the root causes of patient “noncompliance” (or “nonadherence”) to treatment, a research programme to which medical anthropologists have made substantial (if questionable) contributions, as scientific authorities called upon to identify the local “cultural barriers” presumed to impede detected tuberculars from following doctors’ instructions (see Farmer 1997; Trostle 1988). In this respect, as critics have pointed out, DOTS crystallizes in an institutional form a long history of medical ideology that presumes that medical expertise has privileged access to both effective biomedical technologies as well as the best interests of the patient and of society, even when conflicts arise between patients, other social interests, and medical practitioners. As Trostle (1988) has argued, the basic problematic of medical compliance—*why don’t patients follow physician’s instructions when its in their own interests?*—involves a kind of “image-making process” that reflexively reinforces the institutional authority of medical expertise over health, disease, and the body, by modeling patient capacities to care for themselves in terms of communicative responsibilities and ethico-moral judgments about their

potential “reliability” as recipients of biomedical imperatives.<sup>1,2</sup> It is telling, in the respect, that the implementation of DOTS in the US and UK in the 1980s met with considerable resistance from civil and patients rights groups, who viewed “direct observation” as a *de facto* presumption of patient unreliability, and a basic infringement upon patient personal autonomy, whereas the subsequent extension of DOTS throughout the developing world in the 1990s has been uncontroversial—taken for granted as a “best practice,” and even hailed by the WHO as “the

---

<sup>1</sup> Reviewing the the scientific concept of medical compliance, the medical sociologist Stimson observes, “The ideal that is presented is that the patient should obey or comply with what the doctor says. It is an ideal of the patient as a passive and obedient recipient of medical instructions” (1974:99). He notes the preference in the compliance literature for terminologies drawn from behavioralist theories of communication: *comply, cooperate, reject, default, instructions, order, obedience, negligence, refuse, deviance, failure to cooperate*, etc. In a broader review of “medical discourse” commissioned by the journal *Medical Anthropology Quarterly*, linguistic anthropologist Joel Kuipers noted that “compliance” rests upon an intentionalist ideology of communication, and as such is inadequate to task of interpreting medical discourse: “By reducing communications to the intentions of the doctor, [the concept of compliance] obscures not only the role of the emergent, interactive setting in producing discourse, but also the role of the ideological constraints on the participants to understanding one another’s discourse” (Kuiper 1989:104). In this vein, other critics have argued that the concept of medical compliance fails to adequately countenance the broader social, political, and economic constraints faced by patients in “following doctors orders.” Grange and Zumla, for instance, argue that noncompliance is less often the fault of patients than “gross inadequacies in the provision of health services” (1999:996). Paul Farmer has consistently criticized the notion of noncompliance as misrecognizing the role of “structural violence”—namely, institutionalized inequalities—in limiting both the access of people to health services and their abilities to take advantage of them where they do exist. “Even more unfortunately,” he writes, “the term exaggerates patient agency, for it suggests that *all* patients possess the ability to comply—or refuse to comply—with antituberculous therapies” (Farmer 1997:349). Other critics have argued that the discourse of medical compliance is, ultimately, the latest incarnation of a sociohistorical ideology that seeks to reinforce and legitimize the authority of the medical professions in times of heightened skepticism and scrutiny of institutionalized medicine (see Trostle 1998).

<sup>2</sup> Consider the broader history of DOTS. As a therapeutic form, “directly-observed therapy” (the technical component of DOTS) was first widely-implemented in the US and UK in the 1980s, first among patients that were judged to be too “unreliable” to be trusted to TB treatments on their own. “Unreliable” patients included those that admitted to irregularities in self-medication or otherwise exhibited a history of “sociopathic behavior,” like conflict with the law and jail time, but also a record of alcoholism, missed clinical appointments, and previous failures in TB programs (see Bayer and Wilkinson 1995). In the mid-1980s, following a series of studies that argued that few, if any, patients fully “complied” with their prescribed drug regimen, and that attempting to predict which patients were likely to “comply” was methodologically intractable, if practically unfeasible, the rubric of “unreliability” was extended to all patients. In the 1990s, given increasing public awareness about the emergence of drug-resistant strains of tuberculosis, leading TB policy groups in the US successfully advocated the mandatory application of directly-observed therapy to all national programs with less than 90% treatment completion rates. At the same time, as global rates of MDR-TB started to rise, the WHO and the World Bank successfully argued that directly-observed therapy could be extended beyond the US and UK, to the “developing world” where the majority of the world’s TB cases were found. By the mid-1990s, directly-observed therapy was adopted as the gold standard for treating TB globally, and nation-states with high TB burdens were pressured into implementing what came to be known as DOTS, with its broader set of norms. The presumption of patient “unreliability,” accordingly, became the default, rather than the outlier, for organizing local TB interventions.

most important public health breakthrough of the 1990s” (see Bayer and Wilkinson 1995; Farmer 1992).

It would not be hard, in the respect, to view the global DOTS strategy, with its emphasis on direct observation, compliance, and constant population surveillance, through the lens of a kind of Foucaultian panopticon, one that works at the micro-level of therapy (and the clinic) but has been extended, at the same time, to the more macro-level of epidemiology (the world as clinic). In fact, DOTS *is* a quintessentially liberal form of social control in all respects, grounded, like the discourse of patient compliance and noncompliance from which it emerges, in the constitution of a biomedical authority that is non-coercive while nevertheless unassailable, a form of control, moreover, that is seated in the liberal ethics of intentionality, autonomy, and individual choice, even if, on the other hand, it seeks to subtly shape that intentionality, to mold and modify the expression of individual autonomy and choice—to create a space of medical “paternalism with permission” (Cross and Churchill, quoted in Lerner 1997:1428). DOTS can be seen as kind of panopticon too, with respect to the kinds of discursive effects it produces, most notably in its failures—in how they are grasped and understood. As a global system of surveillance, failures to comply can be attributed, in the logic of DOTS, to the irrationalities of subjects, sometimes as individual shortcomings, but more often as cultural shortcomings: DOTS produces, as such, rational and irrational subjects. On the other hand, critics (mostly social scientists) can charge that failures of the smooth functioning of the global DOTS strategy owe not to individual or cultural irrationalities, but to forms of individual and cultural resistance: DOTS, like the panopticon Foucault describes, produces its own sites of resistance. In either case—irrationalities or resistances—the notion of DOTS as a panoptic institution of power and

domination, one that is increasingly extended throughout the world, is preserved, affording an archimedian point for condoning or condemning the form: a departure point for scholarly analysis and criticism.

The problem with such an approach, however, is especially evident when we take a closer look at these very failures. As Paul Draus (2004) has written in his first-hand account of TB control in the US, DOTS, as a surveillance program most certainly *aspires* to the panoptic gaze. But in this, it forever fails, producing, if anything, a “fractured vision” that more often than not undermines the very public health objectives it aims to achieve. If the panopticon, as Foucault described, is a general model of power that imposes normalized behavioral patterns in and through the rational management of bureaucratic informatics and public visibilities, fixing the individual in a systematized order of discourse in which domination is always-already preconstituted, in the case of DOTS, this panoptic gaze is dolely inadequate. Consider Draus’s account of his tenure in a Chicago hospital in the 1990s:

I stood in the Medical Records Department of County General in Chicago [...] requesting charts to review. I was now and Epidemiologist in the hospitals tuberculosis control program, and needed to see what background and contact information I could glean from the official record. As I waited for my charts to arrive, I looked at the piles of papers behind the counter, all the people walking in and out of the small office, the obvious systematic imperfections popping like loose threads at every seam. I reflected that this Panopticon, like that in New York, was perpetually out of focus. When I actually received the charts that I requested, this hunch was supported by written evidence. The medical surveillance that could be garnered from this flimsy web of barely legible writing captured only fragments of persons, as though plucked out of a stream” (2004:31).

As other scholars and researchers have argued, taking up these very questions, the seeming panoptic gaze at the center of DOTS may be more illusion and image than actual practice. “To some degree,” two scholars recently wrote, “[...] DOT has a rhetorical aspect that smooths out

variability and gives caregivers and health organizations a false sense of security” (Czaplicki & Heimer 2006).

I am aware, of course, that, for Foucault, the panopticon was in fact more an aspiration than an actuality of modern discourse, an ideal model of control that might be replicated throughout the social, and that the internalization of failure, as he viewed it, was part and parcel of its very logic. Even when panoptic institutions failed, they created new subjects (the rational vs. the irrational; those that accommodate vs. those that resist), and perhaps more insidiously, they failure reproduced institutional demand for further investments into “improvements.” Nevertheless, here I want to resist an analysis of TB control that departs too quickly, too prematurely from any assumptions about panoptic institutions, not in the least because so many scholars following in the footsteps of Foucault have conflated his careful discussion about the panoptic aspirations of modernist institutions with the panoptic actualities they were—and are—able to achieve.

Gilles Deleuze (1991) has argued more recently that “we” have moved from disciplinary institutions, grounded in the logic of the panopticon, to “societies of control,” grounded in a new form of power and domination that operates not through the disciplinary “enclosures” of panoptic institutions, but through control mechanisms proper—communications-and-control systems predicated upon cybernetic models. In the society of control, domination is exercised through the modulation, regulation, and optimization of the movements of individuals through social space, “like a self-deforming cast that will continuously change from one moment to the other, or like a sieve whose mesh will transmute from point to point” (ibid.). A key example Deleuze gives is the movement in global public health from privileging hospitals, as enclosed

spaces of disciplinary confinement, to privileging the systems of primary health care clinics that increasingly dot the social landscape, extending control into neighborhoods themselves by regulating the constant movement and circulation of people and information *across* social locales and scales, exercising power through networks of access and circulation, that form new modes of technical inclusion and exclusion. According to Deleuze, while these kinds of communications-and-control networks may “at first express new freedom [...] they could participate in the harshest of confinements” (ibid.).

Like the heuristic of the panopticon, the society of control captures many key dimensions of contemporary TB control forms like DOTS. The global DOTS strategy is, after all, conceived as a more flexible sociotechnical form, most useful when disseminated throughout the social landscape, operationalized at the very local level, and linked back up through communications networks. The guiding approach is, after all, to dominate disease by regulating the movement and passage of people in networks that criss-cross scales and locales, differentiating practices and allocating them to distinctive sites in which human behaviors can be more effectively managed, more realistically modified and adjusted through technical communications and feedback mechanism. In TB control, or so it is imagined, even the home of the patient could be transformed into a site for exercising control, incorporated as a communicative node in the broader network. As Nicholas King (2002), working in a Foucaultian framework, has pointed out, the new order of global disease control emerges out of the perceived failures of the “territorialized” model of panoptic disciplinary institutions, like hospitals—a model of control that he equates more generally with colonial projects. “In the postcolonial vision of global health,” he writes,

[it is assumed that] risks could no longer be prevented through the preservation of territoriality. Instead, they could be managed in the de-territorialized networks in which information is collected, managed, assembled and disseminated. The familiar techniques of medical observation are multiplied globally, and the monitoring of individual bodies in specific places augmented (and perhaps replaced?) by the surveillance of the global population in the de-territorialized space of informatics, telemedicine, databases and the internet. (2002:775)

The sick body of the TB patient appears, as such, as a moving target, not to be confined in the hospital or sanatorium, made immovable, as it were, but to be traced and tracked and redirected and reshaped in its movement, strategically treated as various locales across the social. The infected individual becomes not so much an externality to be cured, but transformed into a small, but indispensable window into the broader epidemiology of the disease, and into the function of the system of control in successfully managing the disease itself, as an indicator in a larger system of communication-and-control that provides feedback on how best to optimize the system.

As we shall see in the dissertation, these kinds of aspirations *do* exist, *do* animate the discourse of DOTS and global TB control more generally. They are ideas about TB control and they are self-representations of DOTS made by global health experts that extend all the way to periurban Bolivia. But, to emphasize the point again, they are more *aspiration* than *actuality*—another instantiation of the “thermodynamic thinking” that has dominated Western political-economic thought at least since the Enlightenment, even if given new sociotechnical possibility through information technologies and cybernetic models (Levin 2000; Williams 2000). They constitute, in this respect, the key master-narrative of global disease control discourse: a master-narrative of control in which the flows of disease could be rationally managed and modulated, like the flows of goods and services in an economy, or the flows of energy through a electrical circuit-board, by channelling them into a humanly-engineered system of circulation and feedback,



where they can be made to produce signs of themselves, pressed into the service of feedback mechanisms. But once again, we have to take seriously the gaps between this master-narrative as idea and aspiration, and the actually-existing networks of global connection to which these aspirations are staked. This is all the more necessary, this dissertation suggests, when we turn to look at global TB control on its growth edges. After all, if the TB panopticon is “perpetually out of focus” in places like New York, Chicago, and London, the centers of global technoscience, what can we say about how they work—as in hang together enough to produce effects of some kind—in places like periurban Bolivia, where science and medicine itself remains more of a contested project than taken-for-granted practice: where local healthworkers themselves so easily get lost in the very neighborhoods they are asked to map, for the benefit of communications-and-control, and where patients themselves can so easily “go missing”?

I will return to these questions about the “culture of control” throughout the dissertation. Here I want to point to another good reason for *not* departing on an ethnography of state-sponsored TB control with the heuristic of the panopticon in the fieldworker’s toolbox. Quite simply, I would like to avoid the “hermeneutic of suspicion” that “critical” approaches like these often presuppose as a kind of metadiscursive frame. This is especially important for anthropologists, I suggest, and for both theoretical and methodological reasons.

As Stacey Leigh Pigg has pointed out, too much discussion about the role of science and medicine in the “Third World” relies upon a well-worn and remarkably underanalyzed trope—born out of colonialism itself—that continues to caricature science as either “life-saving knowledge” or “epistemological colonization” (2001:525). The legacy of Enlightenment ideology can clearly be seen in the former caricature, the legacy of the post-Foucaultian critique,

especially as it is mobilized in medical anthropology, in the latter. As Pigg argues, the debate between the two camps (defined by mutual hostility and suspicion) presumes as common ground a fundamentally colonial picture of the world that views science as an already constituted, totalizing Western discourse that encounters an already constituted, totalizing cultural world of the Third World Other—and between them, an incommensurability that can only be overcome by antagonism or assimilation, typically, the bloody conquest of the latter by the former. “We are left contemplating the gap between indigenous frameworks and biomedically grounded public health prescriptions, a perpetual binarism that leaves us either rescuing ‘indigenous knowledge’ (as technique of meaning) or trying to rationalize it by appending it to science” (ibid.). According to Pigg, thinking ethnographically about global health projects requires a different starting point, one that begins not by looking at the effects of power produced by imposing Western scientific and biomedical discourses on the Other, but rather, one that breaks up the notion of a well-formed, totalizing scientific discourse that might belong, like intellectual property, to the West. “Knowledge is more dynamic than that,” she writes; “If we merely envision different knowledge systems bumping into each other, or supplanting one another, we risk oversimplifying the already syncretic, hybrid, polyglot conditions with which most contend” (ibid.:16).

Crucially, as other anthropologists of global knowledge have pointed out, it is precisely in these syncretic, hybrid, polyglot spaces of global connection that culture, knowledge, and power are in fact produced—and just as crucially, produced in forms and arrangements we rarely can imagine in advance, before ethnography. Writing about colonialism in the Pacific, John Kelly

and Martha Kaplan, urge that we view the extension of Western regimes of power from the heuristic of “dialogics” rather than well-trodden heuristic of Foucaultian “discourse”:

Dialogue is a different kind of residence for form, grammar, power, than ‘a discourse’, a class structure, or a ‘whole social’ anything. If form and grammar reside in dialogue, then they no longer exist in a clean, unified order apart from chaos. Then the power in varieties of incitement and repression no longer flow from discursively given conditions of possibility (as Foucault would have it) but from necessities and contingencies of form and order that are made, unmade, and remade dialogically, in social, historical processes that cannot be captured in any larger structure. (Kaplan & Kelly 1994:128).

Taking a broadly-defined dialogical approach (Bakhtin 1981), Kelly and Kaplan suggest, forces us to ethnographically and historically contend with the very local processes of power through which, in the struggle to extend regimes of knowledge and control, heterogeneous actors and institutions must necessarily redefine and stabilize themselves and their projects through often highly contingent inter-orientations and associations. And these *zones of transcursion*—as they call them: “[p]oints where a structure is most intermixed with materials, acts, and voices alien to it” (Kaplan & Kelly 1994:129)—are especially productive of contingent and often surprising new configurations of knowledge and power, this, for the very simple reason that here, more than elsewhere, what counts as meaningful social action, as *agency*, is perpetually up for grabs, subject to revisions, reorientations, and strategic reversals.

Anna Tsing (2005b), in her work on global connection in Indonesia, has developed a very apt metaphor—“friction”—for thinking about the very productivity of the dialogic encounters on the peripheries of global knowledge projects, one that enables us to retain the concept of cultural difference without falling into the trap of either discursive totalities or irreducible incommensurabilities. Cultural difference, she suggests, running on a parallel conceptual track as Kelly and Kaplan, is something that is produced as much in the dialogic spaces of global

connection as it is something that stands before, as impediment or resistance to the extension of global connection, like some pre-existing medium through which a global flow might conduct or not:

Cultures are continuously co-produced in the interactions I call “friction”: the awkward, unequal, unstable, and creative qualities of interconnection across difference [...] A wheel turns because of its encounter with the surface of the road; spinning in the air it goes nowhere. Rubbing two sticks together produces heat and light; one stick alone is just a stick. As a metaphorical image, friction reminds us that heterogeneous and unequal encounters can lead to new arrangements of culture and power. (Tsing 2005b:4-5).

The productive “friction” of global connections is an especially useful metaphor for thinking about global TB control projects, given the very “thermodynamic thinking” that dominates much of global disease control discourse. It directs our attention to the necessary leakages and slippages of global networks of disease control as they are actually extended, when “the rubber hits the road”—to the practical impossibilities of creating a seamless web of control and domination, while at the same time focusing us firmly on the contingent, cultural productivity and human creativity afforded by these leakages and slippages, their transformative possibilities for creating new forms of culture, new forms of agency, and new forms of knowledge.

As I show throughout this dissertation, TB control in periurban Bolivia is anything but seamless and anything but predictable. It produces frictions at all points, and in these spaces of friction new kinds of contingent and unpredictable agencies emerge. Much of what passes for the actual practice of TB control in periurban Bolivia consists in actors and institutions trying to figure out what precisely it is that they are doing—or should be doing: what kinds of agents they are, what kinds of capacities are allocated to them with respect to others agents, and how they can exercise and extend those capacities as a form of power. Much of the practice of controlling

tuberculosis in periurban Bolivia turns on actors and institutions attempting to “game,” so to speak, the heat and light produced by the frictions of actually conducting TB control work.

*Concepts and Methods: TB metrologies  
and Two Approaches to ‘Translation’*

In order to analyze these syncretic, heterogeneous, hybrid, and polyglot spaces of connection in which global TB control practices and strategies touch ground and gain traction in the everyday lives of periurban Bolivians, this research brings into a productive dialogue concepts and methods from two unrelated disciplines. On the one hand, I take from science studies the conceptual problem of *metrology*: how scientific knowledge is made to circulate in society by transforming key aspects of the social to fit the spatiotemporal and conceptual dimensionalities of the narrow networks in which scientific knowledge can be made to faithfully and effectively travel. Metrology, as should be clear, is precisely the immense collective project, discussed above, if through metaphor, of laying down and connecting up “the rails” necessary for the circulation of scientific and technical facts and artifacts. On the other hand, I develop the concept of pragmatic translation, or *semiotic transduction*, found in linguistic anthropology: the transformative, sociosemiotic process of moving knowledge-bearing texts across distinct modalities of entextualization and the respective regimes of cultural value and communicative normativity they pragmatic presuppose. Where I draw on metrology as a means of giving focus content to the set of theoretical questions I posed above, I use the concept of pragmatic translation or semiotic transduction as a means of formulating a method adequate to examining the work of metrology in an empirically tractable way.

The problem of metrology emerges in the second half of Latour's seminal *Science In Action* (1987), and is the background theme of its companion work, *The Pasteurization of France* (1988). The first half of *Science in Action* is dedicated to a reformulation of his earlier work with Steven Woolgar on the creation of scientific facts in laboratories (Latour & Woolgar 1986), part of a then burgeoning cottage industry of 'laboratory studies' aimed at rethinking the philosophy and sociology of science by entering the laboratory and ethnographically examining scientific knowledge-in-the-making, at its primary sites of production, and thereby rediscovering the culture of "laboratory life" (see, e.g., Knorr Cetina 1999; Latour & Woolgar 1986; Traweek 1988). In the second half of *Science in Action*, however, Latour sought to open up a new domain of inquiry into scientific knowledge, what he called, for lack of a better term, 'technoscience': how scientific facts, once produced in primary sites like laboratories, are subsequently made to circulate outside of laboratories. This was considered a distinct question, requiring its own methods of study, as the nature of the object of inquiry substantially shifted. Broadly conceived, technoscience asks about the socio-institutional life of the laboratory sciences outside the laboratory proper, exploring "how the sciences are used to transform society and redefine what it is made of and what are its aims" (Latour 1987:259).

The critical insight here was that the sciences have increasingly come to play crucial roles as key sites of cultural innovation and transformation in contemporary societies, called upon to reconstruct and reconfigure everyday domains of the social as far afield as medical, political, economic, military, artistic, leisure and sport, and religious life. But *how* the knowledge produced by the sciences attains to this position, and *how*, in each particular instance, it effects these novel transformations and social mediations, remained seriously undertheorized. Rather, it

was simply presumed, given centuries of philosophical debate about the “epistemological break” of scientific rationality, that scientific knowledge, once produced, permeated into everyday life, compelled by the motive force of its own self-evident truth, its technical efficiency, or its inherent logical consistency, to the effect of making the world more rational, more efficient, more transparent—in any case, more “modern.”<sup>3</sup> The presumed universality of scientific knowledge was thought to guarantee its effective social circulation, as a taken-for-granted teleology (turned ideology) in which knowledge, once produced, merely needed to be “applied.” As Joseph Rouse (1987b) has pointed out, this “extrinsic” theory of the power of scientific knowledge helped shape the now categorical distinction between the domain of ‘science’, as the primary practice of discovering universally valid truths, and the domain of ‘technology’, as the secondary practice of formulating “bridging principles” through which the universally valid truths of science could be made applicable to local contexts of social action—a categorical distinction now embodied in the very division of labor (ibid.).

On the one hand, then, is a domain of decontextualized theoretical knowledge that is presumed to transparently refer to scientific entities that hold for all times and places, and on the other hand, a domain of contextualized practical knowledge that, it would seem, seeks to deploy that decontextualized knowledge as goal-oriented technique, in spaces of infinite, and irreducible variety. In the case of global geopolitical relations and the scientific division of labor, one can see how, given this epistemic ideology, global knowledge projects could speak so simplistically and uncritically about the imperatives of “technology transfer” as a quintessential component of the

---

<sup>3</sup> The theory of rationalization, for instance, suggests that once fully constituted, scientific knowledge is appropriated by social interests and adapted to the ends of technical efficiency and the rational mastery of the material world (Weber 1946). A derivative model, the theory of ‘scientization’, locates the motive force of circulation not in efficiency but its ideology: a false belief in the efficiency of science legitimizes and reproduces what is actually the brute domination of a technocratic regime; a technical mastery of people through things (Habermas 1970). See Gellner 1964.

international development agenda, since, after all, “modernizing” the Third World could be framed as a technical question of transferring and applying the universally-valid scientific knowledge produced in the First World.

It should be evident from the hybrid nature of the term ‘technoscience’ that this essentially “diffusionist” model of science, technology, and society has undergone sustained revision. On the one hand, contemporary scholars of science studies now reject the received distinction between science and technology, starting rather, from the fundamental ambiguities of technoscientific practice to see how, only at the end of projects, ‘science’ gets distinguished from ‘technology’. In the same way, they reject the received distinction between science and society. Technoscience, in this respect, is the process of producing ‘science’, on the one hand, by producing ‘society’ on the other. In this respect, following Latour’s lead, scholars of science studies point to the tremendous labor that underlies the circulation of scientific knowledge.

Knowledge does not just circulate in society, as if by a kind of social osmosis, but is *made* to circulate through an immense social activity that involves making science by remaking the social world, transforming it into a place where scientific knowledge becomes necessary for the sustained practice of everyday life. This means, as a kind of corollary, that ‘laboratory studies’ cannot simply focus ethnographically on laboratories but must grasp at the same time the interplay between the practices that transpire “inside” laboratories and how those practices are transformed and reshaped by the rather different kinds of practices that take up knowledge “outside” laboratories. In short, laboratories only come into existence as consequential cultural forms to the extent that they can be linked up to everyday life more generally, life outside the laboratory proper.



In the second half of *Science in Action*, Latour used the term “metrology” to designate the immense sociosemiotic work—the “gigantic enterprise”—that goes into transforming the messy world “out there” into a place within which scientific facts and artifacts can “survive” and circulate to maximal effect, as the first epigraph to this introduction suggests. If laboratories are viewed as sites for strategically translating everyday phenomena into new manipulable entities, or scientific objects, that bear new, transformed relations to the world, sites for producing new sources of socionatural power<sup>4</sup>—then metrology is the more particular process of progressively translating these new scientific objects, these new sources of power, back out into the world. Metrology, then, is the “frightfully expensive” project of “progressive[ly] extend[ing] the domain of application of a laboratory” (1987:250) by translating and transforming key dimensions of the social world into the specific metrological order of a laboratory’s network, an order achievable, in the first instance, by weaving the lab’s specific means of reckoning the target world—its *metrics*—into the fabric of everyday life, carving out a pathway of predictable semiotic

---

<sup>4</sup> It is important to see that this is essentially an engineering approach to the production and circulation of scientific knowledge, and it rests upon new understandings of laboratories as sites of a particular kind of semiotic and material practice. Building on the ‘interventionist turn’ in the philosophy of science—where the definition of scientific knowledge includes practical knowledge embodied in instruments, procedures, and techniques, as well as theoretical knowledge objectified in representations—laboratory science has been re-conceptualized as a practice that works in and on the world to produce a situated local knowledge through strategic interventions into complex causal nexus (see Cartwright 1983; Hacking 1981). Laboratories, as the sociospatial site for this practice, are viewed as workshops for the systematic creation, manipulation, and control of ‘phenomena’, i.e., discernible, noteworthy, publicly manifest regularities (Hacking 1981). The power of laboratories resides in how they reduce everyday complexity to an artificially-constructed pragmatic situation, a ‘phenomenal microworld’ designed to present the local circumstances (and only these) within which phenomena can be induced to produce stable, individuable, reproducible, and ultimately manipulable signs of themselves (Rouse 1987). As such, laboratories are distinct from other sites of social practice in that their design facilitates the systematic tuning in of the effective forces of the material (or nonhuman) world (Pickering 1999).

Hence it is impossible to separate out scientific phenomena from the laboratory microworlds in which they manifest—and herein lays the inadequacy of diffusionist models, our primary concern. For scientific knowledge to circulate in society, the everyday world must to some extent be remade to resemble the artificial world of the laboratory. Laboratory facts and artifacts are extended, but along with them, and inseparable from them, is the replication of the specific configuration of pragmatic context found in the laboratory, enabling a synapse-like commensurability from one site of social action (the laboratory) to another (some domain of practical activity).

potentials in and through which a degree of technoscientific control and domination can be exercised.

Consider, for instance, Latour's discussion of Pasteur's anthrax vaccine (1988; 1999). By culturing anthrax in his laboratory, giving it an especially hospital, artificial environment within which it could happily reproduce and grow, Pasteur was able to subject it tests of all kinds, and as such, to turn the tables of the disease, reverse-engineering the everyday relations-of-strength that exist between the microbe and its host "out there" beyond the laboratory, creating an attenuated and domesticated form of the once-virulent bacilli that could be used to engineer a vaccine. But how then to translate this reversal in the everyday relations-of-strength between anthrax and the cattle it kills back out into the pasture where cows actually live? According to Latour, Pasteur could not merely "apply" his vaccine to cattle willy-nilly: like any biological artifact, vaccines are relatively fragile, requiring very specific conditions for the effective usage. To the contrary, Pasteur had to, in effect, "bring the laboratory to the field." He had to first, before the highly public and now infamous field trials, go about systematically transforming the muddy cow pastures of Pouille-le-Fort into quasi-artificial spaces resembling his laboratory in certain key dimensions, for instance, by sanitizing the fields and the cattle targeted for the field tests. Here, Pasteur was performing the first steps in disseminating his anthrax vaccine: extending the metrological network upon which his the basic operability of laboratory rests. Importantly, this was a field trial, the successes or failures of which would determine the fate of his vaccine. The field trial, then, needs to be seen as key site of translation that mobilizes a very particular structure of rhetorical persuasion. If the exposed-but-vaccinated cattle live while the exposed-but-unvaccinated cattle die, as predicted, then Pasteur's claim about the effectiveness of

his vaccine will be further ‘hardened’ into a technical fact that can be taken up in subsequent, future interventions. And such was the case: soon, the cattle of France were all inoculated with the vaccine; and simultaneously a new regime of sanitizing the pastureland of France and the French cattle came into being. Pasteur, through the metrological extension of his science, had “redefin[ed] the society itself, a society in which the new agents [the microbes] interven[ed] now at all points,” but which his laboratory alone became an “obligatory passage point” for all those interested in ridding the herds of the disease (1988:37). Metrology then, is as much about persuasion and rhetoric as technology and science, since the condition of possibility for extending scientific facts and techniques rests, ultimately, on persuasively mobilizing others into the networks necessary for the smooth function of scientific knowledge.

For Latour, metrology in its more mundane (i.e., less spectacular) modalities is foremost a textually-mediated process (1987). Metrological chains of translation are extended by incorporating the inscription devices particular to a laboratory—the configurations of technical apparatus that yeild portable textual evidence of normally unobservable events-in-the-world that can be mobilized to toward effect—into everyday processes. In the respect, the growth edges of Latourian metrology are the pen-pushers, paper-shufflers, and red-tape worms—the bureaucrat hoards, in short. Mobilizing these hoards of bureaucrats, setting them to work transforming the outside world by “papering” it over with forms of bureaucratic communication conducive to the circulation of knowledge as consequential action, is Latourian metrology at its most productive and interesting. The required labels on commercialized foodstuffs, for instance, that communicate to the consumer the “Nutrition Facts” of the substances they consume are cases in point. An entire dietary habitus has been transformed by the extension of this basic metrological

network. But, as I argue in this dissertation, the mundane metrological work of bureaucracies, like the spectacular metrological work of celebrated scientists, hardly exhausts the domain of metrological practice. In periurban Bolivia, the inscription-based or documentary-focused metrological networks of TB's biomedical bureaucracies only take us so far in extending the "facts" of TB in the periurban neighborhood. Rather, we need an account of metrological networks that expands the notion of what counts as a text, and what counts as its movement in translation.

The concept of 'translation', more generally, is one of the key concepts in science studies, and in the notion of metrology more specifically. Translation, here, refers to the process by which agencies come into being and extend their domain of action by reconfiguring the discursive grounds of broader, ongoing debates to include new actors and entities—nonhuman as much as human—for whom they serve as irreducible and authoritative spokespersons. In the example of Pasteur and anthrax, for instance, he was able to extend the domain of action of his laboratory by strategically translating the interests of French dairy farmers—to protect their herds—into his own terms by adding a new actor/actant for which he could solely speak with authority: the anthrax bacillus. The movement of knowledge across social boundaries and order of difference (after all, what, before Pasteur, did a bacteriologist have to say to a dairy farmer?) was made possible by the newfound commensurability afforded by giving textual, visible form to the normally unobservable effects of the bacillus. The trial at Pouilly-le-Fort enacted a dynamic ritual text tantamount to bridging a previously-existing gap.

The kinds of translations that I analyze in this dissertation—the translations at the heart of extending global TB control networks—involve movements of discourse across very different

sociosemiotic orders. In the dissertation I supplement the concept of translation found in science studies with the concept of pragmatic translation, or transduction, as found in linguistic anthropology. In fact, the concept of ‘translation’ found in science studies might better be conceptualized as a process of transduction. Transduction, as opposed to translation, gets at the movement of discourse across different modalities of semiosis, across different structures of pragmatic presupposition through strategic recontextualization (Gal 2003; Silverstein 2003). On the one hand, it draws attention to the precise discursive and textual genres that are mobilized to transduce discourse—in this case, knowledge-bearing texts—across modes of pragmatic value and communicative possibility. Crucially, the transduction of a text from one modality of entextualization to another unleashes new conditions of persuasive possibility afforded by the semiotic reorganization of the text, given the special semiotic properties of the new modality of entextualization. As Gunther Kress argues, transduction is a process “in which something which has been configured or shaped in one or more modes is *re*configured, *re*shaped according to the affordances of a quite different mode” (2003:36) a seeming preservation of semiotic materia or message across modalities that involves at the same time a radical reorientation or transformation in the possible ways of relating to the materia or message, to the knowledge it “carries over.” In this respect, transduction, as opposed to translations, calls attention to the dialogic productivity wrought by the modulation of message—how, for instance, the transduction of a text into a new semiotic organization invests the text with new cultural meanings and communicative values, opening up new horizons of epistemic and ethico-moral commitment and obligation (Povinelli 2001). In this, transduction focuses attention maximally on the *reception* of message, and the active role that the agent of transmission, the *transductor*, plays in shaping the message to

maximum effect given semiotic properties of the entextualization and the presumed upon “reception possibilities” of its recipient (Maestro 2005). At the core of transduction is the notion of conduction, how, as a form moves through a medium, like a subatomic particular moving through an electromagnetic field, new forces (like current) emerge through the interaction of the form and its medium—something conducts, in other words, and in a highly productive way. At the same time, transduction, with its focus on semiotic reorganization, reception possibilities, and the active role transducing agents, offers a way into studying the relevant ideological and institutional dimensions that bear down upon, inform, and metadiscursively shape the specific forms and pathways through which transduction occurs, including, privileging and institutionalizing certain communicative forms and their respectively associated spokespersons, as maximally effective for persuasively moving discourse. In sum, the concept of transduction is useful here to understanding the way that actors and actant/entities get mobilized into metrological networks, made visible and recognizable within them, mutually defined with respect to one another as differential senders and recipient of communications, and importantly, the crucial role that differential semiotic organizations of the text play in the process of mobilization. To transduce a text, is always to recruit a recipient to its message—it is a mode of semiotic interpellation in this sense.

*The Alto of La Paz:  
The Research Setting*

La Paz is the administrative capital of the least economically developed nation-state in South America, and arguably its most indigenous. Of Bolivia’s 8 million citizens, two-thirds live in extreme poverty, and more than 70% identify themselves as speakers of one or more of the



Figure 2. Map of Bolivia



Figure 3. Map of El Alto and La Paz

myriad Andean languages, primarily Quechua, Aymara, and Guarani (Albó 1992). While Bolivia remains a country of rural farming communities, small-scale haciendas, scattered mining encampments, and isolated provincial capitals, it has, like much of Latin America, experienced rapid urbanization throughout the 20<sup>th</sup> century. It is estimated that 52.4% of Bolivians now live in major cities (namely La Paz, Cochabamba, Santa Cruz, and El Alto), a many-fold increase in urban population since 1952-3, the years of the National Revolution and Agrarian Reform (World Bank 2002).<sup>5</sup>

Multiple waves of migration from rural Aymara-speaking communities on the *altiplano* since the mid-1950s has made the La Paz/El Alto region the largest urban area in Bolivia (combined population of 1.8 million). The closing of the state-run mines and the “resettlement” of miners to periurban areas, the diminishing quality and availability of land and a series of droughts, coupled with comparably poor living conditions in most rural highland communities have all contributed to more recent growth of La Paz and El Alto (Gill 2000; Rivero Pinto & Encinas Cueto 1991; Sandoval & Sostres 1989). Much of this growth has occurred in the periurban<sup>6</sup> neighborhoods of El Alto. With an annual growth rate above 9%—the highest of any South American city—El Alto became an independent municipality in 1988, and it today Bolivia’s third largest city, with a estimated population of 800,000 inhabitants (ibid., Komives 2002).

---

<sup>5</sup> Compare this to the Latin American average of 71.2%. See World Bank 2002.

<sup>6</sup> “Periurban,” in fact, is a term taken from the international development literature (a productive one, I think), used to describe emerging spaces of dynamic and often conflict-ridden social and material exchange between “established” urban centers and their “residual” rural hinterlands, characterized by rapid population growth, a vibrant migration process, a diverse ethnic and linguistic composition, “informal” modes of production and consumption, especially low socioeconomic and public health indicators, and above all, a profound lack of access to basic urban infrastructures despite a relatively close proximity to urban centers themselves. Generally, periurban places are those with low political priority in infrastructural development (World Bank 2002). (It is a sad irony, for instance, that many of the large infrastructural hubs servicing the city of La Paz are in fact located in the periurban areas of El Alto, though periurban neighborhoods remain underserved by these very infrastructures.)





**Figure 4. El Alto, Andean City (*Ciudad Andina*)**

Such rapid urbanization in La Paz and El Alto has wrought a fundamental transformation in the demographic, linguistic, ethnic, and socio-spatial ‘physiognomy’ of the city. La Paz was founded by the Spanish in 1548 on the site of the then bustling corn-producing Aymara region of Chuki Yapu,<sup>7</sup> a set of villages settled by Aymara peoples in the time of the 4<sup>th</sup> Inca, 1185-1190. Despite the fact that much of the city’s early growth was owing to the colonial trade in gold and coca, the profitability of which rested in large part upon the exploitation of indigenous labor, indigenous peoples were restricted from entering the city, this until as recently as the 1950s (Albó 1997). Today, by contrast, “La Paz is tending to become a predominantly indigenous conurbation” (Rivero Pinto & Encinas Cueto 1991:273). The city of El Alto, in fact, is the self-declared “Andean city” (*ciudad Andina*), a term rife with indigenous-ethnic associations (Fig. 3). An immense informal economy made up of indigenous street vendors, moneychangers, artisans, *transportistas*, shoe shiners, now spills out into the streets of the city’s commercial centers,

---

<sup>7</sup> Various etymologies are given for *Chuki Yapu*. Albó argues that it refers to gold deposits once found in the region, literally as ‘parcel of precious metal’. Other translations give ‘potato field’ (1997).

pushing the wealthier and whiter toward the more remote, though temperate parts of the city. This so-called terciarization of the (mainly service) economy has been interpreted as a ‘reconquest’ of urban space by the ‘popular classes’—the lumpen mass of indigenous peasants and ex-miners who come to the city in search of jobs and markets to unload their agricultural products (Gill 1997; 2000). With the neoliberal reforms of the mid-1980s, and dismantling of the state mining corporation, COMIBOL, El Alto became the “promised city” (*ciudad prometida*) for many, as the Bolivian state made access to land and homes cheap and affordable for migrants, while also promising to create jobs (Sandoval & Sostres 1989).

Periurban neighborhoods in El Alto and La Paz are distinguished by the rural villages from which their inhabitants originate, each serving as a *punta de lanza*, or kinship-based point of contact between the *campo* and city (Gill 2000; Rivero Pinto & Encinas Cueto 1991). Each neighborhood has a market and (often) myriad small-scale, illegal manufactures operated through family-networks and along the principle of labor-exchange found in the villages (Buechler & Buechler 1992). Thus, while La Paz/El Alto area is the administrative, financial, and industrial capital of Bolivia, it has also become the marketing capital of the highlands, creating a wealthy urban Aymara elite that has progressively consolidated power in a local neighborhood- and labor-based organizations (Gill 2000; Rivero Pinto & Encinas Cueto 1991). In fact, it is the “great and dynamic weight of the campesino economy” that differentiates urbanization in La Paz/El Alto from elsewhere in Latin America, a fact made visible in the annual celebration of Gran Poder, the festival of the ‘Lord of Great Power’ that has come to symbolize the ascendant power of the urban Aymara as they literally takeover of the city’s streets, something between parade and strike (Albó & Preiswerk 1991).

Much of the social scientific description of La Paz/El Alto has focused on the socio-spatial aspects of the demographic, linguistic, and ethnic differences of its inhabitants (Barragán & Arze 1988; Calderon G. 1984; Guardia 1971; Salazar de la Torre 1999). Calling attention to the ‘Aymara face’ of the city, Bolivian sociologist Xavier Albó (1997) has insisted that La Paz/El Alto be thought of as a ‘dual city’ comprised of, on the one hand, the ‘official’ mestizo city of La Paz, and on other hand, the ‘hidden’ indigenous city of Chukiyawu Marka, as it is called by many, referring to the pre-Colombian settlement of the same name. If the former is the administrative, financial, and industrial center of the Bolivian nation-state, networked to other major Bolivian cities and to the international community and global economy, the latter is the urban center of the Aymara world, a point of political, economic, and cultural integration for the village communities.

This duality maps into a socio-spatial divide, what Abercrombie (1998) calls a ‘vertical sociology’. Generally, the poorer ‘ethnic’ urban Aymara-speaking populations inhabit the popular neighborhoods found in the more elevated and much colder northernmost parts of the city (*la ciudad arriba*) living in self-constructed houses that precariously snake up the steep slopes of the canyon walls, accessible by dirt roads and often lacking in basic services. The city of El Alto is largely one big *barrio popular*. By contrast, the wealthier and whiter Spanish-speaking populations live lower down in the more temperate southernmost regions of the city (*la ciudad abajo*), inhabiting high-rises and homes in planned neighborhoods. Albó (1997) argues that social life in the city involves negotiating between these two distinct though dialectically related worlds. Referring to the city as La Paz/Chukiyawu is meant to call attention to this ‘intercultural reality’.

While differences in food, dress, dance, and music are important indicators of cultural identity in La Paz and El Alto (Salazar de la Torre 1999), differences in language usage are often identified as the key constitutive terms of this duality. Sandoval, Albó, and Greaves (1987) characterizes the sociolinguistic situation in La Paz and El Alto as diglossic, with Spanish (or *Castellano*, as it called in the Andes) as the prestige language and Aymara the low-status language—the former more appropriate to schools, government bureaucracies, business offices, the military, media, and generally the ‘public sphere’; the latter more appropriate to the street, the marketplace, domestic space, and traditional celebrations. Yet, as indigenous languages in Bolivia become more and more an (ideological) instrument for creating and promoting ‘ethnic awareness’ (for instance, in labor and peasant unions, schools, on the radio, and increasingly in politics), this diglossia is likely to be challenged and transformed in interesting ways. That the number of native (~self-identified) Aymara-speakers in La Paz and El Alto is increasing in absolute numbers suggests an important valorization of language-use as a means of negotiating ‘pluriethnic relations’ in the city (see Calderon G. 1984:42).

Interestingly, one sociolinguistic aspect that has been heretofore overlooked in the ethnographic literature on La Paz—though often remarked upon in a growing body of (socio)linguistic literature —is the development and usage of a characteristic ‘dialect’ of Spanish: el Castellano de La Paz, or ‘La Paz Spanish’ (Hardman-de-Bautista 1982; Laprade 1976; Mendoza 1991; Stratford 1989; Zavala 2001). Though a dialect of Andean Spanish has been associated more generally with the Andean mountain region (a result from the indirect influence of indigenous highland languages on the local Spanish, the Spanish spoken by the popular classes of La Paz and El Alto demonstrates a more specific and direct substrate influence

of Aymara, incorporating grammatical processes and elements particular to that language, most notably the ‘linguistic postulate’ of marking data-source, or grammatical evidentiality (Hardman-de-Bautista 1982; Mannheim & Van Vleet 1998; Zavala 2001).

### *Overview of Chapters*

This dissertation is divided into two parts. The first part explores the discursive figuration of TB and its control in the broader order of the Bolivian nation-state: as global partial, as threat to national health and economic wellbeing, as state-sponsored policy priority, and as disease of the Other Bolivia. In this way, it traces the making of tuberculosis into a matter of public concern with respect to the sociohistorical formation and institutionalization of a specific public agency in Bolivia, the *Programa Nacional Contra La Tuberculosis* (PNCT, or National Tuberculosis Control Program), authorized to wage war against the disease, and implement the global DOTS strategy throughout the country. As such, it provides a general background for part two, the main ethnographic core of the dissertation. Part two, then, explores in ethnographic detail the key sites of translation in El Alto’s TB control network, taking for its point of departure the key textual genres found at each node in the institutional process of detecting and treating periurban TB patients in the modality of DOTS. Though often presented in official program discourse as a seamless, logical, progression from detection to treatment, as part two shows, each step in the process is in fact a node of negotiation, requiring its own site-specific translation, and as such, generative of its own “friction” (Tsing 2004).

Chapter one, “Reproblematizing TB: Global Disease Control Discourse and the ‘New’ Tuberculosis,” serves as a broader background to the problem of state-sponsored TB control in

Bolivia by examining global TB control, focusing more particularly on the institutional organization and ideological foundations of this emerging global TB movement. The first part of this chapter looks at the global re-problematization of the TB as a novel disease entity, with interesting socionatural and sociopolitical departures from the tuberculosis of the past. In this second part of the chapter, I turn to look at the broader discourse of international policy within which the new regimes of global TB governance take shape. I argue that the ‘new’ tuberculosis is grounded as much in novel forms of global governance as it is in a novel epidemiological (and epistemological) profile of the disease. Motivated by a “prudentialist” logic of public health intervention, I show how the new global TB movement is organized around a broader politicization and securitization of pandemic disease, articulated most explicitly with respect to HIV/AIDS, to which contemporary TB control is increasingly linked. Tuberculosis is, accordingly, much more than a disease: it is a *sociotechnical form*, on the one hand, and on the other, a *medico-legal category* that increasingly intersects with notions of security, citizenship, and human-rights.

Chapter two, “TB, *En Nuestro Medio*: National Narratives, National Priorities,” explores how PNCT officials translated their expertise into a publicly-recognizable, and culturally-unassailable form throughout the 1990s. They did this, I show, by strategically recontextualizing Bolivia’s growing TB epidemic—which they were uniquely situated to represent—into a more compelling national narrative, one that articulated the resurgence of the disease in Bolivia to broader national debates about neoliberal reform and crisis and more particularly, the consequences of the *relocalización*, or euphemistic resettlement of Bolivian miners to periurban areas like El Alto following the dismantling of Bolivia’s state-run mining industry in the 1980s.

Though not the authors of this narrative, I show how PNCT officials adeptly seized upon it as a means of inserting their question—that of state-sponsored TB control—into the public sphere of elite national discourse. At the same time, by linking the narrative up to “global tuberculosis emergency” declared by the WHO in 1993, Bolivian health elites were able to successfully align their expertise with other national and international projects and, as such, bolster their own demands on the neoliberal state. 2003’s national prioritization of TB in Bolivia, I conclude, can largely be seen as an outcome of these strategical translations of TB into the scale of national spacetime.

In order to historically situate these contemporary transformations, the next chapter, “Indigenizing Tuberculosis: Discourses of Deracination in Early-20th Century Bolivian Scientific Medicine,” offers a broader long durée perspective on the institutionalization of TB expertise in Bolivia. By analyzing early-20th century scientific debates about the autochthony of the TB bacillus in Bolivia, I examine how state-funded bacteriologists used the idea of an especially-virulent ‘indigenous tuberculosis’ to extend their own expertise in the contexts of the modernizing liberal state and its anxieties over the fate of its rural indigenous population—what was called the “Indian problem.” Curiously, the indigeneity of tuberculosis was first reckoned as the “race” of the microbe, but then extended, through a translation afforded by the nascent science of immunology, to the “race” of the human collective for which the TB bacillus was said to have a special affinity: the “urban Indian” or cholo that preoccupied so much public discourse in this time of major state expansion. As I argue, the development of Bolivian TB expertise appealed to, at the same time as it transformed, an emerging national imaginary that staked public health risks to the characterological figure of what I call, in shorthand, the deracinated

Indian: the Indian pushed off his land, drafted into the army and sent to the battlefield, handed a pick-ax and stick of dynamite and taxied underground to work the mines, or, as the century progressed, resettled in poverty to the margins of the nation's cities. By lending scientific authority to these ethnoracial understandings, by giving them a new point of a focus—the microbe and its differential demographic predilections—Bolivian scientists helped to transform this national imaginary into concrete public policies with long term consequences, that are still relevant background for contemporary discourse about TB in Bolivia.

The first chapter of part two, chapter four, “Designation: Recruiting Patients in the Public Diagnostics Lab,” looks at the textual genres found in the municipal diagnostic laboratory, as they are mobilized to recruit new TB patients into Bolivia's TB control network, as officially-designated patients bearing entitlements to state-subsidized TB treatment at the neighborhood health center. As I show, the public diagnostics laboratory is the ‘obligatory passage point’ through which all patients must pass to be officially-designated TB patients in Bolivia. This rather imposing place in the order of things is owing to the specific epistemic practices that go on inside laboratories. By transforming complex, contextually-rich biological samples into self-sufficient, minimal texts with highly-constrained interpretations and usages—lab results—diagnostics labs create the warranted knowledge required by Bolivian law to recognize a new TB case. Designation, I suggest, can be viewed as a kind of performative nomination in which patients come to be “baptized” with new medico-legal identities, as instances of legally-prescribed biomedical categories. By producing lab results, public diagnostics labs produce official TB designations, and as such, produce potentially treatable TB cases. At the same time, as I show, the laboratory is but the culminating node in a much larger process of metrological



translation that begins long before the lab bench: interviews with neighbors yield verbal texts which then serve as basis for clinical consultations at the neighborhood health center, creating another text which is then used to license a free sputum smear exam in the laboratory; at the laboratory, sputum samples are progressively transformed into “readable” denotational texts, the results of which can then be used to create the lab results—the key textual genre here—the fundamental marks of which can then be extracted, circulated, and transferred to other texts in the form of official TB designations. As I argue, the progressive construction of TB designation aims at much more than the creation of a new TB case, but is part and parcel of the broader metrological project of transforming key dimensions of the disorderly world “out there” into a referentially-transparent domain within which, over which, and through which a modicum of technoscientific control can be exercised—a world of epidemiological vigilance.

The next chapter, “Conscientization: Articulating TB Patienthood in Directly Observed Therapy,” continues the journey through Bolivia’s TB control network by following state-designated patients as they enter the cascade of institutional processes brought to bear upon their diseased bodies. With this, then, I turn from the laboratory to the neighborhood health, the primary institutional locale for treating tuberculosis in periurban Bolivia. More precisely, explores the question of how periurban patients come to inhabit the institutional role-designations to which they are recruited in the lab. As I show, there is nothing self-evident about being a state-sponsored TB patient in periurban Bolivia: treating tuberculosis is a lengthy and laborious process, one that unfolds over eight-long months, and requires a form of patienthood that that most periurban patients have little or no experience with before starting treatment. In this respect, treating tuberculosis involves as much teaching patients how to be treated as it does

actually treating them in the more usual biomedical sense. Directly-observed therapy requires a very special mode of patienthood for its effective performance, one that takes shape as a kind of treatment career, a network-specific configuration of space, time, and therapeutic action. Crucially, it is within this treatment career that the diseased body of the patient can be effectively articulated to the institutional ‘timetables’ of TB treatments. But aligning the embodied selves of patient to treatment timetables requires a specific kind of translation. Here, I turn to consider the communicative strategy of TB *conscientización*, or “awareness-raising” as it is practiced in monthly TB patient meetings. Analyzing transcripts from events of *conscientization*, I show how aligning patients to the forms career-like patienthood is achieved in and through the reform of language—learning how to translate oneself, through language, into the institutional world of DOTS.

The last chapter, “Commensuration: Community Mobilization and Household Control ‘Out There’,” looks at the institutional recruitment and implicit ideological construction of local women as “community-based epidemiological vigilantes” in a municipal program called the *Manzaneras de Salud*. I explore how the municipal TB program positions the *manzaneras* as local translators especially well-suited to circulating public health knowledge into periurban communities and tubercular households by “repackaging” it into more trustworthy forms. As I argue, the *manzanera*, as a cultural figure, is constituted foremost around a set of ethnolocal and ethnolinguistic emblematicities that, in the minds of municipal health officials at least, are especially suited for performing this. Through a detailed analysis of a situated interaction between a neighborhood *manzanera* and the wife of a problematic TB patient, I show how, in practice, this work of translation turns on the *manzaneras* specific communicative capacities to

engage in a highly-stylized and locally-important genre of discourse called *comadreando*, ‘co-mothering’ speech. By transducing TB discourse through the genre of *comadreando*, the women that work as community-based epidemiological vigilantes play a crucial in constituting the local forms of ethico-moral obligations adequate to linking the neighborhood health center to the patient, the patient to the household, and the household to the state.

## CHAPTER ONE

### REPROBLEMATIZING TB: GLOBAL DISEASE CONTROL

#### DISCOURSE AND THE ‘NEW’ TUBERCULOSIS

We should take a moment to remind ourselves that we are sitting in the very part of the world that was ravaged by tuberculosis in the 18th and 19th century. It was a scourge that took whole families in its wake, and left many others alone as their spouses, parents and siblings died of what was then known as ‘consumption’. Then with the development of new TB drugs and improved living conditions due to socioeconomic development, TB disappeared in the lives and minds of many. We thought we had conquered TB, that it would soon be a disease of the past. But today we are faced with a global epidemic that is killing more people than at any point in its history. This week will be a testimony to that. It will be a week to bring light to the gravity of the persisting epidemic, as well as a time to chart our collective response.

—Gro Harlem Brundtland, General Director of the WHO, welcoming remarks to the Ministerial Conference on TB and Sustainable Development, Amsterdam, March 22, 2000.<sup>1</sup>

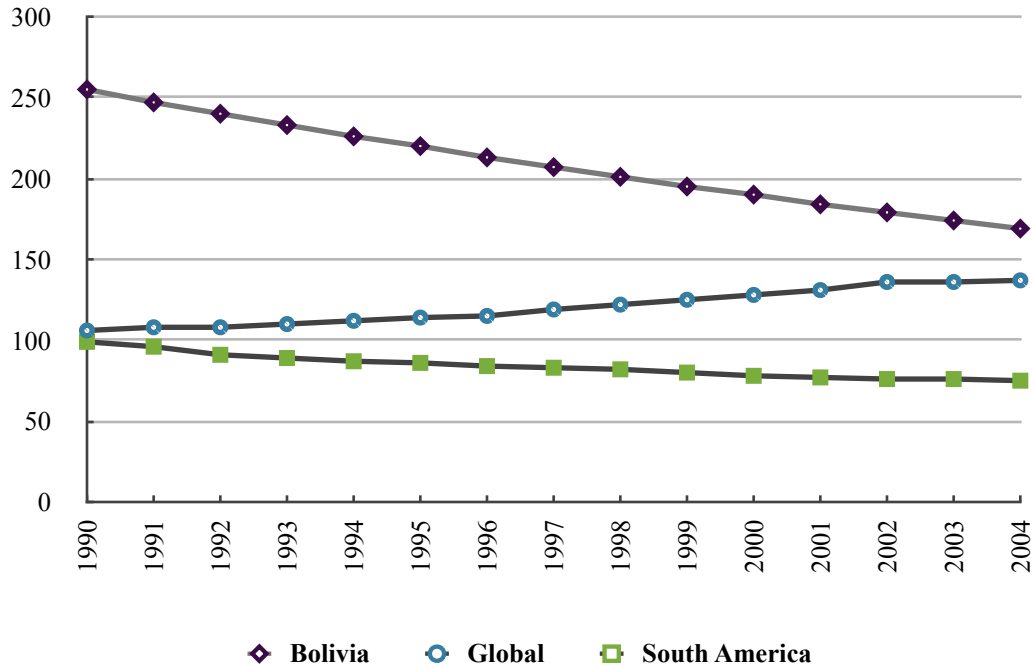
In 1907, in his now classic pamphlet, *Tuberculosis as a Disease of the Masses and How to Combat It*, A.S. Knopf wrote that, “To combat consumption successfully, requires the combined action of a wise government, well-trained physicians, and an intelligent people.” This was first call for a total mobilization of society against tuberculosis, a war on TB, and in fact, the first “war” declared on any disease whatsoever. For, according to Knopf, it was only through the total social mobilization of war that TB—a disease not of individuals, but of masses, a disease that

---

<sup>1</sup> See <[https://www.stoptb.org/stop\\_tb\\_initiative/amsterdam\\_conference/DG.speech.opening.asp](https://www.stoptb.org/stop_tb_initiative/amsterdam_conference/DG.speech.opening.asp)>

had killed more persons than any other disease in history, a disease that, unlike other pathologies, stubbornly defied major advances in 19th century scientific medicine—could adequately be combated and, alas, *eradicated*.

The language here is more than historically interesting. In the 1950s, with the advent of effective anti-tubercular drug therapies, the dream of eradicating tuberculosis, the “white plague,” seemed an inevitability—another achievement of scientific modernity. Today, however, and as the epigraph to this chapter makes clear, few global health experts talk about “combating” tuberculosis, much less “eradicating” it. The language of “war” and total social mobilization has, at least at the highest levels of TB expertise, largely disappeared. It would seem that the age of liberatory projects, for microbes as with social collectives, was over. Today, rather, global TB experts dream of “controlling” rather than “combating” tuberculosis. And instead of “eradicating” it through total social mobilization, they set their sights on designing and implementing targeted interventions aimed at “managing” it through globally-coordinated networks of knowledge. At the core of this new thought, is the emergence of a new public health pragmatism or *prudentialism* in the philosophy of disease, one that eschews the dream of liberation for what might be called securitization. Indeed, current modalities of global disease control have less affinity with the notion of total battle and war, resembling more and more sustained security effort. Like terrorism, TB may never be eradicated—we may never be liberated from the microbe—but, as with terror, that doesn’t mean a new laissez-faire attitude toward the disease: instead, constant vigilance through biosecurity measures will wage the long war against the microbe, aimed at managing it, controlling it, ensuring that it doesn’t proliferate and transform into something more deadly.

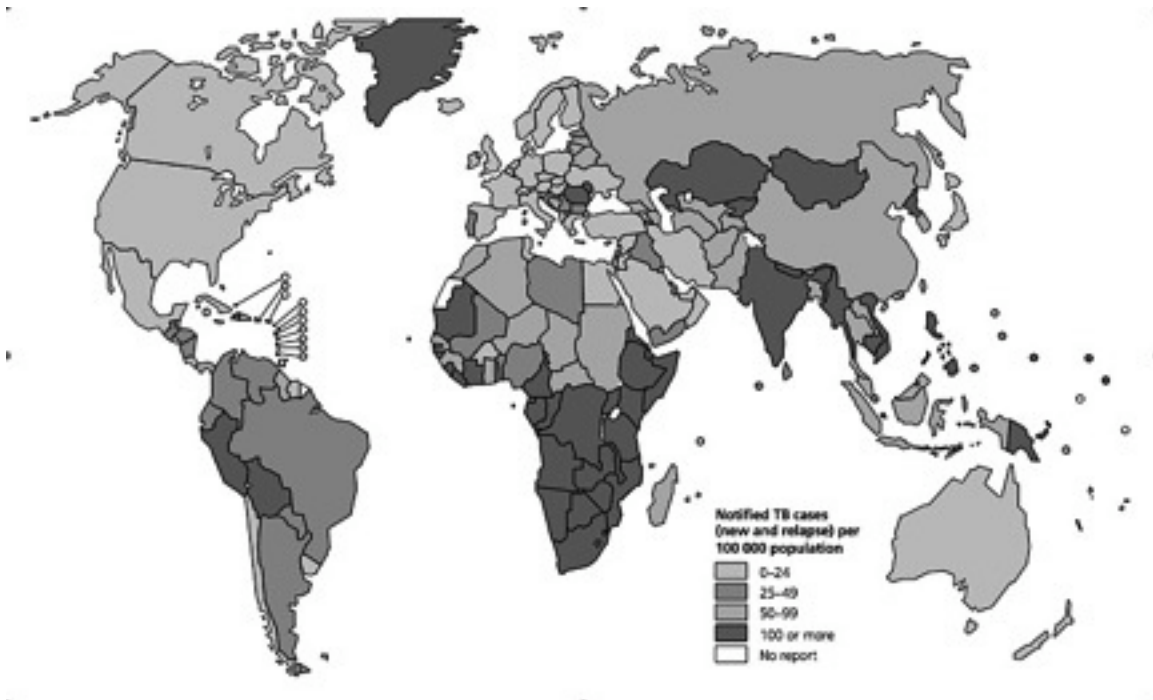


**Figure 5. Estimated TB incidences at scales of contrast, 1990-2004**

(SOURCE: World Health Organization, Global Health Atlas online, <<https://apps.who.int/globalatlas/default.asp>>)

*WHO 1993: TB, A “Global Health Emergency”*

In the 1980s and 1990s, public health officials across the world began to report a dramatic increases in the incidence of the tuberculosis. At the start of the 21st century it was estimated that one third of the world’s population was infected with *M. tuberculosis*, nearly 2 billion human beings (WHO 2003). While the overwhelming majority of the global TB burden fell within the developing world, primarily Africa, Asia, and Latin America, upswings in TB incidence were increasingly reported in pockets of the developed world. New York City, London, and parts of the former Soviet Union all witnessed outbreaks of this “once-conquered” disease (see Gandy & Zumla 2003b). Nor was it the same disease that public health officials had been taught to



**Figure 6. Map of global TB burden by reported TB incidence, 2004**

(SOURCE: World Health Organization, *Global Tuberculosis Control: Surveillance, Planning, Financing: WHO Report 2006*. Geneva: World Health Organization, 2006.)

recognize. The emergence of new, virulent strains of drug-resistant TB bacteria (MDR-TB), and the emergence of a new, lethal combination of HIV-TB co-infection, pressed global TB experts to speak of a ‘new’ tuberculosis, and call for a new set of international arrangements and strategies for control the pandemic.

In 1993, in an unprecedented move, the WHO declared the growing TB pandemic a “global health emergency” (WHO 1993). In 1998, in collaboration with the World Bank and the governments of twenty of the highest TB burden countries, the WHO helped create the Global Partnership to Stop TB, chartered to “establish, expand and nurture a new international partnership of agencies, institutions and organizations and groups involved in tuberculosis control.”<sup>2</sup> Two years later, TB control was included in the eight Millennium Development Goals

<sup>2</sup> See <<http://www.stoptb.org>>

adopted by the United Nations, the set of core commitments guiding international development efforts until the year 2015.<sup>3</sup> The Global Partnership to Stop TB was charged with coordinating the global campaign to meet these goals. In 2002, following the 2001 G8 summit, the Global Fund to Fight AIDS, Tuberculosis and Malaria was established as a new institutional mechanism for funding global disease control efforts, including the Stop TB Initiative.<sup>4</sup> While the success of these new measures remains contested, it can be said without reservation that a new global TB movement is in the making.

This chapter serves as a broader background to the problem of state-sponsored TB control in Bolivia by examining the global TB control, focusing more particularly on the institutional organization and ideological foundations of this emerging global TB movement. The first part of this chapter looks at the global re-problematization of the TB as a novel disease entity, with interesting sociocultural and sociopolitical departures from the tuberculosis of the past. In this second part of the chapter, I turn to look at the broader discourse of international policy within which the new regimes of global TB governance take shape. In this chapter, I argue that the ‘new’ tuberculosis is grounded as much in novel forms of global governance as it is in a novel epidemiological (and epistemological) profile of the disease. Motivated by a “prudentialist” logic of public health intervention (Elbe nd; Rose 1996), I show how the new global TB movement is organized around a broader politicization and securitization of pandemic disease, articulated most explicitly with respect to HIV/AIDS, to which contemporary TB control is increasingly linked. Tuberculosis is, accordingly, much more than a disease: it is a *sociotechnical form*, on the one hand, and on the other, a *medico-legal category* that increasingly intersects with notions of

---

<sup>3</sup> See <<http://www.unmilleniumproject.org/>>

<sup>4</sup> See <<https://www.theglobalfund.org/en/>>



security, citizenship, and human-rights. This chapter intends to serve as a base for looking at the more specific introduction and operation of the global DOTS strategy in Bolivia.

*Reproblematizing TB:  
A 'New' Tuberculosis?*

The assumption that TB was a “disease of the past,” that, alongside pathologies like polio and smallpox, TB would soon be eradicated by modern science and medicine, if not modernization itself, was a commonly held assumption among public health experts in the second half of the 20th century. Two influential scientific arguments seemed to support this assumption (Gandy 2003). The first argument, the well-known McKeown thesis (see Colgrove 2002), had compellingly argued the progressive rise in standards of living, beginning in the second half of the 19th century, had led to the eventual “disappearance” of TB from Western Europe and the United States—what McKeown called the “epidemiological transition.” Socioeconomic modernization and development, not innovations in public health and the discovery of effective drug therapies, was the determining factor in TB’s eradication, a long-run process that had been initiated in the developed world and soon, it was argued, be extended to the developing world. The second argument, the “magic bullet” hypothesis, emerged with the discovery of effective anti-tubercular drugs in the 1940s and 50s, followed thereafter by the discovery of other powerful first-line anti-tuberculosics. With these new drugs, it was argued, the costly and labor-intensive practice of isolating ‘consumptives’ in sanatoria could be laid to rest. A more efficient drug-based ambulatory care would put the final bullet in the flagging TB epidemic but targeting the remaining infectious individuals.

Together, these two arguments reinforced a narrative in which expensive, large-scale public interventions aimed at controlling TB were viewed as unnecessary and even counterproductive. Scientists and public health experts predicted that tuberculosis would be completely eradicated by the end of the 20th century (see Kochi 1994). Tuberculosis, a disease that once occupied a singular place in Euro-American consciousness, quickly receded from public discourse, and, accordingly, from the public agendas of the developed world. International conferences dedicated to TB became held with less frequency; major TB research centers were permanently shut down; scientific publications about TB decreased dramatically; and journals that once specialized in TB were redirected toward the broader study of respiratory infections (Raviglione & Pio 2002). Fewer medical schools and hospitals dedicated resources to training professional in TB diagnosis and treatment. And save when lauding the advances of biomedical modernity, scant coverage was accorded to the disease in the media. Tellingly, by the end of the 1980s, the WHO's TB division had been absorbed into programs focused more broadly on infectious bacterial diseases like leprosy.

Looking back, contemporary public health authorities now characterize the period as an era of broad public complacency, even hubris (Zumla & Gandy 2003). "We thought we had conquered TB," the General Director of the WHO admitted in 2000. Today, TB is classified, alongside AIDS, Ebola, SARS, and West Nile Virus, as an "emerging" or "reemerging infectious disease." Many of the assumptions upon which this public complacency rested have been quietly set aside, and the dream of eradicating tuberculosis has been transformed into one of managing its risks. Doing so has involved forging new relations between science, medicine, technology, policy, and politics, and a new conceptualizations of the disease itself—the 'new' tuberculosis, as

it is often referred to as a means of calling attention to the fundamental differences between today's TB pandemic and the TB epidemics of the past (Gandy & Zumla 2003a). According to the experts, the 'new' tuberculosis, as it were, is distinguished epidemiologically by two related developments: the emergence of virulent, drug-resistant strains of tuberculosis, and the synergistic interaction of TB and HIV co-infections.

Multidrug resistant tuberculosis, or MDR-TB, is, by definition, any infection with a virulent strain of *M. tuberculosis* that has acquired resistance to at least two of the three first-line anti-tubercular drugs, streptomycin, isoniazid, and rifampicin. Michael Iseman, a leading TB expert, has, for instance, aptly characterized the creation of MDR-TB as "inadvertent genetic engineering." Like other antibiotic-resistant organisms, MDR-TB is the evolutionary outcome of the systematic misuse of anti-tubercular drugs in treatment regimens—like global warming, a human-caused or anthropogenic phenomenon.<sup>5</sup> MDR-TB infections are notoriously difficult to treat—effective second-line drugs are expensive, involve numerous contraindications, and are challenging to administer—and the consequences of drug-resistant TB infections reach far beyond poor treatment outcomes for individual patients, exercising an "amplifier-effect" in a drug regimen, as secondary resistances develop to other, less powerful drugs in the regimen (Farmer and Kim 1998). More worrisome, primary and secondary resistances are themselves communicable; like their drug-susceptible counterparts, they can spread from person to person once introduced into a population. As Iseman warned in a suggestively-titled editorial in the *American Review of Respiratory Disease*, "Tailoring a Time-Bomb": "we are unwittingly

---

<sup>5</sup> "Inadequate tuberculosis chemotherapy (insufficiently potent drugs/regimens or interrupted administration) selects for the survival of naturally-occurring drug resistant mutants. These mutants, present in the usual population of tubercle bacilli at a frequency of roughly 1 in 1,000,000, then become the dominant strain in the patient" (Iseman 1985:735).

transforming an eminently treatable infection into a life-threatening disease that is exorbitantly expensive to treat” (1985:735). The public health risks posed by underfunded and poorly-run TB control programs far outweigh their potential benefits. Moreover, with the recent discovery of strains of *M. tuberculosis* resistant to both first- and second-line drugs (an “extensively-drug resistant tuberculosis,” or XDR-TB), some leading TB experts, including the director of the WHO’s Stop TB office, have begun to imagine a bleak, brave-new “post-antibiotic era” for tuberculosis control (Raviglione 2006).

Compounding the situation is the fact that many of the global “hot-spots” for the transmission of multidrug resistant tuberculosis—parts of the former Soviet Union, China, New York City—are also hot-spots for the global HIV pandemic, the second distinguishing feature of the ‘new’ tuberculosis (Brown 2004). Today, TB is the leading cause of death among current HIV/AIDS sufferers, and HIV/AIDS is the key risk factor for the development of TB. It is estimated that 10% of new TB cases worldwide are directly attributable to HIV/AIDS—on the African subcontinent that figure doubles, to 20%. By weakening the immune-system, HIV/AIDS inhibits the body’s natural ability (through cell-mediated immunity) to contain the tubercle bacillus, leading to the reactivation or recrudescence of dormant TB infections. As HIV-infected persons are more likely to develop pulmonary tuberculosis than non-HIV infected persons, HIV/AIDS has contributed to the amplification of sources of TB contagion in the most vulnerable populations. In the case of multidrug resistant tuberculosis, the situation is even more complicated, as HIV/AIDS compromises the very effectiveness of TB drug therapy (WHO Farmer 1999; Farmer & Walton 2003; 1999). As such, the global HIV/AIDS epidemic interacts synergistically with the global TB epidemic, not only making HIV-TB co-infections difficult and

expensive to treat, but creating conditions ripe for the creation and spread of new, more virulent strains of tuberculosis.

In these respects, the ‘new’ tuberculosis has challenged public health experts to rethink the basic assumption that epidemics are naturally-occurring events that can be isolated from more complex political, economic, social, and technical factors. With the rise of MDR- and XDR-TB, even the basic conceptualization of tuberculosis as a “social disease”—that is, as an “opportunistic infection” that takes advantage of situations of social vulnerability to create more vulnerability, in a vicious cycle—must be rethought. The ‘new’ tuberculosis, it can be argued, takes shape in a differently-routed, and more dynamically-scaled, chain of causality. Political, economic, social, and technical factors not only create new spaces of opportunity for the transmission of pathogenic microorganisms; they also create new spaces of social and biological interaction that, in turn, contribute to the inadvertent genetic re-engineering of microorganisms, creating bacteria resistant to both human immune systems and available biomedical therapies. In this sense the ‘new’ tuberculosis is as much a *sociotechnical disease* as it is a social disease.

Talk of a ‘new’ tuberculosis is also meant to shore up the sociopolitical dimensions of the current TB epidemic. The global collapse of many national health systems in the 1980s, and the emergence of new patterns of poverty, inequality, and conflict in the aftermath of the Cold War are often identified as the root causes of TB’s global resurgence (Zumla & Gandy 2003). In this respect, while “social causes” like poverty have long been recognized as underlying factors in epidemic TB, what is striking today is the explicit status accorded to politics and the political by contemporary TB experts, activists, and policymakers. The WHO, for instance, acknowledges that TB is spread by a unique microbial agent, *M. tuberculosis*. But it downplays this causality in

its literature, arguing that “the real cause of the spread of TB, particularly TB epidemics in specific populations, is not so much the microbe as it is the complex set of socioeconomic and political factors outside the realm of human biology” (WHO 2001:3). Increasingly, epidemic TB is linked to vulnerability, marginalization, and discrimination, and by association to the nation-state and its failure to recognize or protect the rights and dignity of its citizens. As global experts on the ‘new’ tuberculosis point out, the primary “epidemiological pumps” of the global TB pandemic are precisely those spaces where citizenship is most in question: refugee camps and prisons, migrant communities and military barracks, homeless shelters and orphanages, urban slums and periurban shantytowns. The spaces of the ‘new’ tuberculosis are increasingly delimited by war, famine, migration, militarization, homelessness, incarceration, natural disaster, substance abuse, and the vulnerabilities arising from acute political and socioeconomic crisis. Tuberculosis is now as much a disease of underdevelopment and state failure as it is a disease of poverty.

In this respect, critics have argued that the notion that TB, once disappeared, is now staging a comeback, is itself questionable, revealing, if anything, the increasing separation of the world into discrete and unequal spheres of concern. “From our clinic in central Haiti,” Paul Farmer observed, “it is impossible not to regard the notion of ‘tuberculosis resurgence’ as something of a cruel joke” (1999:47). Critics like Farmer have argued that TB’s resurgence is as much a return of TB to public consciousness in the global North as it is a quantitative rise in global infection.<sup>6</sup> As Katherine Ott has written: “The story ends up as ‘Tuberculosis is Back’ rather than, more appropriately, ‘Tuberculosis is Back in the News’” (quoted in Farmer

---

<sup>6</sup> Consider, e.g., the recent media spectacle over Atlanta lawyer Andrew Speaker, whose circuitous airline travels after he had been confirmed with an infection of drug-resistant tuberculosis (erroneously, it now turns out) sparked a major international incident that led to a US congressional hearing, the first of TB in decades.

1999:187). For scholars and activists like Farmer and Ott, the label “(re)emerging infectious disease,” and even the idea of a novel, epidemiologically distinct ‘new’ tuberculosis, obscures the predicament that epidemic tuberculosis has persisted, unabated, in the global South. If anything, they suggest, it underscores the structures of institutionalized inequality that continue to construe certain regions and peoples as worthy of concern while rendering others invisible. According to Ott, “It is not [TB’s] return that is extraordinary, but that its decline was to a great extent an artifact of socially constructed definitions.” “Tuberculosis,” Farmer has written, “has not really emerged so much as *reemerged from the ranks of the [global] poor*” (1999:47, emphasis in original).

*Governing Global TB Control:  
Institutions and ideologies*

In spite of these attempts to shore up the role of states, and state failure, in the making of the global TB epidemic, little attention has been paid to the emerging configurations of global power and policy that take TB control as its object. The ‘new’ tuberculosis is also “new,” it can be argued, with respect to the emergence of novel institutional arrangements of global disease control governance. As I would suggest, this broader institutional order, its organization of forces, and the way it constructs its object of intervention needs to be seen as an irreducible aspect of the newness of the ‘new’ tuberculosis, informing the operational basis for the contemporary global TB movement and its implementation and organization in places like Bolivia.

Paramount, here, is what scholars of global governance have identified as the internationalization of public policy in the last decade of the 20th century, a sea-change in global

geopolitical relations, most especially, between the developed and developing worlds. New networks of state and non-state actors, new patterns of institutional connection and investment that cut across local, national, and supranational levels, now challenge the sovereignty of individual nation-states, especially those in the developing world, weakening their capacity to exercise control over the design and implementation of policy. As Mark Duffield has written, “The internationalization of public policy has filled the vacuum, as it were, resulting from the market processes of debureaucratization and attenuation of nation-state competence that has deepened in the South by the liberal economic reform” (2001:9). As Duffield argues, this reflects a fundamental change in the objectives of international development agencies. If, in the past, international aid was mobilized toward promoting capitalist development in the Third World, today, increasingly, assistance is re-directed toward mitigating the dangers of poverty, failed modernization, and economic underdevelopment. The idea that the Third World might progress through “developmental” stages to eventually catch up to the First World, has been eclipsed by a more pragmatic, security-oriented paradigm in which the subordination of the global South to international public policy regimes is viewed as necessary for stability in the global North.<sup>7</sup> By promoting liberal social values and norms—human rights, participatory democracy, institution-building—development has become a means for securing global stability.

Health policy, which was formerly outside the purview of international development agencies, relegated to individual nation-states and international coordinating institutions like the WHO, UNICEF, and regional programs like the Pan-American Health Organization (in the case

---

<sup>7</sup> Drawing on the work of Manuel Castel and others, Duffield argues that the Third World/First World distinction is giving way to a North/South division gathered around a different set of relations. The global North refers to “core regionalized systems of the global information economy,” and the global South to “areas formally outside of, nor partially or only conditionally integrated into these regions” (2001:4).



of the Americas), now occupies center-stage in the new development paradigm, as exemplified by the UN's Millennium Development Goals. The World Bank's 1993 World Development Report, *Investing in Health*, e.g., provided a point of departure for including health sector reform in the global development agenda, and a blueprint for many of the neoliberal health reforms implemented through the developing world in the 1990s, Bolivia included. In this new model, controlling infectious diseases like AIDS, TB, and malaria is viewed as an essential component of international development strategies, as the costs of global epidemics are countenanced as threats to both economic development and global security. On the one hand, it is argued that global epidemics undermine the progress made in "modernizing" developing countries, while, on the other hand, by exacerbating underdevelopment, it is argued that global epidemics contribute to regional sociopolitical instabilities. In 2000, for instance, HIV/AIDS was reclassified by the US National Intelligence Council (NIC) as a "national security threat." Emerging or reemerging infectious diseases, the NIC argued, were a "nontraditional threat" that could potentially compromise American and global security, "endanger[ing] US citizens at home and abroad, threaten[ing] US armed forces deployed oversease, and exacerbat[ing] social and political instability in key countries and regions in which the United States has significant interests" (quoted in King 2002:763).

Infectious disease control programs have, as such, become key domains of global governance, incorporated into "poverty-alleviation strategies," as part and parcel of managing what Duffield (2001) has called the "dangers of underdevelopment." Through a new donor-based model of assistance—in contrast to the former debt-based model—health and disease control policy is debated and designed at international conferences dominated by the governments and

key funding institutions of the global North, and adopted and implemented by the states of the global South, who have little choice in the matter given the state of their own atrophied social welfare sector. Underlying this is what King (2002) calls an “emerging diseases worldview,” one that provides a ready-made view of the world, interactions between epidemic disease and human collectivities, and the kinds of global, institutional agency required to deal with the problem:

a consistent, self-contained ontology of epidemic disease: its causes and consequences, its patterns and prospects, the constellation of risks that it presents, and the most appropriate methods of preventing and managing those risks. It comes equipped with a moral economy and historical narrative, explaining how and why we find ourselves in the situation that we do now, identifying villains and heroes, ascribing blame for failures and credit for triumphs. Finally, it is a universalizing template for understanding the interactions between humans and the microbial world: the rules and assumptions that it lays out are presumed to be globally applicable. (King 2002:767)

The emerging diseases worldview, worried that 'centres' might be contaminated by 'peripheries', preserves this ideal of territoriality while simultaneously seizing on de-territorialization as a response. On the one hand, it recreates the representational strategies of 19th- and early 20th- century public health, identifying particular nations as threatening reservoirs of infection. The NIC report, for example, identifies the 'growing ease and frequency of cross-border movements of people and produce' as one of the crucial 'mechanisms of entry' of pathogens into the United States. It also preserves the ideal that, through strategies of separation and containment, the United States and its allies can be biomedically insulated from those countries - the postcolonial economic periphery of 'developing nations' - identified as the source of potential and actual global pandemics such as HIV/AIDS, tuberculosis, West Nile Virus, Ebola and dengue. The obsession with boundaries—between races, between classes, and between nation-states—persists, as does the origin narrative that locates the ultimate source, or 'reservoir', of disease in other nations. (King 2002:773)

The Stop TB Partnership, the key body now governing global TB policy, reflects this broader trend. Created in 1998, Stop TB is a consortium of public and private sector actors working in coordination with the WHO and the World Bank—governmental and non-governmental organizations, international policy and funding agencies, scientific and biomedical research institutions, charity and philanthropic foundations, and corporate sponsors, mostly from

the pharmaceutical industry. The key objectives of Stop TB are embodied in the Amsterdam Declaration, signed in 2000 at the UN's Ministerial Conference on Tuberculosis and Sustainable Development. In essence, the Amsterdam Declaration is a global call to "fast-track" the international response to the TB pandemic by impressing upon the world's politicians, policymakers, and opinion-leaders, "the urgent need for accelerated action against tuberculosis." As then director-general of the WHO, Gro Harlem Brundtland, explained, "The reasons for slow progress [in TB control] in many countries are, with few exceptions, no longer technical but of political and economic origin," attributable, ultimately, to "the lack of sustained interest in major health issues among politicians."<sup>8</sup> As Section V of the document adumbrates, the Amsterdam Declaration is foremost a political instrument aimed at promoting "ownership" of the global TB problem among the governments of the world, including those with low-TB burdens:

While recognizing that it is first & foremost the responsibility of affected countries to take the necessary actions essential for sustained progress against tuberculosis, we call attention to the fact that the problem is often the greatest in the very countries which can least afford to take action, & that it is in the interest of the global community to support tuberculosis control worldwide.

The Amsterdam Declaration is, in crucial ways, a synthesis of two distinct lines of thought about the global governance of epidemic disease. On the one hand, the Declaration promotes what the WHO has outlined as a "human rights-based approach to tuberculosis" (WHO 2001). Public health and human rights agendas have historically been at odds, the latter defending the rights of individuals to person and privacy, the former arguing for necessary limits on their exercise in the name of public safety. In its literature the WHO seeks to reconcile these differences by turning them on their head. Promoting human rights, the WHO argues, makes for

---

<sup>8</sup> See <[https://stoptb.org/stop\\_tb\\_initiative/amsterdam\\_conference/Herfkens.speech.asp](https://stoptb.org/stop_tb_initiative/amsterdam_conference/Herfkens.speech.asp)>

good public health practice, as the negation or violation of human rights, including limited or sub-adequate access to information, diagnosis, and treatment, is itself now viewed as contributing factor of epidemic disease.<sup>9</sup> It is suggested that the germ theory of tuberculosis may have hindered the development of social justice and right-based approaches to TB control, by drawing attention away from the role of politics as a means of addressing the disease.<sup>10</sup>

According to the WHO, there are other, more technical reasons for integrating public health and human rights agendas. Operationally, a rights-based approach facilitates the construction of more effective epidemiological instruments by standardizing the collection and analysis of TB data along the lines of internationally-agreed upon categories of vulnerability. Besides traditional demographic dimensions, trends in TB incidence and prevalence can be tracked with respect to subpopulations likely to face discrimination and rights-violations, including, as already mentioned, sub-adequate access to information, diagnosis, and treatment. In this way, it is argued, states can not only plan more equitable and effective health interventions, but, from the perspective of institutional transparency, states that fail to meet these standards can be held publicly accountable. Trends in TB data become reflexive measures of equity and justice in the provision of services. At the same time, a rights-based approach gives focus and momentum to the global TB movement by framing the problem in a broader set of concerns around which collective action can be mobilized, e.g., the participation and empowerment of

---

<sup>9</sup> “TB is deeply rooted in populations where human rights and dignity are limited,” a key document of the WHO’s Stop TB office begins. “While anyone can contract tuberculosis, the disease thrives on the most vulnerable – the marginalized, discriminated against populations, and people living in poverty” (WHO 2001:3).

<sup>10</sup> The report quotes a leading TB expert: “without Koch’s discovery [of the TB bacillus], the socioeconomic character of tuberculosis would have been clearer, and a demand for redistribution of the wealth of the community would have become a much more important issue” (WHO 2001:9).

women, minorities, HIV/AIDS sufferers, and the poor in advocacy and the delivery of TB services.

One finds a concrete, if mitigated, recognition of the WHO's rights-based approach to TB in the Amsterdam Declaration. Nevertheless, the Declaration stops short of calling for the recognition of TB control as a universal human right. Instead, TB control is designated a "global public good".<sup>11</sup> Global public good, or GPG, is a term introduced by the World Bank in the late 1990s. Its inclusion in the Amsterdam Declaration represents the second major line of thought about the global governance of TB control. A GPG is a public good, or, in economic terms, any good which is non-rival and non-excludable in its domain of use;<sup>12</sup> but it is global in that its domain of use cannot be circumscribed by region or generation, but traverses boundaries of space and time. A global public good takes 'humanity' as its point of departure. While public goods have long been part of economic theory, in particular, as a way of justifying state intervention when markets fail, the concept has recently been extended to define a class of goods that require international regulation and governance: the global environment and health, world peace and security, financial stability, internet access, and knowledge (Kaul et al 1999). The GPG concept forms an important ground for creating new regimes of global governance, and in particular for reorganizing international assistance strategies. On the one hand, it is argued that the domain of global public goods (and most especially "bads") is expanding with globalization; on the other hand, it is argued that the governments of individual state are no longer equipped to deal with them on their own, nor is the model of traditional inter-government cooperation and

---

<sup>11</sup> According to the Amsterdam Declaration: "TB control represents a global public good as the epidemic will get worse if we fail to effectively treat infectious cases, track the epidemic, & share best practices & tools within & across borders."

<sup>12</sup> That is, its use by one person doesn't diminish the possibility of its use by another, and no person can be excluded or prevented from using it, respectively.

assistance effective. Effective policy for GPGs can only be made at the level of the global, through new kinds of international institutions and strategies; the explosion of “public-private partnerships” as instruments of global governance is justified, in part, on the basis of managing global public goods.

Smith and MacKeller (2007), two leading theorists of global health policy, have pointed to the pragmatic rationality behind the introduction of the GPG concept into the global health sector. Appeals to wealthy countries on the basis of humanitarian concerns have failed, they argue, to yield the financial and technical commitments needed to improve health in the developing world, especially with respect to “neglected diseases” like tuberculosis. In the 1990s, they write, “the suggestion emerged [to use the GPG concept] to address this situation by encouraging policy makers in rich countries to view health assistance not only as humanitarian but as a selfish investment in protecting the health of their own populations” (ibid.:8).

Tuberculosis in particular was identified as a key example of a “pure” global public health “bad” – more than malaria, which could be confined regionally, and more than HIV/AIDS, which besides the regional dimension, could still effectively be addressed with a humanitarian-based logics. Owing to the relative cost-effectiveness of TB interventions, and to the particular epidemic characteristics of the disease, global TB control was best addressed in the GPG framework. This position is outlined in a series of policy documents developed by the UN Development Program, the World Bank, and the WHO. TB control is, in this conception, non-rival in that reducing the risk of one person through (private) treatment doesn’t subtract from the reduction of other’s risk; it is non-excludable in that everyone benefits, without exclusion, from this broader reduction of risk. The often repeated claim that treating one persons saves the lives

of 25 others – based upon a transformation of the epidemiological rule that one tubercular infects 25 persons every year – finds its rationale in this logic. Since the tuberculosis epidemic “doesn’t respect national boundaries,” as the truism has it – the stakes of global transmission being even higher with the emergence of drug-resistant strains of TB and the HIV-TB co-infection – TB control must be regulated and implemented at the level of global governance. But there are other reasons, grounded in the reflexive aspects of TB control as an administrative practice:

TB control displays ‘weak link’ characteristics – with globalization, the maximum attainable level of control in any particular country can be impacted by the level of control achieved in the worst national TB control program. TB control also suffers from ‘prisoner’s dilemma’ issues in that countries must make the decision to invest in TB control while not knowing if neighbouring countries will do the same. In some instances, certain countries could become ‘free riders’ by ignoring their own TB problems and leaving patients to seek care privately or in other countries that offer free, high-quality services.(Kim et al 2003)

The rationale here is that ineffective, sub-adequate, or non gratis TB control in one locale has deleterious effects for TB control in neighboring locales; poor treatment programs are themselves global public bads, “more dangerous than no treatment at all.”<sup>13</sup> Neither market-based mechanisms nor the political will of individual states is adequate to the task of managing the global TB pandemic.

The Amsterdam Declaration’s adoption of DOTS as the “internationally-accepted set of core practices” for combating TB represents the convergence of these two logics, the human rights and global public goods approach. I will return to DOTS below and in subsequent chapters, but here I want to call attention to its implications for global TB governance.

---

<sup>13</sup> See <[http://www.stoptb.org/stop\\_tb\\_initiative/amsterdam\\_conference/Herfkens.speech.asp](http://www.stoptb.org/stop_tb_initiative/amsterdam_conference/Herfkens.speech.asp)>

In 1993 the World Bank identified DOTS as a prime example of a “cost-effective” health intervention, one providing the most bang for the buck, as it were (World Bank 1993). More recently, DOTS was recognized as a “best practice”, not just on the basis of cost-effectiveness but also with respect to the optimal arrangement of administrative forces (Farmer 1997). On the one hand, as a standardized model, DOTS can easily be incorporated into the package of “essential health services” offered by national health systems throughout the developing world, thus promoting access to TB diagnosis and treatment as a right of citizenship. On the other hand, DOTS creates a set of benchmarks—goals for coverage, detection, treatment success, and so forth – that can be used to measure and evaluate the performance of national TB programs, as well as the national health system as a whole. In this respect, DOTS can be understood as a key institutional instrument for extending global control over national TB programs, above and beyond its narrower function as a treatment regimen.

This last point cannot be emphasized enough, as it reveals the broader shift in institutional arrangements and ideologies presumed upon and enacted by global initiatives like the Stop TB Partnership. In essence, Stop TB reflects a shift from a humanitarian-based culture of “good faith” in the use of international assistance to a “results-based culture” founded along pragmatic-utilitarian lines. The catalyst of this new ideology is, unsurprisingly, the World Bank, in particular its influential foray into health sector reform found in the 1993 World Development Report, *Investing in Health*. As the report noted, the classic public health paradigm of the WHO was fundamentally outmoded for dealing with the emerging health challenges of the developing world, given the impact of neoliberal economic reform and structural adjustment policies. The World Bank projected that necessary health expenditures in the developing world would



quadruple in the 1990s, a condition that would require substantial external investment. The old model in which development assistance for health was extended to governments as part of loan packages and debt-reduction programs needed to be replaced by a new model based upon collective international responsibility and global donorship. In a series of writings by economists Jeffrey Sachs and Amir Attaran (see Attaran & Sachs 2001), the concept of the public-private partnership was refined as a novel funding mechanism for global infectious disease control initiatives. In this model, recipient governments, mainly in the global South, and donor entities, mainly in the global North, are reconceptualized as equal stakeholders in a partnership aimed at managing global disease burdens. Individual recipient states propose projects and use global funds as they see fit, so long as they can demonstrate solid results to other “stakeholders” in approaching (if not meeting) agreed-upon benchmarks. The work of Sachs and Attaran, in fact, formed the theoretical foundation for the creation of the Global Fund to Fight AIDS, Tuberculosis and Malaria, today the key funding mechanism for Stop TB.

The emphasis on investment in this discourse is critical. As an author of the World Bank’s 1993 report explained, public health expenditures have long been viewed as “a drain on the system” (quoted in Cohen 2006:163). Spending valuable development dollars on the health sector, and on infectious disease control in particular, diminished the pool of available resources better allocated elsewhere, namely, on what was seen as the root cause of poor health outcomes: poverty and lack of economic opportunities. International agencies isolated strategies aimed at promoting capitalist development from health interventions, the former the distinct purview of the World Bank, IMF, and other Bretton Woods institutions, the latter the purview of international organizations like the WHO and UNICEF. The 1993 World Bank report, however,

lent credence to the argument—long made by public health experts, by the way—that boosting health expenditures would have a stimulus effect on the economies of the developing world; that health expenditures could, in effect, be viewed as investments. The 1993 report proposed to incorporate health interventions into the broader package of “poverty-alleviation strategies” that the World Bank increasingly saw as its mission to promote. And combating infectious disease received special attention as a particularly worthwhile investment in poverty-reduction, in part owing to its relative cost-effectiveness (estimated at US\$41 per person per year). Bill Gates—whose US\$ 6 billion contribution to the Global Fund to Fight AIDS, Tuberculosis and Malaria far exceeds the total budget of the WHO—has credited the World Bank’s 1993 report as his key inspiration (Cohen 2006).

It might be argued that there is nothing new in viewing the health of a population as an investment. Foucault, after all, pointed to this logic in his discussion of the emergence of biopower, the very notion of “population,” as a statistically grasped collectivity, emerging in conjunction with public health practices and a kind of actuarial logic elevated to the level of the state. With the Beverage Plan in the immediate aftermath of WWII—which created the British National Health Service, and on a symbolic plane, inaugurated the fundamental reversal in the terms of citizenship so characteristic of modern biopower—the health of the national population in all its dimensions entered into routine macroeconomic accounting. But even here, Foucault observed, it was health as a necessary expense, not an investment, which underwrote this transformation: “the concept of the healthy individual in the service of the State was replaced by that of the State in the service of the healthy individual [...] From then on, health [...] *became an expense*, which due to its size became one of the major items of the State budget, regardless of

what system of financing was used” (Foucault (Foucault 2004:6, emphasis added)2004:6-7, emphasis added). In the North Atlantic welfare state, the primary task of health expenditure was to redistribute national wealth, and in doing so to correct inequalities in the distribution of life opportunities—to create an even playing field, as it were. Health expenditure was not, as in contemporary regimes of global governance, viewed as a form of direct and differential investment in target populations, with the aim of transforming societies from the outside in.<sup>14</sup>

In construing global infectious disease control as a form of investment, however, contemporary regimes of global health governance diverge significantly from the welfarism. As already noted, the locus of action is no longer the individual nation-state, but complex international networks that cut across various scales and locales, including the system of nation-states, to form new combinations of public and private actors, conceived as equal stakeholders in a global partnership. States, in this model, have come to take on new roles and responsibilities, afforded, in part, by the turn away from welfarism in the global North, and in the global South, the broad dismantling of the social service systems that existed, where they existed. Analyzing the HIV/AIDS pandemic, Stefan Elbe has noted how the efforts to persuade individual states to participate in these new global partnerships, either as donors or recipients of aid, “mirrors in some key respects the strategies used by private insurance schemes [to persuade individual persons] to commit resources for making provisions against life’s insecurities” (nd:17). That is,

---

<sup>14</sup> It is interesting to note, with Teller (1985), that the origins of the Euro-American welfare state and the “new public health” upon which it depended were in large part innovations made first in the TB movement of the Progressive Era: the focus on prevention, compensation, expert supervision and control – in short all the elements of modern biopower. As Teller describes, the TB movement emerged out of a combination of private charities and voluntary associations that only later, with the growth of the state, came to be collectivized in public welfare schemes, notably compulsory health insurance. Importantly, the discursive logic of this earlier movement carried over, most especially the appeal to humanitarian sympathies as the basis of mobilizing the social. The death of children, the breakup of families, and other forms of visible suffering wrought by TB were more effective than the appeal to the economic losses for the nation entailed by the disease – what would become, in effect, a fundamental humanitarianism at the center of the welfare state.

these global partnerships and the patterns of investment they enact reflect an internationalization or corporatization of global risk, as if individual states are exhorted to take out insurance policies on their own populations. Drawing on the work of Pat O'Malley, Elbe identifies this as part and parcel of an emerging form of prudentialism, which, when inscribed in global governance, radically transforms the nature of state sovereignty. Global infectious disease—like global climate change—is reconceptualized as a “long term security risk that requires present expenditure by states in order to avert [...] negative future ramifications” (ibid.:17). Conversely, the failure of states to participate in emerging global regimes is viewed not only as immoral, as a failure to protect the rights and dignity of its citizens, but as imprudent, as a source of future insecurity.

According to Elbe, this new prudentialism works through an “epidemiological risk rationality” rather than a financial risk calculus. After all, the risks of disease are non-transferable in the financial sense, and thus the management of risks cannot take the form of redistributing them. Rather, the prudential management of global disease risks takes shape through strategies of prevention that emerge as much out of the categories of epidemiological as actuarial analysis. Prudent prevention takes into account the worse-case scenario, then works backward from there by a principle of precaution: “in circumstances where the longer term consequences of an action remain uncertain but could potentially lead to irreversible damage, such actions ought to be avoided” (Elbe nd:23). Emphasis is on controlling, modifying, and otherwise mitigating the risky behavior of target populations in the present, as opposed to managing the deleterious effects of those behaviors after the fact, as in the traditional-restitutive conception of compensatory insurance. This is straightforward prevention, of course, but what is novel is its explicit

deployment in international politics as such, as a way of construing, conducting, and legitimizing global health interventions within and across state sovereignties.

Duffield (2001) has argued that this new prudentialist logic was first deployed in the early-1990s to justify the use of international force in conflict regions like Kosovo and the Sudan. In effect, human-rights discourse was realigned with a goal-driven “consequentialist-ethics” in which the use of military force could be reconceptualized as humanitarian intervention. The argument was that military intervention, while itself “doing no harm,” might in fact ameliorate the possibilities of future regional conflict, conflict which, if left unchecked, would require even greater financial layouts by the international communities in the future, besides the human suffering entailed. According to Duffield, this logic was subsequently extended to global policy, to rationalize the use of international aid and development assistance—basically, anywhere that points of globally-consequential “vulnerability” could be detected. In the case of global health and disease control, interventions come to be justified not on the grounds of human suffering alone, but insofar as they can reasonably be shown to be sources of potential conflict and instability. Conversely, forms of present suffering that do not entail a predictable amplification of future suffering, are deemed unworthy of intervention, and can be legitimately swept aside, regardless of the human suffering involved. In this way global health interventions are folded into a broader logic of international security, as one mode of investing in security.

Global TB control enters this logic not of its own accord but in relation to the HIV/AIDS pandemic. AIDS, more than any other disease entity, has been recast within a security paradigm. At the first session of the UN Security Council dedicated to a disease, the president of the World Bank made this clear: “Many of us used to think of AIDS as a health issue. We were wrong. We

face a major development crisis, and more than that, a security crisis” (quoted in Elbe nd:3). The fear is that, with AIDS, the efforts of the international community to bring development and stability to the Third World have or will be put in jeopardy. “AIDS has already reversed 30 years of hard-won social progress in some countries,” a World Bank report claims (World Bank 1999). Attaran and Sachs, who cite this report in their seminal article—the one that helped launch the Global Fund for AIDS, Tuberculosis and Malaria (see above)—argue that AIDS is “at the center of a global ‘development crisis’” (2001).<sup>15</sup> The costs of present inaction include not only the suffering wrought by the disease, but the more widespread suffering entailed by potential conflicts above and beyond disease: fights over resources, civil and revolutionary wars, ethnic genocide, and all the other manner of social violence issuing from poverty, state failure, and underdevelopment as exacerbated by the AIDS pandemic.

Of course TB is not HIV/AIDS in this respect, in its potential for undermining states.<sup>16</sup> But, as the Amsterdam Declaration makes clear, the “battle” against TB is a major front in the “war” on HIV/AIDS, and here the logic spills over.<sup>17</sup> The UN conference which resulted in the Amsterdam Declaration was, after all, convened to create new lines of international action in the face of the threat that a global TB pandemic poses to the “sustainability” of development initiatives. And like HIV/AIDS, the securitization of TB transforms the epidemic from an

---

<sup>15</sup> Southern Africa is the epicenter of this crisis: “AIDS is accomplishing a sweeping undoing of past human development advances, especially in southern Africa. Life expectancy has plummeted 20 years or more in heavily affected countries... Education is being undermined... Even peace is threatened, as a future generation of ‘AIDS orphans’ mature without the guidance of their parents to rebuild or fight over the societies and resources of Africa” (Attaran and Sachs 2001:57).

<sup>16</sup> Though see the US National Intelligence Estimate, *The Global Infectious Disease Threat and Its Implications for the United States*, 2000, NIE-99-17D.

<sup>17</sup> The Amsterdam Declaration is unequivocal in this connection: “Tuberculosis is the leading cause of death among HIV-positive people & accounts for one-third of AIDS deaths worldwide; no other disease combination more directly blocks the development of families, communities & and thus national economies.”

extraneous event calling for extraordinary action, to a routinized—even chronic—condition requiring regular, continuous intervention. As with the war on HIV/AIDS, the war on TB no longer aims to vanquish or eradicate the enemy, but to contain and control its effects through management, ensuring it doesn't exacerbate or otherwise seed the conditions for widespread future conflict. It is telling, that, as with HIV/AIDS, the lines between “endemic” and “epidemic” TB have blurred in the global South, becoming indistinct, or better yet, becoming distinguishable not by an epidemiological rubric but by the calculus of prudentialism and securitization: endemic TB threatens only sick individuals, and can, therefore, be addressed as a health problem; epidemic TB, however, is “more than a health concern” precisely because of its security dimensions, the threat it poses to global peace and stability. Only the latter merits global investment, because only in this case are the benefits of TB control “fungible” in other domains. On the other hand, if one waits too long to intervene, the effects of an epidemic become too complex to contain and control; the fungibility of the intervention becomes marginal, the intervention too costly.

*The Politics of  
Global TB Control*

Didier Fassin (2007) in his work on global humanitarianism has argued that a new “politics of life” emerges out of this merging of security, development, and global investment (see also Duffield 2001 on what he calls the “new humanitarianism”). Once the distinct province of non-governmental organizations like Doctors Without Borders and the Red Cross, the logic of humanitarian intervention has, with these new regimes of global governance, been co-opted as a model for rationalizing and optimizing the distribution of aid within recipient nation-state,

including the health sector. According to Fassin, the regulation and normalization of populations—the hallmark of biopolitics—is replaced in this new politics of life by fine-graded distinctions between subpopulations based upon calculations of relative worth. Which lives are worth saving and which can be legitimately sacrificed? As Castel (1991) has pointed out, this kind of logic entails a dramatic deconstruction of the “assisted subject” of social welfarism, as interventions are planned and managed not with respect to the analysis of unique individuals—their case files, their biographies, their situational needs and demand—but with respect to more abstract techniques like population profiling. By creating a conceptual network of intersecting risk factors, a heterogeneous topography of vulnerabilities can be constructed on the basis of exposures to potential sources of risk, yielding differential “profiles” into which unique individuals can be subsequently—and probabilistically—mapped (see also Ewald 1991). When coupled with the logic of prudential investment discussed above, a rank can be established among interventions, and a set of national priorities and benchmarks created that target at-risk population as worthy of aid, while legitimately leaving others aside.

The result is a kind of triage in the distribution of state resources. Consider, for instance, the World Bank’s substantiation of TB control as an especially cost-effective health intervention. Cost-effectiveness, here, is defined as “the net gain in health or reduction in disease burden from a health intervention in relation to its cost” (World Bank 1993). The measure of gain is the “disability-adjusted life year,” or DALY, a metric developed by the WHO in conjunction with the World Bank. The DALY is, in technical terms, “the present value of the future years of disability-free life that are lost as the result of the premature death or cases of disability occurring in a particular year.” With the DALY, it becomes possible to rank health expenditures in terms of



overall reductions of disease burden, making interventions commensurable, and thus comparable to one another as potential investments. In the World Bank's estimations, an expenditure of US \$100,000 in TB control, then, can be deemed a more worthwhile investment than an expenditure of that same amount on diabetes control. Both would directly save 500 lives; but, it is argued, once one factors in the infectious nature of tuberculosis, the investment in TB control would entail a net gain of 35,000 DALYS, where for diabetes control, the gain would only be 400 DALYS: "each patient would gain less than one healthy year from a year of treatment, and there would be no benefit from reducing incidence" (World Bank 2003). In this calculus, TB control offers a substantial advantage under conditions of limited resources, and when viewed as an investment. Moreover, by coupling TB control with HIV/AIDS control at the point of delivery, the net gain in DALYS can be boosted even higher, justifying the relatively high rank of the two disease control programs at the level of global governance. On the other hand, owing to its less infectious nature, the relative cost-effectiveness of treating nonpulmonary forms of tuberculosis is dramatically vitiated, approximating more the profile of diabetes control. Consequently, nonpulmonary forms of tuberculosis can be legitimately marginalized from national TB control programs, as special cases requiring secondary institutional mechanisms, often funded by patients themselves.

Inscribed at the level of the nation-state, as the local node of global governance, this new politics of life entails new roles and responsibilities for the states of the global South. Globally-targeted diseases like TB, AIDS, and malaria are no longer conceptualized as the space of a privileged relationship between doctors and patients, nor a field of practice that the state can afford to relegate to the market or the function of non-governmental organizations. Rather, the

control of these diseases is subordinated to a more public relationship, as the site of a new social contract between citizens, the state, and global institutions aimed at the “shared management of sickness and health” (Donzelot 1991). On the one hand, the burden is on recipient states “to show themselves fit for consideration [...] [by] meet[ing] defined standards of behavior and normative expectations” legislated in the international sphere (Duffield 2001:7). This is not only with respect to the use of international aid, but also in the collection and management of national resources. As the World Bank representative argued at the UN Conference on Tuberculosis and Sustainable Development, it is imperative that recipient states:

keep the national discipline of prudent fiscal policy and high-quality public expenditure. Otherwise, all the sound principles will remain just that – principles, without the Stop TB outcomes we want to see. Money is fungible, and potential burdens on health sector finance, and on public finance altogether, are likely to be significant. None of us can look to new partners to invest, if we cannot demonstrate the commitment to use our own resources efficiently, effectively, and equitably.

Through the creation of national priorities, benchmarks, population targeting, and performance measures, recipient countries demonstrate their trustworthiness as aid recipients to other “stakeholders” in the emerging system of global public-private partnerships. To draw on the discourse of Bolivian health reformers, the states of the global South are increasingly transformed into “benefactor states”—states that exist in and for their capacities to secure and selectively channel international resources to national subpopulations previously identified and targeted as especially vulnerable and at-risk by global organizations (Torrez Goitia 1997).

On the other hand, through “pro-poor” policies in the sphere of health, persons afflicted by targeted pathologies get reconceptualized as citizens with special rights and responsibilities before the state and with regard to their diseased biologies. In this way, global diseases like HIV/AIDS, TB, and malaria have become “not simply an embodiment of marginalization and

exclusion to be policed [...] [but] also a technical means of [sociopolitical] inclusion” (Biehl 2004:123)—a means of making a claim on the resources of the state, a form of “biomedical citizenship” (see also Briggs 2003; Ong 1995; Petryna 2002). In contrast to the forms of biomedical citizenship in the global North, emergent around new biotechnologies and the explosion of consumer markets for lifestyle and life-enhancing commodities (Rose & Novas 2003), biomedical citizenship in the global South takes shape in relation to strategies of health triage and assessments of vulnerability and victimhood, creating gradations of citizenship based upon degrees of access to the state. This includes, at the same time, modes of de facto disqualification from rights, as when individuals are seen to be noncompliant or otherwise resistant to state-sponsored interventions. As such, biomedical citizenship in the global South is foremost connected to a new kind of ethical being, the “deserving poor”: the poor that are prudent in their use of the gifts of assistance extended to them.

*“We All Have Tuberculosis Now”*

*[structural-adjustments]*

In the early hours of October 11, 2003, a Saturday, President Gonzalo Sánchez de Lozada, facing the second major crisis of his presidency, declared a state of emergency. Sociopolitical tensions had been mounting in the Bolivian highlands for months, over to the president’s plans to ratify Bolivia’s inclusion in the Free Trade Area for the Americas (FTAA) and, more saliently, his proposal to export Bolivian natural gas to Mexico and the US through Chilean ports. In September alone, bloody confrontations between *campesinos* and the Bolivian military had left dozens dead or wounded. Road blockades across the *altiplano* and widespread strikes and marches in and around the city of El Alto had effectively shut down regional markets and access to the nation’s capital, leading to rising prices and an acute scarcity of bread, meat, and other basic foodstuffs, as well as petroleum and domestic cooking gas. For weeks now the top *dirigentes* (labor leaders) of Bolivia’s peasant syndicate, the CSUTCB, had been on hunger strike in the auditorium of Radio San Gabriel, an Aymara-language radio station in El Alto, calling for “dialogue” with the government. At the beginning of October, however, the CSUTCB’s *dirigentes* announced they were suspending the hunger strike, “to retire to our communities to organize the government of *indígenas*, the nation of Qullasuyo” (Gómez 2004:66).

On October 8, a Wednesday, a *paro indefinido*—a citywide strike of undefined duration—went into effect in El Alto. That evening, 800 miners from a nearby mining encampment arrived outside the city, armed with dynamite and the announced intent of marching on Plaza Murillo, the headquarters of national government, to demand the resignation of Sánchez de Lozada. The next morning, hundreds of soldiers were deployed to El Alto to thwart the miners’ advance, killing one. Outraged, *alteños* stormed local police posts and began mobilizing by neighborhoods to repel the city’s ongoing militarization. On Friday, after more than a hundred *alteños* attempted, unsuccessfully, to seize a regional petroleum repository, leaving dozens dead and wounded, the government accused El Alto’s social movements of fomenting a *golpe de estado*. Later that night the Sánchez de Lozada government began drafting the executive decree that would impose a state of emergency, releasing special funds to replenish the military’s depleted stock of tear-gas and authorizing the use of force to secure the nation’s petroleum supply, now running perilously low in La Paz. Unknown at the time, the executive order absolved government agents of responsibility in using any-mean-necessary to achieve their objectives, while guaranteeing state compensation “for whatever damage to goods or persons produced as an effect of complying with the object of the present executive order.”<sup>1</sup> This would not be the last executive order President Sánchez de Lozada would sign before renouncing his office a week later, but it would be the one remembered as the beginning of the end of his presidency, and not coincidentally, the beginning of the end of twenty years of neoliberal political-economy in Bolivia.

---

<sup>1</sup> Bolivia, Decreto Supremo 27209, October 11, 2003.

On the morning of October 11, with the requisite legal measures in place, a large military convoy was dispatched to the regional petroleum repository in El Alto to escort a large shipment of gasoline down to the city of La Paz. A Mexican journalist on the scene gave an especially vivid account of the ensuing milieu:

It was a little after six in the afternoon when they were seen leaving. More than a hundred soldiers and dozens of police guarded a caravan of gasoline tankers. Dozens of neighbors came running from the bridge where they guarded the crossroads: a little to the south, where the highway to Oruro begins, they saw the vehicles begin their march toward the avenue amidst a cloud of tear-gas [...] [A] convoy of 24 gas tankers, some tanks, various trucks full of soldiers and food, an automobile—so began the 36 hours of massacre by decree that would determine the course of the contest and provoke the uncontrollable anger of *alteños*. (Gómez 2004:78)

For the next two hours, neighbors, armed with rocks, wooden posts (*callapus*), dynamite, and other improvised weapons, fought soldiers with machine guns and tear-gas, leaving dozens wounded and two dead, one a child struck by a stray bullet. The next day, Sunday, a stunned nation looked on as the violence in El Alto reached a pitch, killing scores and wounding hundreds more.

It was in this dramatic milieu—*Octubre Negro*, or ‘Black October’, as it has come to be called—that Mirtha discovered she had osteoarticular tuberculosis, TB of the knee. When I met her in early 2004, the kneecap of her stricken leg had been surgically removed and her tibia had been sutured to the femur, leaving her with a straight, unbendable limb and a dependency on crutches. This was a temporary fix, her doctors assured her; she would receive a prosthetic knee as soon as she could afford it and the surgery, several thousand US dollars. An unmarried woman of thirty with a young son to support and now with a serious disability, that kind of money would be



Figure 7

*Plaza Minero*, in a neighborhood of El Alto, commemorating the city's historic relation to mining

difficult to save, and Mirtha seemed content not to walk the same again. In any event, as my assistant explained, Mirtha was *gente humilde*, a ‘humble person’, not the kind of person to express such hopeful expectations.

Like many her age, Mirtha came to El Alto with her family in the mid-1980s as part of the *relocalización*, the resettlement of mining families throughout Bolivia in the wake of the neoliberal dismantling of the state mining company, COMIBOL. Her father had been a water pump mechanic in Corocoro, one of Bolivia’s largest copper mines. When the government began offering cash bonuses as incentives for peaceful, “voluntary” retirement—roughly US\$ 3,000 in 1986 (Nash 1992; Sanabria 1999)—Mirtha’s father accepted the buyout, and agreed to “relocate” to El Alto, the *ciudad prometida*, the “promised city,” where, according to the government, abundant new jobs awaited him. He used most of the money to buy a small *vivienda* (a single-

story Western-style home) in one of El Alto's neighborhoods, acquired through a deal brokered by his mining association. When the promised jobs failed to materialize, he used the rest of the money to buy a minibus to work, like many other ex-miners, as a *chofer* in La Paz's then-bustling informal transportation sector. When this when failed to bring in steady income, he turned to odd jobs like construction work, carpentry, eventually giving up altogether, living off his meager pension and the income of his children. That Mirtha rather than her father might be "gripped" (*agarrado*) by TB, and in the knee rather than the lung, would have been unthinkable two decades ago. Mirtha had never set foot inside a mine, and tuberculosis was, in the conceptualization of the time, an "occupational disease" (*enfermedad ocupacional*), a disease that affected the lungs of miners and only after years of intense labor in the deep recesses of the mineshaft. Then, it would have been a shock to her and her family that she was diagnosed with TB. Now, however, things were different; she knew lots of people with tuberculosis, many neighbors.

Nonpulmonary forms of tuberculosis are not easily detected in Bolivia, where the infectious pulmonary form is prioritized by the state health system. Its detection often requires a special event, a moment of rupture from the everyday. In October of 2003, Mirtha had been working as a table assistant in a private dental practice in a neighborhood close to El Alto's commercial center, near where the buses leave for La Paz. She had recently moved back into father's house, with her son, in a more peripheral neighborhood of the city, after her "husband," a musician, left her for another woman. The move required that she bus across town for work. But in October transportation had come to a halt, her father had long sold the minibus, and so Mirtha



resorted to walking the several miles to work, sometimes cutting through the city cemetery, which, as she later recalled to me, was first when she suspected something awful was to happen.

Mirtha didn't want to go to work on Saturday, October 11, the day after the first major confrontations in El Alto, but she feared loosing her job. When reports of more confrontations surfaced in the afternoon, her father sent a cousin to fetch her from the dental practice. As the two were returning home they encountered a skirmish between neighbors and soldiers at the neighborhood's entrance, along the road to Oruro, precisely the skirmish described above, by the Mexican journalist. As Mirtha later told me:

We were returning like that, walking, that Saturday, when I saw there was a conflict here [...] That Saturday coming home from my job at eight I think—perhaps later because it was already dark, nighttime—when “RUN! RUN!” they said to us. And we heard gunshots and we fled. “RUN!” We began running, all of us, and I'm there- I believe I tripped, but my knees gave out. The street was bricked [...] We were trapped on this side as we returned, and behind us- the tear-gas was falling all around us, we couldn't take a single step backwards [...] I couldn't advance anymore. “My knee! My knee!” I couldn't walk but I continued to force myself down the road, and it was unbearable [...] A woman opened her door. “Mía! You can't walk easily because you're sick [from the tear-gas]!” she said to me. She let us into her house. We entered, she let us in, and I HURT! I HURT!

Mirtha and her cousin hid inside the woman's house until the violence ended, then returned to her father's, where she remained throughout the week, her mother treating her with *medicina caseras*, home remedies, mainly herbs and ointments. She thought she'd twisted her knee.

A week later, after Sánchez de Lozada resigned from the presidency and order was restored in El Alto, Mirtha was taken to the trauma unit of La Paz's central hospital. X-rays of her leg showed that she had fractured her femur and dislocated her knee, that surgery would be necessary. When they opened up her knee joint, however, they found “the bone was completely eaten,” as she put it. The bottom part of the femur, the top of the tibia, and the entire patella (the kneecap) were pitted with “little holes.” Doctors suspected osteoarticular tuberculosis and the

culture they ordered confirmed this week's later. Mirtha was put on the standard course of anti-tubercular drugs, and, once she had recovered from the surgery and returned to her father's house, she was enrolled in the local DOTS program at the neighborhood health center, which is where I first met her.

When Mirtha told me her story, in February of 2004, she was still confined to a bed in the small foyer of her father's house. An enormous cast ran the length of her right leg, from the ankle to the hips. She had grown agile on crutches, however, and took periodic walks around the courtyard out of which one of her brothers ran an illegal *amplificación* business, renting out his sound-system to neighbors for large parties. This wasn't the first time she had fallen, as she explained. Four years earlier, playing soccer with her brothers, and then a year after that while carrying a cake, she had taken nasty spills, both times with pain in her right knee. A visit to a private physician, a *médico particular*, and to a *naturista*, an herbal specialist, both confirmed she had *artritis*, arthritis. For Mirtha, the diagnosis of tuberculosis did not contradict or supercede the the arthritis diagnosis; to the contrary, as she saw it, the arthritis had facilitated the tuberculosis. "They said perhaps that because my knees are weak, all that, to there it [the bacillus] went," she told me and my assistant. To my chagrin, my assistant, a man from the neighborhood, quickly corroborated Mirtha's explanation of things: "Yes, yes, to there they say it went, the *bacilo*, no? So it must be weak there, without defenses. So with the fall the defenses were lost, so there it localized, the *virus*, no?" Mirtha nodded in agreement, and my assistant, emboldened, continued:

As you were healthy- your lungs were healthy, so your lungs rejected [the bacillus], then your stomach also rejected it. Everything rejected it. So, once the bacillus found let's say a weak part, and since there had been a wound there, the bacillus stayed there. It stayed

there, and in there it matured, like that, from morning to night, maturing, no? So, it matured there, and once it had matured it started to eat the bone.

As Mirtha continued nodding, and I secretly steamed inside, my assistant came to a point in his explanation that I would hear again and again in my travels throughout Bolivia's TB control network. "All Bolivians, they say"—he told Mirtha—"we all have this bacillus, sleeping in us, all Bolivians." The most common of claims as I would come to see: all Bolivians have tuberculosis in their bodies. Mirtha had just been unlucky, with her fall, to awaken the bacillus from its slumber.

"We all have tuberculosis now"—this is a common sentiment in periurban Bolivia, and not just among TB sufferers, their families and neighbors. At a workshop (*taller*) for TB patients I attended at a hospital in the *laderas* of La Paz, a regional director from Bolivia's TB control program explained the predicament. "IN THESE TIMES we are ALL infected with the tuberculosis bacillus," she said, gesturing across the room in broad strokes, encompassing doctors, nurses, and health officials, patients, family members, and the various representatives of community organizations present. "The *doctora* is infected, the *licenciada* (degreed nurse) is infected, and I too have the tuberculosis bacillus in my body (*mi organismo*)." Of course, neither the *doctora*, the *licenciada*, nor the director herself exhibited signs of an active tubercular infection, unlike the patients in the coughing, wheezing audience. This was a bold and paradoxical claim, given that moments earlier she had asked that an industrial-sized fan be powered up in the room, in part, she explained, to demonstrate good hygiene, "to stop the spread of disease." But then she explained more precisely what she meant. Most Bolivians, she said, had already undergone the primary infection (*primoinfección*) with the TB bacillus. There was the

infection and there was the disease: everyone had the infection, some would develop the disease —“unfortunates” likes those in the audience. This was the predicament of underdeveloped countries, she said, “countries like ours”: for some, the primary infection would become active, through secondary reinfection (*reinfección secundaria*).

She traced an imaginary triangle in the air with her finger. In developed countries, she explained, the base of the triangle represented the clinically-symptomatic, bacilli-active, sick population, while the triangle’s apex represented the clinically-asymptomatic group, person’s infected but still healthy. In Bolivia, however, the triangle was inverted. The apex was the clinically-active population—people actually suffering from tuberculosis—while the triangle’s much larger base was the infected but still healthy population. In Bolivia, the proportion of people infected was much larger than the proportion of people that became sick. And unlike developed countries, no one escapes the triangle. In Bolivia, anyone can become sick, given the right conditions for the secondary reactivation of this disease.

These were fine medical distinctions, rapidly spoken at that, and I imagine that few in the audience could understand them, myself included. But then she got to the point:

EVERYONE has the tuberculosis bacillus in the lungs. But what happens? Many persons have organic defenses (*defensas orgánicas*) that are inadequate [...] If our organic defenses lower for any reason- it could be for malnutrition, because we have a chronic disease, or because we suffered from some other cause that impairs our organic defenses- then, it is probable we’ll become sick with tuberculosis. Here in Bolivia, NOBODY is free from the threat of becoming sick with tuberculosis.

This term, *defensas orgánicas*, ‘organic defenses’, was the bridge between the biomedical concept of immunocompetence and everyday understandings of health and disease, anchored in concepts of (mal)nutrition and the organic exchange between the body and the world. It enabled the *doctora* to translate the predicament of TB in Bolivia into the problematic of “Bolivia” more

generally, that is, as it is grasped in national discourse, as a nation of poverty (*pobreza*), underdevelopment (*subdesarrollo*), and poor economy (*economía baja*)—Bolivia as an internally homogeneous construct of national population:

To sicken with tuberculosis isn't a crime. It's a disease of poverty. And here we are all poor people, all of us, one hundred percent. Why? Because we don't have an adequate economic situation. The country is poor. Hopefully with these social changes, changes of government, our economic situation will change, and as such the tuberculosis situation will also change. Improving the conditions of life, improving the conditions of nutrition, housing, environmental sanitation, etcetera, tuberculosis will start declining little by little. But while our economic conditions remain the same, tuberculosis will remain- will continue in the country. Though we cure many persons, other persons are going to appear with tuberculosis.

Having heard it stated so explicitly, I soon heard it everywhere, replicated in the everyday discourse of healthworkers. "Tuberculosis is a social problem," the doctor at the neighborhood health center, *centro de salud* or CS, in which I was working explained to me, "because all of us are in one step or another of becoming sick. We have already become infected. Because this problem is social, of the economic kind. Lamentably, all countries on the path of development have this problem of economy." "We all have it," the head nurse or *licenciada* at the same neighborhood CS explained to me. "We all have the bacillus in our organism... Well, in Bolivia there is primary tuberculosis. This is the tuberculosis which we ALL have acquired, the bacillus, and its already in our bodies. Now when our defenses lower, then the bacillus AWAKENS, and there you see it ALL."

TB, *we* Bolivians, *our* economy, *now*. It was only occasionally that this *we* and this *now* of TB, so casually presupposed in everyday discourse, got divided up, fractionated and isolated, like blood in a centrifuge. One day, as I was waiting to meet with the head administrator of a small

municipal hospital in El Alto, a lab tech at the hospital approached me, a man in his mid-thirties perhaps. He'd heard I was studying Bolivians' "perceptions" of TB. If I really wanted to understand Bolivians' perceptions of TB, he advised, I'd better start by studying the *relocalización*. Though he was raised in El Alto, he explained, he himself was born in the mines—the son of a *relocalizado*. Many persons sick with TB, in his experience, weren't miners, but the children of miners, people like himself. The rest were Aymara migrants from the *altiplano*, poor people who'd come to places like El Alto that bore the brunt of the *relocalización*. With the confluence of these two populations, of resettled mining families and poor Aymara migrants—the consummate lab tech explained, mobilizing his professional training for a figure of speech—the TB bacillus found a "fertile growth medium": latent infections were reactivated, new infections formed. "We are all at risk for tuberculosis now," he said, almost obligatorily, but quickly qualified what was becoming for me a ready-made stock phrase. Bolivia's TB problems could, and should, he told me, be attributed to the *relocalización*, more particularly, to "the model," *el modelo*—the set of neoliberal political-economic policies enacted by Supreme Decree 21060, in mid-1985, as many Bolivians refer to it. When I asked how I could verify this account—if there were official studies, government reports, anything?—he laughed (how naive *gringos* can be!). It is "just our reality," he told me, something "we all knew." And in any event, this was precisely what I should do with my study: "demonstrate scientifically" that this was the case.

I tried to explain that I was an anthropologist not an epidemiologist, not really trained to demonstrate such things, scientifically or otherwise, but this was besides the point. I did, however, set myself to the task of trying to better understand this *we* and this *now* of tuberculosis in the *here* of Bolivia, the local cultural history of the disease indexically-figured in and

through this so often repeted phrase, *we all have tuberculosis now*. Who, I wondered, was the *we*, and what, more precisely, the *now*?

## CHAPTER TWO

TB, *EN NUESTRO MEDIO*: NATIONAL

NARRATIVES, NATIONAL PRIORITIES

“Before it was the reverse. I remember that eight or ten years ago- I remember that the majority of patients with tuberculosis came from the *centros mineros*. And it was as though tuberculosis was the consequence of mining activity. And it’s not, as we now know. It’s only an event that influences, let’s say- that facilitates the disease of tuberculosis [...] What happened was that before, not much was known about tuberculosis. Then cases started to appear in places where they weren’t- that weren’t mining centers. Simply put, it was discovered too late that tuberculosis was also in other regions.”

—Director of the Department of La Paz’s TB control unit, interview, 2004

“What happened was that before, little importance was accorded to tuberculosis, that is, it was misperceived, the disease was misperceived [...] Advances in epidemiological knowledge enabled us to know a bit better the magnitude of the problem of tuberculosis [...] So we reached this conclusion, that incidence has increased. Before it was very low. Why? Because we weren’t aware, we weren’t trained. Now incidence has started to rise.”

—Former director of El Alto’s municipal TB control unit, interview, 2004

In Bolivia, in the mid-1990s, the spread of epidemic tuberculosis came to narrated in terms of a set of social and historical transformations in the nation-state very much on the minds of Bolivians. This narrative, like so many in contemporary Bolivia, took as its point of departure the tumultuous events of the prior decade. In June of 1985, in the midst of unprecedented hyperinflation and heightened sociopolitical unrest, President Víctor Paz Estenssorro, the



“father” of Bolivia’s 1952 National Revolution, famously declared “Bolivia is killing us” (*Bolivia nos se muere*) and, overnight, invoked emergency powers in order to implement a bold project of neoliberal structural-adjustments—“shock therapy”—aimed at dismantling the corporatist state he had himself helped build only three decades before (Conaghan 1990; Conaghan & Malloy 1994). The now infamous Decreto Supremo 21060 called for, among other things, the privatization of Bolivia’s state-run mines and the euphemistic *relocalización*, or forced retirement and resettlement of Bolivian miners to select sites throughout the country. In the ensuing political and economic fallout, tuberculosis—its rhetorical construction in public discourse—cut a dramatic figure. By the mid-1990s, the *relocalización* would be blamed for the resurgence of the disease in Bolivia. An “occupational” disease once confined to Bolivia’s *centros mineros*, TB came to be seen as a nationwide epidemic, festering in the four-corners of the country, preying upon the Bolivian *pueblo* and threatening the health of the nation’s mainly urban elites. Supreme Decree 21060, the “death sentence” as Bolivia’s labor syndicates immediately characterized the new measures, came to be seen as its most important cause.

Writing in the mid-1990s, in a journal aimed at the nation’s medical professions, the former director of Bolivia’s prestigious *Instituto Nacional del Tórax* (the INT) rather presciently summarized the broader political and symbolic import of TB’s spread in this brave new Bolivia of neoliberal reform and crisis:

Known to all the country’s population, Supreme Decree 21060 will enter into the History of National Medicine as the most important cause conditioning the aggravation and incidence of tuberculosis and silicotuberculosis, following upon the closure of the miner’s hospitals. (Criales Alcázar 1996:54)

For the miner’s hospitals, like the mines and the corporatist state predicated upon the power of state-run mining, had also been dismantled. It was not hard for the former director to imagine a

similar fate befalling the INT, an institution that had been the crowning achievement of a previous generation of medical activism against TB in Bolivia, one that found warm reception in the political and symbolic commitments of the 1952 National Revolution (see chapter three). But by the 1990s, and as a consequence of the reform, the INT had been forced to seek out international aid for its routine operations, “that is to say,” the former director warned, “by dealing with public charity, [and] with this optic the future is not very flattering.” If these comments by a professional in the thick of things reveal the extent to which this national narrative succeeded in persuading, finding expression in the very History of National Medicine, they also reveal the extent to which the narratological construction of the TB epidemic could be marshaled for *persuading*, here to motivate the former director’s demands of renewed state-support for a key national health institution.

And it did persuade. In June of 2003, almost two decades after Estenssoro’s fateful decree, and after almost two decades of “epidemiological deterioration” in the nation’s public health infrastructure, the control of tuberculosis was designated a top national priority by the government of Bolivia. It was time, Bolivia’s health minister announced to the public, to declare war on the disease. With Resolución Ministerial No. 00400, national commitments to fighting the disease were officialized at the highest level, including, importantly, in the state budget (Bolivia 2003). DOTS, the WHO’s global TB strategy, was adopted as the official model for the surveillance, detection, and treatment of the disease at all scales of public health administration, national, regional, and municipal. Under the banner *Luchemos contra la tuberculosis*, “Let’s struggle against tuberculosis,” a major TB campaign was launched in the nation’s rural communities and periurban neighborhoods. “The fact that in Bolivia there as many as 15

thousand tuberculosis patients each year and evidence that 165 people contract this disease each day, in addition to the confirmed daily deaths of 5 or 6 patients”—the minister told the public —“obligates the national government to immediately enact this program.”<sup>1</sup>

This was not the first time the government had been obliged to declare war on tuberculosis, nor was it a total break from TB policies past. But it did constitute a landmark of sorts in the institutionalization of TB control activities in Bolivia, this in a threefold sense. First, with Resolución Ministerial No. 00400, state-sponsored TB control became an officially-recognized, if not entirely new, national reality, now with a political and legal as well as a scientific and medical mandate, a mandate that was, moreover, arrogated to a single public agency, Bolivia’s *Programa Nacional de Control de la Tuberculosis*, the PNCT. Second, in enacting this resolution, Bolivia formally joined the ranks of the emerging order of global TB governance, with its technical focus on means-tested “best practices” like DOTS and its policy imperatives of national prioritization for public health programs like the PNCT. And third, in this articulation of the national and the global, the new resolution recognized, if not explicitly, a kind of recuperated legitimacy for national health officials—the majority national elites—to authoritatively represent the woes of the nation, and not just before the Bolivian state, but before the global TB “community” as well.

Strikingly, no mention of the *relocalización* was made in the minister’s remarks, nor in their subsequent reportage in the national media. But, by 2003, there was no need for that. By then, TB had become synonymous with the *relocalización* in all its literal and figurative meanings, and the narrative that told of the disease’s spread had become the presupposed

---

<sup>1</sup> *Correo del Sur*, “La tuberculosis mata a cuatro bolivianos cada día,” Santa Cruz: June 25, 2003.

background—the tacit knowledge—of all public discourse about the epidemic in Bolivia. The story of the *relocalización* was subtly indexed rather than explicitly asserted each time national health elites purported to speak about TB publicly, and to speak about it, as they now did, by assuming a kind of proprietary claim over its control, as TB *en nuestro medio*, TB “in our medium.”<sup>2</sup> In short, 2003 saw the consolidation of a new regime of state-sponsored TB control in Bolivia, a regime monopolized by national health elites with one foot in the national, one foot in the global, and underwritten by a kind of collective charter that went without saying. “We all have tuberculosis now”—this, in its indexical presuppositions, captured it all.

In the introduction I mentioned the multiple, intersecting circuits of translation involved in extending networks of public health expertise “out there” into the world where they can have practical effects: mobilizing disease in sociotechnical forms; routinizing sociotechnical forms in public agencies; aligning public agencies with broader institutional projects; and representing the credibility, efficacy, and ultimately, the cultural authority of those institutional projects in public discourse. Each of these translation circuits, I suggested, makes use of a distinct repertoire of discursive practices and techniques, a distinct communicative competency. This chapter focuses on the communicative competencies that make up the latter two circuits, institutional alignments and public representations. What discursive repertoires did Bolivian health elites draw upon to persuasively represent the TB epidemic—its causes and consequences and proposed means of control—before the state and before the public whose health the state claims to protect? How did

---

<sup>2</sup> Thanks to Kate McGurn for calling my attention to the broader significance—and ubiquity—of this rhetorical construction in the discourse of national scientific and biomedical elites.

PNCT officials translate their expertise—what they could do for Bolivia, what they had to offer Bolivians—into a publicly-recognizable, and indeed culturally-unassailable form?

As this chapter explores, narrative, as a powerful rhetorical device for recontextualizing discourse, played an especially important role. By controlling the stabilization and circulation of the epidemic's narrativization in public discourse, PNCT officials were able to effectively shape public expectations about TB's spread and about the kinds of public agency that could be called upon to counteract it. One narrative in particular was crucial: the causal story, introduced above, that linked the past, present, and future of TB in Bolivia to the sociospatial displacement of the nation's historic mineworkers, and so, recontextualized the spread of disease within the spatiotemporal horizons of neoliberal reform and crisis. To be sure, this "epidemiographic" narrative, as we might call it, was not authored by Bolivian health elites; in fact, as we shall see, it was first put into public circulation by other sources. But once in public circulation, it was strategically seized upon by PNCT officials as a means of inserting their question—that of state-sponsored TB control, their claimed expertise over it—into broader, ongoing national debates about the formulation and exercise of state power. As I show, this was neither easy nor obvious. In the contested terrain of state reform and crisis, national health elites were not the only ones generating expert knowledge about displaced miners, nor about TB; the knowledge generated by national economists, notably, presented a direct challenge to that generated by national health elites. But, by drawing on the broader public resonance of the narrative of relocation, as it might be called, and reframing TB's spread in Bolivia as a local instance of the WHO's declared "global tuberculosis emergency," Bolivian health elites were able to successfully align their expertise with other institutional projects and to credibly articulate it to already-existing public

concerns. In this respect, 2003's national prioritization of TB in Bolivia can be seen as a tentative victory for national health elites over other competing demands on the state, a victory made possible, in large part, by the strategic circulation of narratives in public discourse.

In exploring this topic, this chapter is intended to serve as a more general introduction to the problem of TB control in Bolivia, namely, by beginning, from the start, with the constitution of TB *as a problem*, as a matter of public concern. In short, how did TB become a matter of public concern in contemporary Bolivia? But any talk of the "public" is itself problematic in Bolivia. To say that Bolivian health elites drew upon the discursive resource of narrative to give credible, public representation to their project of state-sponsored TB control, is to recognize that they did so in but one sphere of circulating discourse: the publics of elite national culture, dominated, as it is, by the national print media. This should not be surprising in a place like Bolivia, where the mediation of public discourse—and the constitution of publics—diverges significantly from the more well-known Habermasian modality, in the case of Bolivia, fracturing along the lines of the dichotomizing discourse of *los dos bolivias*, "the two Bolivias." Paradoxically, or perhaps not, the "popular" publics of the "other" Bolivia—the Bolivia composed of actual relocated miners and past, present, and future TB sufferers—were largely excluded from the national debates in which TB narratives circulated. In those spheres, the mobilizing work of translation took a rather different turn, as we shall see throughout the second half of this dissertation. In this chapter, then, when we speak of publics and public discourse, we speak of the former, not the latter: to the publics of elite national discourse in which narrative and policy so productively intersect.

*“We Are Still Far from the Real”: The PNCT’s Challenge*

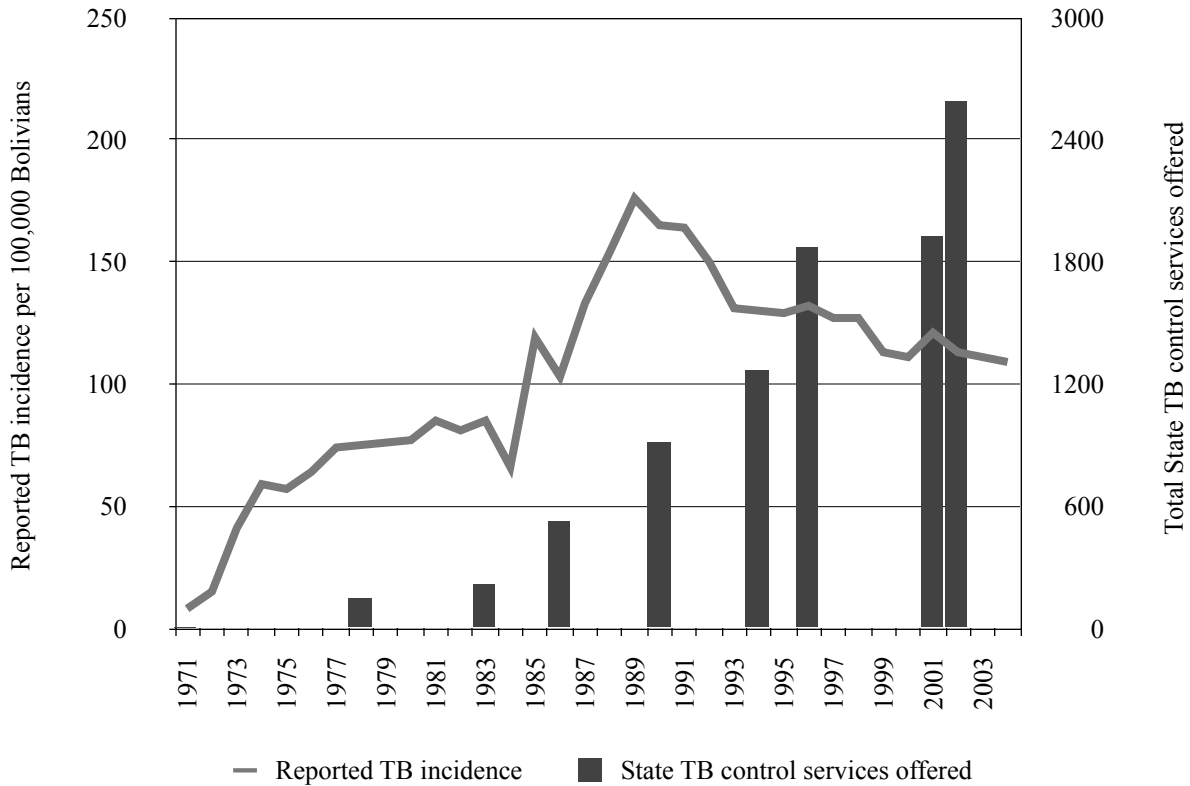
Statistics, not stories, will serve as our entry point into these questions of national priorities, national narratives, and elite expertise. If the PNCT was not the original source of this narrative, it was, however, the source of the epidemiological figures that served as the building blocks—the ‘black boxes’ (Latour 1987)—for the epidemic’s narrativization. How was the spread of TB “in the national medium” first made recognizable, representable, and ultimately reportable in the year’s leading up to 2003’s new measures?

In fact, 2003’s new measures came on the heels of an unprecedented, quarter-century expansion in the reported incidence of TB in Bolivia, a trend made discernible, first of all, by an equally impressive expansion in the public means available for detecting the disease. Before I mentioned that public health infrastructure in Bolivia underwent a period of “epidemiological deterioration” in the years following the neoliberal reforms—the PNCT’s characterization, not mine, as we will see below. But this was only partially true. Beginning in the late-1970s, a major initiative was launched to decentralize the structure of national health programs like the PNCT, creating a nationwide system of community-based primary health care centers charged with, among other things, performing basic disease prevention and detection. If at the start of the 1970s only three specialized hospitals offered regular TB diagnosis and treatment, and all located in urban centers, by 2002 there were more than 2,500 hospitals, laboratories, and primary health centers conducting TB work in Bolivia, the majority in rural and periurban areas (Fig. 1).<sup>3</sup>

(c)Owing to this enormous proliferation a more complete epidemiological picture of TB began to

---

<sup>3</sup> Data for Fig. 1 was compiled by the author from several sources: PNCT 2003a, 2003b; WHO 2006; and *Presencia*, “Bolivia: Segundo país con más tuberculosos en América,” February 4, 1996. Where possible, data from Bolivia’s national TB program was privileged over WHO data. (Generally, WHO reported incidence tend to be higher than national estimates.) I intend this graph only to illustrate broader trends.



**Figure 8. Reported TB incidence and TB control services in Bolivia, 1971-2004**

emerge in Bolivia. The rate of reported TB incidence is a standard epidemiological measure of the risk of disease in a given population, expressed as the ratio of cases detected each year per 100,000 persons. PNCT studies of TB incidence began in earnest in the 1980s, and became more systematic throughout the 1990s, and the findings were staggering. If PNCT statistics showed that on average 30 per 100,000 Bolivians were detected with TB in the 1970s, ten years later that number had more than quintupled, reaching as high as 165 new cases per 100,000 in the early-1990s. By 2002, the year before TB was designated a national priority, that number had begun to stabilize, if at a shocking 115 per 100,000 Bolivians.

While PNCT officials could point to this dramatic increase in reported TB incidence with pride, as the fruits of their labor, they remained skeptical that the true extent of TB's spread in



Bolivia was known. And while it was also possible to argue that this dramatic rise in incidence reflected the intensification of detection efforts—an underlying reality that had always been there, unrecognized, undetected—PNCT officials resisted this explanation. There was little doubt, they argued, that TB’s spread had reached true epidemic proportions in Bolivia, unprecedented in national history. A study of infection risks commissioned by the health ministry, the first of its kind in Bolivia, determined that TB was the source of more suffering at the end of the 20th century than in 1938, the year of the ministry’s creation. “As a single biological agent,” the report warned in 2001, in no uncertain terms, “*M. tuberculosis* causes more sickness and death than any other [infectious disease] in the sanitary history of the country,” this “despite the existence of simple, well-known control measures” (PNCT 2001:1). It was estimated that almost half of all active TB cases in the country went undetected, ranking Bolivia second to Haiti in the Americas in actual TB incidence—at an estimated 216 per 100 thousand persons—and among the worse with respect to case detection (also see WHO 2006). For every case detected, there was another case undetected.

Despite their best efforts, then, PNCT officials argued that little in fact was known about TB in Bolivia, that epidemiological statistics only told half the story, and that more state resources were required to support their activities, to bring rates of reported incidence into alignment with estimates of the actual. Official reports from the period summarized the predicament, and, at the same time, pled the case:

Recall that endemic tuberculosis was always estimated as severe in our country; the amplification of coverages of care and the intensification of detection activities brings us closer to the reality [...] While we are aware that these notification rates are high and qualify the tuberculosis problem in Bolivia as extremely grave, nevertheless, *we are still far from the real*. (Programa Nacional de Vigilancia y Control de la Tuberculosis 1997:8; emphasis added)

Still far, that was, from any real reckoning of the nation's "tuberculosis problem," if, at the same time—or so PNCT officials argued—close enough to make out the storm brewing on the horizon. For national health elites it was a matter of translating this space of uncertainty and expectation into a set of concrete demands with broader public resonance.

In the PNCT's estimation, the real threat lie less with the transmission of infection, for which "simple, well-known control measures existed." Nor in the lack of information about the disease among Bolivians presumed to be most at risk: while lacking, information meant little without resources to back it up. The real threat, rather, lie in a lack of "real political commitments" on the part of the government to fighting the disease; more pointedly, in the "lack of prioritization of control activities in the sanitary policies of the country" (PNCT 2001:1). As PNCT officials increasingly argued, the real problem lie, first, in the transformations of Bolivia's public health system in the 1980s, and, second, in the neoliberal health reforms that sought to further extend and entrench the basic principles of these earlier transformations. Both were viewed as having deleterious effects on the basic function of the PNCT.

Before the 1980s, TB control in Bolivia was organized around the principle of "verticality." The national TB control program was, in essence, a "single purpose machinery," independent of the nation's broader public health infrastructure, and organized around a highly technical—and essentially clinical—approach to disease control (**PNCT 2002; see Raviglione & Pio 2002**). A single chain of command, with professional TB expertise at its top, linked the various administrative levels and functional units of the program, from the specialized hospitals to the TB clinics to the mobile radiology units and teams periodically assembled to conduct TB campaigns in Bolivia's centers of perceived infection: mining encampments, factories, peasant

communities, army barracks, and primary schools (see chapter 3). But by the start of the 1980s this vertical approach to TB had come under increasing scrutiny, both nationally and internationally: it was too expensive, limited in coverage, and its highly centralized, clinical focus inadequate to addressing what was now seen as the real problem, breaking TB's chain of transmission (ibid.).

In Bolivia, as elsewhere, the trend throughout the 1980s was toward a more decentralized approach to TB control, aimed at “integrating” the national program into the expanding network of community-based primary health care centers, the new “operational level” for the management and delivery of state-sponsored TB services. In this new “integrated” approach, national TB expertise was relegated to purely managerial functions: creating technical norms, standardizing treatment regimens, gathering and analyzing epidemiological data. Meanwhile, the everyday functions of diagnosing and treating TB cases was entrusted to general health practitioners, many with little prior training or practical experience with the disease. At the same time, given the dire economic situation, and given the austerity measures imposed by structural-adjustment policies after 1985, little public funds were available to sufficiently maintain the new primary health centers, much less to develop their local TB programs. In short, if the new integrated approach had ostensibly augmented the national population “covered” by state TB control services, the everyday realities of program operations suggested otherwise: that the impressive expansion of local TB control services was more promising on paper than in practice **(for a review of TB policy in Bolivia, see PNCT 2002 )**.

What was worse, or so PNCT officials increasingly argued, the new integrated approach had drawn TB control into the bitter politics that bedeviled Bolivia throughout the 1980s. One of

the main routes for realizing primary health care in Bolivia was the *Comités Populares de Salud*, or Popular Health Boards. Conceived as para-governmental forms for “democratizing health,” the Popular Health Boards would mobilize local grassroots actors—representatives of neighborhood associations, indigenous communities, trade, labor and peasant syndicates, and so forth—for mass immunization campaigns in Bolivia’s periurban and rural areas, usually carried out in a single day (**Torrés Goita 1987**). Between 1983 and 1986, 19 such *jornadas de vacunación*, or “vaccination days,” were conducted in Bolivia. While these popular mobilizations showed results, more than tripling immunization rates for polio, measles, and TB/BCG, among others (**Czaplicki 1986**), critics contended that this singular focus on immunization came at the cost of more routine aspects of disease control, from epidemiological surveillance to basic clinical interventions, and that, in the end, their rationale was grounded more in political and economic expediencies than in sound public health principles. The Popular Health Boards were criticized for politicizing rather than democratizing health, rendering it “an easy catch for party politics” (**Gallarreta 1992:113**); and that, as such, they had succeeded only at “produc[ing] in citizens a permanent and sustained distrust in the State” (**Antelo Soliz 1992:58**).

More trenchantly, it was argued that the Popular Health Boards, and the new approach to public health that created them, further facilitated the “deresponsibilization” of the state with respect to more traditional forms of medical assistance, namely, the state-sponsored care of the sick. By focusing almost exclusively on community-based “health self-care” and the “felt needs” rather than the “objective determinants” of health, this approach ultimately aimed at legitimating the diminution of state health spending and the growing privatization of the national health sector—a prelude to the more sweeping neoliberal health reforms of the 1990s (**Baixeras Divar 2002**).

By “demonstrat[ing] the benefits of entrusting simple health practices to the population,” the Bolivian philosopher of medicine Javier Vásquez V. argued, the new public health model served to “destroy the basis of the recuperative struggle for the health services that are conventionally put under state management” (1997:62). In other words, this “phenomenological”-*cum*-“liberal pragmatic” turn in public health was especially well-suited to the structural necessities of neoliberal reform, filling in the spaces left behind by the retreat of the Bolivian state (Gill 2000). This left little room to maneuver for state-sponsored programs like the PNCT, however.

As PNCT officials increasingly saw it, the government’s singular focus on primary health care came at the cost of marginalizing the more technical interventions required to control epidemic disease, including, of course, marginalizing the role their own technical expertise might play in such measures. If primary health care had ostensibly improved TB/BCG immunization rates, PNCT officials argued that it had opened up a new can of worms in the form of poorly managed local TB programs staffed by poorly trained general health practitioners (PNCT 2002:9). Routine shortcomings in the quality of case-detection and treatments, shortages in the supply of anti-tubercular drugs, and the constant mishandling of information, among other things, convinced program officials that the integrated approach of the new public health model was not up to the challenges that the growing TB epidemic posed for the country. As one sympathetic health reformer remarked in 1992, almost a decade after the introduction of the new health model, “It now appears as if the care of disease were no longer a responsibility of the state” (Quiroga 1992:71). And indeed, by the start of the 1990s, this seemed to be true of TB. By that time, the entire PNCT program had been whittled down to two secretaries, two statisticians, two computers, two typewriters, and a printer; the program’s annual operating

budget was US\$ 250,000, almost all from international aid, a sum covering little more than half the program's basic needs (**Programa Nacional de Vigilancia y Control de la Tuberculosis 1995**). Annual funds had been allocated from the national budget, but, since 1985, Bolivia's treasury had failed to disburse anything but minimal amounts. As PNCT officials pointed out, the program's supply of anti-tubercular drugs, purchased abroad, was spotty and irregular, often running short for months, the drugs themselves were often of dubious quality, sometimes arriving expired, and the nation's laboratory infrastructure had reached a state of serious disrepair.

Under such conditions, PNCT official's warned, the program "CAN NEITHER DETECT NOR TREAT PEOPLE WITH TUBERCULOSIS AT THE OPERATIONAL LEVEL," and that, furthermore, it had become impossible "to establish, in the requisite dimensions, the presence and existence of the tuberculosis problem in the country" (**Programa Nacional de Vigilancia y Control de la Tuberculosis 1995:5; emphasis in original**). It had become impossible, in short, to *do* basic TB control—the program had fallen into a "state of epidemiological deterioration."

Beginning in the mid-1990s, PNCT officials began to push back against the program's marginalization. "The highest levels of decision-making in the health sector do not comprehend the immense problem of tuberculosis in the country," the key document of the period, the PNCT's programmatic 1994 annual report, concluded, "despite the innumerable forces realized to demonstrate the grave reality" (ibid.:2). Here, PNCT officials rubbed up against the well-entrenched logics of neoliberal reform as they came to be extended to the national health sector, which meant they rubbed up against the more highly regarded expertise of national economists. Following global trends, national economists had become the primary interlocutors in Bolivian

debates about the fate of the public's health. Backed by global institutions like the World Bank—which, through landmark policy reports like 1993's *Investing In Health*, had come to dominate global disease control discourse—Bolivian economists argued that state decentralization and the creation of free markets for health services would lower health costs, create new sources of income, and so sufficiently raise standards of living beyond the thresholds in which “diseases of poverty” like TB found fertile ground. Rising tides would lift all boats. Limited, “emergency” public health measures might be required, but they had to be strictly streamlined to fit the broader reform agenda of the government, which, it was argued, would eventually obviate the need for large, expensive state-sponsored health programs like the PNCT (**see the debate in Torrés Goitia 1997**).

In this skewed terrain of state reform, the PNCT faced significant challenges in promoting its cause, even with the rather striking statistical knowledge it wielded. Or perhaps because of that statistical knowledge: after all, one could always point to the leveling-off in TB incidence in the mid-1990s, attributing it to the economic success of the reforms. Statistics could always be taken in different directions. As we shall see below, it was precisely at this critical point—after 1994 and into the new millennium—that the PNCT began to more aggressively engage the public and the representation of the epidemic in national discourse, this in the hopes of reshaping the terrain of state reform in its favor.

In the late-1990s, in a document several years in the making (and several more in publication), the PNCT outlined its basic strategy for pressing its demands into the new millennium, focusing on three lines of action:

- (1) To create political and social awareness (*consciencia*) about the tuberculosis problem and the measures of controlling the threat at the highest levels of Executive and

Legislative Power as well as in regional, local, and organized civil society authorities. (2) To decentralize the execution of the [PNCT], retaining at the central level the function of formulating, implementing, and overseeing policy norms. (3) To create individual and community awareness of co-responsibility with the state in the prevention and control of Tuberculosis. (PNCT 2002:7-8)

The second line of action, mitigated decentralization, was a concession to national economists and their models of neoliberal health reform. The third line of action was also standard neoliberal fare: the push toward citizen-state co-responsibilities and “popular participation” in all spheres of governance (in chapters five and six we will return to this third line of action). But the first line of action—the PNCT’s unmistakable emphasis on what amounted to a politics of public awareness, an “awareness” (*consciencia*) aimed as much at politicians as at the PNCT’s more obvious target, the “community” of present and future TB sufferers—is, for us, the important one. As we shall see, it was precisely here, in this politics of public awareness, that the PNCT sought to motivate its own epidemiological representations in broader public discourse, to link them up to broader national issues and public concerns, to narratives of the epidemic that, by then, were already in public circulation.

Though not conceptualized as such, this politics of public awareness was, in practice, a politics of national narrative. And it’s implicit question: how to give a more persuasive narratological form to epidemiological statistics?

*Narrative, the PNCT, and  
National Discourse about TB*

Epidemiological representations like those generated by the PNCT, and reproduced above in Fig. 1, serve one kind of function. As rhetorical figures they are key discursive techniques for making visible, in the form of manipulable texts (graphs, charts, tables), the distributions and frequencies



of disease in the body of the nation-state. With them, movements of disease can be reckoned in national time (administrative units), in national space (department and municipalities), and with respect to officially-recognized categories of person (the demographics of census categories). As discursive techniques for mobilizing events of disease into circulable texts, epidemiological representations are a key means of constituting and governing “populations”—key modes of enacting governmentality (Foucault et al.1991). With them, public health interventions can be programmed in terms of national goals and benchmarks, targeted at select “at risk” subgroups of the national population, and executed according to the administrative logics of institutionally-nested locales. The success of interventions can be evaluated in the temporalities of national political life: the duration of a new government administration, the tenure of a program director, the funding cycle of a project. At the same time, as rhetorical figures marshaled to persuade as well as make visible, epidemiological representations are shaped for a very particular audience: the sociotechnical domain of bureaucratic administration. Getting them to travel outside this domain requires other kinds of discursive techniques, other modes of rhetorical persuasion. When viewed processually, technologies of “governmentality” do not so easily translate into practical interventions, into governance-in-action.

As Paula Treichler (1999) has argued, epidemics are always *epidemics of signification*, “invested with an abundance of meaning and metaphors” only partially congruent with official epidemiological representations. And far from supplementing official representations of epidemic, these broader meanings and metaphors productively interact with them, shaping the conditions of possibility for official state action. The initial narrativization of HIV/AIDS as a “gay disease,” for instance, profoundly affected the way medical research and interventions were

framed, funded, and conducted in the 1980s (or not: Ronald Reagan famously never uttered "AIDS" in public; see Epstein 1996; Triechler 1999). As we shall see, the same can be said for the narrativization of TB in Bolivia as a “miners’ disease.” In this respect, part of the power of public health agencies resides in their capacity to control the broader public narrativization of an epidemic, to redirect it by ‘translating’ it, to re-narrate their own expertise into the emerging picture, so to speak. Statistics can be taken in many directions because they only tell half the story, as PNCT officials realized. Aligning them with other institutional projects, persuasively articulating them to other public concerns—this requires emplotting them into broader event-horizons, event-horizons that render the routine exercise of public health powers urgent, necessary, and even virtuous, worthy of national commitments. To speak of the public representation of an epidemic, then, is to describe the ways that official epidemiological representations come to be to emplotted in the broader narratological structures that give concrete experience to the institutional projects of the nation-state.

As scholars have long argued, narratives of the nation-state are key semiotic vehicles through which state power is made real and convincing in the sociopolitical lives of citizens (Anderson 1983; Foster 1991; Geertz 1973; see esp. Kelly & Kaplan 2001 chapter 5). National narratives legitimize, or at least seek to legitimize, state power by figurating its exercise within various orders of necessity and possibility, for instance, in Bolivia as in many places, in the imperatives of national revolution, socioeconomic development, and state modernization, or now, the promises of neoliberal globalization, neosocialist redemption, and postcolonial liberation. Here, the exercise of state power is emplotted as a point of application along a temporal progression marked by disjunctures that can only be overcome by state action (or, as

the case may be, by state inaction). This follows from the basic semiotic principles of narrative. Events are ordered into causal sequences with beginnings, middles, and ends, structured such that the meaning of any one individuable event is figured with respect to the overall arc of a dramatic plot, as moments linked into an unfolding interdiscursive series: the story-line—a path that can be followed (or not) (Briggs 1996; Bruner 1991; Mattingly 1998). When viewed as a mode of pragmatic translation, narratives are modes of ordering, ways of forming new associations between the actors and events they address. Rhetorically, in their enactment, they aim to persuade, shaping not only the expectations and commitments of the actors so associated, but the very form of agency collectively attributed to actors. National narratives are no different. By plotting actors and events into the horizons of the nation-state, they aim to shape public expectations and commitments about the possibilities and potentialities of state power—expectations and commitments that, arguably, could not be experienced otherwise. When national narratives succeed in persuading, they become, as it were, collective charters for the routinization of power in the constitutive structures of the state, motivating the empowerment of certain actors as public agents authorized to represent and manage those public expectations and commitments (Kelly & Kaplan 2001).

But to succeed in persuading, national narratives require stabilization and replication in broader patterns of discourse, discourse which serves to motivate the pragmatic linkages between narrative and the experiences and expectations of state power they structure. This brings up a second, important dimension of analyzing narratives: circulation. As both linguistic anthropologists and STS scholars have pointed out, processes of discourse circulation have their own semiotic and institutional properties (Agha 2003; Briggs 2004; Gal 2003; Pigg 2001; Urban

2001). Discourses do not simply diffuse, but travel along already-existing, if ever-changing communicative topographies, often defined by differential access to and competing claims on discursive authority. If national narratives figure actors and events within an almost idealized national space-time, their circulation, on the other hand, pragmatically reconfigures those actors and events within this more dialogic topography. In circulation, narratives become saturated with socially-situated and differentially-valued meanings, as confirmations of, responses to, and elaborations on—or reversals in, refutations of, and reactions to—other circulating discourses and counter-narratives (Bakhtin 1981). Importantly, the differential pathways through which narratives circulate are as constitutive of their rhetorical force as the dramatic emplotments internal to narrative. More than this: the stabilization of a narrative in patterns of circulating discourse is often inseparable from stabilization of specific dramatic emplotments. This is especially so, I would suggest, when powerful institutions become involved. By controlling the circulation of narratives, powerful institutions exercise a formidable metadiscursive authority over the forms and meanings that narratives come to take on.

Much of the authority of public health institutions rests precisely upon exerting this kind of metadiscursive control over the politics of circulation. In his study of the 1992 cholera outbreak in Venezuela, for example, Charles Briggs (2003; Briggs & Mantini-Briggs 2003) shows how national health officials were able to control the narrativization of the epidemic by forging strategic links with the national media. Through the strategically-timed release of epidemiological information to the press, health officials positioned themselves as the “primary definers” (Hall 1978) of public understandings about cholera, including, importantly, their own role in managing it. “They shaped the language that would be used in producing cholera

narratives, they proposed the metaphors that would shape perceptions of the disease, and they decided who would become characters in the story and what sorts of roles they would play” (Briggs 2003:296). Through this metadiscursive work, competing cholera narratives came to be pragmatically linked to differentially-valued spheres of discourse circulation. Some narratives were discredited as public rumor, discounted as conspiracy theory, and excluded from official spheres of discourse. Others were accredited as trustworthy and truthful, invested with epistemic-explanatory value, and included into the more official spheres of discourse. They became authoritative national accounts, national narratives, with all kinds of sociopolitical and epidemiological consequences for the way the state’s intervention into the outbreak unfolded. This kind of reflexivity—reflexivity in the metadiscursive control that powerful institutions exert over the molding of narratives of epidemic, and reflexivity in the way these narratives reflexively inform the formulation and exercise of public health powers—is a recurrent theme of this chapter.

As I already mentioned, national health agencies like the PNCT did not author this epidemiographic narrative. In fact, as the rest of this chapter shows, it first emerged in the late-1980s and early-1990s, as an unfolding “call for action” in the public discourse of various civil society organizations and local health actors. But once in public circulation, it was actively promoted by PNCT officials, who, as in the Venezuelan case, forged strategic links with the national media to reposition themselves as the epidemic’s primary definers. Here, the media’s own interests in reporting the growing crisis of the state, and the effects of the *relocalización* in particular, were crucial. By pointing to epidemiological statistics that showed rising TB incidence in the wake of the *relocalización*, PNCT officials sought to more closely link the TB

problem to this ongoing media reportage, and in doing so, to leverage this civic-minded call for action into an unassailable claim on the financial, legal, and technical resources of the state. The PNCT did not author this narrative, but it did lend it institutional credibility—at the same time as it borrowed its persuasive powers.

### *Institutional Alignments and Public Representations*

Interactions between the PNCT, the health ministry, and the Bolivian press adhere to a more traditional, “hierarchical” model of public health communication (Briggs 2003; Rose & Novas 2003).<sup>4</sup> Reports summarizing epidemiological findings, local program operations, and proposed lines of action are prepared by regional epidemiological units on a trimestrly basis and presented to PNCT headquarters in La Paz, Bolivia’s “center of calculation” for TB control. At the end of each administrative year, the heads of the regional units convene with PNCT officials to prepare the annual program report that will then be presented to the health ministry. Periodically, the health ministry commissions a more detailed study to supplement the basic knowledge contained in annual reports: e.g., an epidemiological survey of infection risks in primary schools, a longitudinal study of regional treatment cohorts, a laboratory study of rates of drug resistances. Upon publication, the findings of all these reports are then circulated to regional and national media organizations in the form of tightly-packaged press releases. In their capacity as public trusts, national media organizations are responsible for faithfully transmitting them to the public, typically, by editing them down to a few lines and printing them as filler between more

---

<sup>4</sup> This is in contrast to recent trends in public health communication found, most notably, in the US and UK, that tend toward new forms of “medical consumerism,” where media reportage play more active roles in mediating access to and disseminating information about healthy lifestyles and the biomedical commodities available to pursue them (ibid.).

newsworthy stories. In this genre of media reportage—the *informe*, or report of public record—emphasis is placed upon patterns of incidence and program operations, with the requisite mention of basic TB symptomology, and all attributed to the “voice” a single authoritative source, usually a regional or national TB official. For example, from 1986:

The director of the Sanitary Unit of Oruro, doctor Humberto Herbas Lavayán, reports (*informó*) that a free program for treating tuberculosis is in effect. [...] He says that whoever knows or suspects someone who has contracted the disease should seek attention at the indicated centers so that the affected person has the opportunity to receive the corresponding treatment.<sup>5</sup>

This is the standard procedure for circulating PNCT reports into the public domain, institutionalized in the very production of official epidemiological knowledge. And media reportage of TB in the years before and immediately after the *relocalización* largely conformed to the pattern: a handful of predictable, obligatory stories per year, calibrated to the publication cycles of official reports.

In the late-1980s and early-1990s, however, a more complex pattern of TB reportage emerged. Instead of reporting PNCT press releases in the ready-made, matter-of-fact modalities of *informe*, TB stories began to develop a more elaborate textual structure, with a less predictable rhythm of media reportage. On the one hand, news articles came to be dominated by voices from outside the domain of TB officialdom. Featured as sources of critical commentary on the broader public meanings of the facts contained in official reports and *informes*, and often framed as *denuncia*, a genre of public accusation, a local civil authority might be called upon—or might call upon a newspaper—to publicly “denounce” the failure of regional and national health authorities to adequately address rising TB incidence in a region or among a population

---

<sup>5</sup> *Presencia*, “Unidad sanitaria recomienda programa contra tuberculosis,” August 10, 1986.

subgroup. On the other hand, stories from this period show a marked shift in other aspects of their textual pragmatics. They are longer and more prominently featured; contain bylines and accompanying photographs; and authorship is often attributed to named journalists. In these articles, talk about TB is indexically-anchored in and rhetorically-addressed to socially-important collectivities, as concerning not just the newspaper's readership, but *we-Bolivians*, *we-Christians*, *we-of-the-developing-world*, and so forth. And of course, it is in this period, and in the form of the extra-official *denuncia*, that TB first came to be linked to the *relocalización*, and as such, became a newsworthy event in its own right, as a kind of "call for action."

*"Sounding the alarm": The call for action, 1987-1994*

Beginning in the late-1980s, many articles from this period sought to articulate the spread of TB to local labor demands, to questions of unemployment, living conditions, and migration among Bolivian workers, if not always *relocalizados*. An article published in *Presencia*, Bolivia's once dominant but now defunct Catholic newspaper, for instance, reported on the *denuncia* of a regional organization working with the unemployed in Oruro (a major mining district) regarding the "dangers of this disease" among former mineworkers.<sup>6</sup> In conjunction with the regional mining syndicate, the organization had conducted a census showing that the city of Oruro now had more than 30,000 unemployed miners. They had launched their own campaign to detect TB among ex-miners, but as the article reported, without broader state-support and without a real plan to address the general problem of unemployment, the TB problem was likely

---

<sup>6</sup> *Presencia*, "En Oruro, se realizó una campaña antituberculosa," November 30, 1986.



to expand. With mixed metaphor, the organization's spokesman, a local doctor, linked the spread of TB to the New Economic Policy enacted by Supreme Decree 21060:

Previous surveys show the permanence of high levels of unemployment in our medium (*en nuestro medio*). It is important that authorities and institutions approach with more human compassion (*sentido humano*) and with more resolve the eradication of this scourge and social ill of the New Economic Policy: Unemployment (*Desocupación*).

Similarly, an article in the Santa Cruz periodical *El Mundo* reported on the denouncements of a regional sugar cane-cutters syndicate.<sup>7</sup> According to the syndicate's *dirigente*, 7 out of every 10 cane-cutters in Santa Cruz were suffering from tuberculosis. The root of the problem was "deficient sanitary conditions" in the cane-cutting encampments and "above all the [airborne] ashes emitted by the burning of crops that upon being inhaled occasion serious respiratory infections." Coupled with the low pay, "subhuman" nutrition and housing, and poor medical attention provided by their private employers, cane-cutters were developing tuberculosis at an alarming rate. The syndicate had been forced to draw on its own funds and on the "solidarity" of regional health organizations to treat TB among its members. The majority of cane-cutters were recent migrants from the highlands, but with the impossible living and working conditions in the encampments, the broader fear, the article concluded, was that many would further migrate to Argentina, in search of better work, and of course, taking TB with them—the article's unstated conclusion. Here, as in the article mentioned above, public anxieties about the spread of TB could be strategically manipulated to reposition labor demands in national consciousness.

Other *denuncias*, more medical in character, articulated the growing TB epidemic more directly to the Bolivian state and its unwillingness to fully grasp the problem. In a full-page

---

<sup>7</sup> *El Mundo*, "Por lo menos 7 de cada 10 zafreros están afectados con tuberculosis," May 15, 1994.

interview published in *Presencia*, the director of the Bolivian Red Cross denounced the “alarming” rise of TB in Santa Cruz and criticized the state’s response to it.<sup>8</sup> Referencing WHO and PAHO reports, the director explained that TB in Bolivia was “much more grave than most think.” The country was going through a period of “mass tubercularization” occasioned by the socioeconomic crisis and its deleterious effects on nutrition, education, work, and, of course, patterns of migration. Children had been especially affected: a Red Cross study conducted in the city of Santa Cruz showed a startling 17% TB prevalence among children between 3 and 11 years of age. According to the director, the problem of TB “has not been granted sufficient public attention.” “[S]ince the State provides neither financing nor continuity to implement its own models of prevention and treatment,” organizations like the Red Cross had been left to deal with TB, and at the time, the director warned, this translated into coverage for less than a third of Santa Cruz’s population. State intervention was imperative: “It is necessary to *sound the alarm (dar la alarma)* to the authorities. It is necessary that they become aware of the gravity of the illness and its extension” (emphasis added).

This growing movement to “sound the alarm” was given a more explicit moral articulation when the Catholic Church picked up on the issue. In a *denuncia* published by the Bolivian news syndicate Erbol, a local parish priest observed that TB had become the primary public health problem in the Sud Yungas, a coca-growing region of the Department of La Paz, and another major recipient of *relocalizados*.<sup>9</sup> According to the priest, the precipitous rise in regional TB incidence could be attributed to “the poor nutrition of *campesinos* over the past two years owing to the constant decrease in the price of their agricultural products in the internal

---

<sup>8</sup> Edwin Chacón A., “La tuberculosis amenaza seriamente a Santa Cruz” *Presencia*, May 21, 1989.

<sup>9</sup> Erbol, “Sud Yungas: Tuberculosis, la mayor enfermedad,” June 17, 1992.

market as a direct consequence of the policies of structural-adjustment.” Combatting TB would require much more than medical “will and treatment,” but a broader reappraisal of these policies, since, even with treatment, patients would only return to their “humble homes and taxing work” to experience another relapse. The crisis rendered “in vain” the biomedical approach to controlling TB. “We are not yet losing the battle against tuberculosis,” the priest told the press, “but we lack the necessary improvements in the social and economic conditions of *campesinos* to assure success in the coming years.” In a *denuncia* reported the following year, in the La Paz periodical *Opinión*, the same priest warned of the grave moral costs of TB for the Bolivian family.<sup>10</sup> “To become sick with tuberculosis is a trauma, a blow (*golpe*) to the person and to his family. To be sick with TB means distancing oneself for practically an entire year from normal work [...] to not being able to provide for the household.”

The public articulation between TB, mining, the Bolivian family, and the Christian life came into its most explicit focus, however, in 1994, in the lead editorial published in the April 4 edition of *Presencia*.<sup>11</sup> The occasion for the editorial was Pope John Paul II’s annual Easter Message, delivered the day before. In his message, and as a prelude to the Vatican’s emerging “culture of life” thematic, the Pope addressed the “many different threats [which] are assailing the family at the very roots of its existence,” placing special emphasis on the “culture of death”—here, war and poverty rather than abortion and euthanasia—“which humiliates the individual, not respecting the weakest and frailest creatures, and trying even to undermine the sacred dignity of the family, the heart of society and of the Church.” The Pope exalted the family as the “principle source of humanity,” and admonished the world’s governments “to guard it as a

---

<sup>10</sup> *Opinión*, “La enfermedad de la pobreza,” March 7, 1993.

<sup>11</sup> *Presencia*, “Crece la tuberculosis,” April 4, 1994.

precious treasure.”<sup>12</sup> Interestingly, the *Presencia* editorial reshaped the Pope’s Easter Message to address tuberculosis, the key harbinger of the “culture of death” in Bolivia, undermining the possibilities of “the Christian life for the poorest [Bolivian families].” The editorial referenced a PNCT report showing that, in La Paz alone, almost 2,500 new cases of TB had been detected in 1993. “Under the pretense that as a mining country the indices of this disease have always been high,” the editorial read, “this figure might be overlooked as one more in a sea of statistics overwhelming us with discouraging facts.” But the editorial warned against this, pointing to the more eye-popping statistics, in the paper’s estimation, that in five years alone TB incidence in La Paz had risen from 121 cases per 100,000 persons to 152. According the editorial, the roots of TB in Bolivia were unmistakable, and amounted to a veritable “social scandal”:

[T]he major cause of the increase in indices of tuberculosis is malnutrition and this is can be qualified as nothing less than a social scandal that ought to shake our conscience. We call ourselves a Catholic country but are indifferent to the fact that thousands of people live in our midst in a permanent state of hunger.

Here, TB was linked to not only Christianity among the Bolivian poor, but to Christianity among Bolivians more generally—to the very notion of Bolivia as a Catholic nation. The editorial went on to chastise the government for not doing more to combat tuberculosis. But, in keeping with the newspaper’s politics, the ultimate responsibility lie with a more general breakdown of the Christian spirit among Bolivia’s better off, in short, the paper’s presumed readership. “We all have a responsibility in this situation. We have to accept, without protestation, the allocation of more resources—even at the cost of reducing those assigned to other necessities—to avoiding the hunger and malnutrition that cut short lives.” The implicit but recuperable target of this

---

<sup>12</sup> Associated Press, “Excerpts from the English Text of Pope’s Easter Message,” April 3, 1994. Excerpts from the Easter Message were also reprinted in *Presencia*, April 4, 1994.

*denuncia* was the hotly-contested public ideology that the logics of economic development and recovery should, for the time being, take precedence over public welfare.

All of these articles depart from sources outside of TB officialdom, but this is not to suggest that the PNCT was absent from public discourse in this formative period. After all, much of the epidemiological evidence incorporated into these extra-official *denuncias* was, ultimately, drawn from national and regional PNCT *informes*, many of them reported alongside the *denuncias*. Without them, the claims of labor leaders, regional doctors, priests, and other civil authorities would have been just that: easily contested “claims,” not unassailable “facts.” Thus, while these public denunciations clearly criticized the unresponsiveness of national health expertise in the face of the epidemic, they nonetheless anchored their demands in its broader cultural authority, as a source of trustworthy knowledge and potentially interventionist practice.

Yet, it is fair to say that the PNCT, at least at its highest levels of authority, remained aloof of the more controversial dimensions of public discourse about TB in this period. While providing the press with statistical representations of TB’s spread, official PNCT statements rarely made mention of specific causalities—the PNCT rarely entered the fray of the epidemic’s public representation: from the strictly epidemiological perspective, the links between TB’s spread and possible causes like the *relocalización* were empirically unverified at best, if even verifiable.

Instead, PNCT officials tended to defer to the reports of international institutions like the WHO and PAHO when attributions of causality were demanded of them by the press. In this period, this meant focusing on the recently discovered links between TB’s worldwide “resurgence” and the global AIDS epidemic. But in Bolivia, given the lack of any organized

effort to detect HIV, this was largely an exercise of the imagination. At the time, it was generally believed that Bolivia didn't have an AIDS problem, but—or so national (and international) health officials argued—if and when AIDS came to Bolivia, the TB epidemic would spiral out of control.<sup>13</sup> While the PNCT marshaled this argument to lobby for more state resources to do TB control, many local health professionals feared that it could just as easily be mustered to justify redirecting precious TB resources toward HIV/AIDS prevention. A common charge was that, under the weight of international pressures, state health policies had been “distracted by less frequent diseases like AIDS”—to the detriment of the here-and-now of TB, a disease which directly affected the national bottom-line as it foremost affected Bolivia's productive sectors.<sup>14</sup> In short, the efforts of the PNCT to productively shape public discourse about TB in these years were deemed limited, if even counterproductive.

This was not true, however, of the efforts of regional health officials. In fact, one could say that if the PNCT provided the statistical kindling for the *denuncias* of civil authorities, who in turn provided the spark, regional health authorities provided the wind—and often the hot air—required to set the TB story ablaze. Unsurprisingly, this strategy (if we can call it that) made liberal use of emerging cultural stereotypes that targeted relocated miners as vectors of infection and social unrest. In the late-1980s, after multiple rounds of negotiations between the government and Bolivia's main mining syndicate failed to reach terms, government officials

---

<sup>13</sup> See, e.g., *Presencia*, “La tuberculosis está relacionado con la enfermedad del SIDA,” April 4, 1993; *Los Tiempos*, “Resurge la tuberculosis en Bolivia y otras países,” October 25, 1993.

<sup>14</sup> *El Deber*, “Tuberculosis ataca a grupos humanos del sector laboral,” August 1, 1992.



**Figure 9**

**“With passport ready”: The fate of relocated miners**

(SOURCE: *Los Tiempos*, October 30, 1985)

overseeing the *relocalización* launched a smear campaign aimed at undermining the claims to moral authority made by resistant miners and their labor leaders. The media played willing accomplice. In article after article, miners that refused to relocate were demonized as state “parasites” unwilling to put the national interest above their own, because unable to grasp the realities of the new political-economic situation that “all Bolivians” faced. Miners that had (been) relocated, meanwhile, were often depicted as “agitators” and potential usurpers of local jobs in the regions to which they had resettled (Gill 1997; Nash 1992; Sanabria 1999). Unwitting or not, regional health authorities often drew upon these circulating cultural stereotypes to lend more gravity to their own statements to the press, portraying *relocalizados* as not only political parasites and agitators, but sources of biological infection.

Regional health officials in the city of Cochabamba were among the first to publicly make these connections. Like the *yungas* of La Paz, the Department of Cochabamba had been a primary target for relocated miners, many of whom migrated to the region to begin new lives as *cocaleros*, or coca-growers. This had in fact been official state policy in the first round of

relocalizations: miners who agreed to early retirement received financial incentives to “colonize” the coca-growing regions of Cochabamba, including the now infamous Chapare, the center of Bolivia’s illegal cocaine trade.<sup>15</sup> Notwithstanding, Cochabamba’s *relocalizados* were often portrayed as an unruly and dangerous lot, as a kind foil to the order that a new national TB campaign could bring, if only the state would authorize it. In an article published in the Cochabamba periodical *Los Tiempos*, for instance, a regional health official blamed the rise in TB on “the uncontrolled and permanent migrations of *relocalizados* [to the region] and the lack of adequate programs for their protection.”<sup>16</sup> In another article, published in *Opinión*, an unnamed regional health official explained to reporters that the “migration of peasants and miners to the region, a consequence of the socioeconomic crisis through which the country is passing, has had the effect of increasing the population at permanent risk [for TB].”<sup>17</sup> While these articles rarely failed to locate the TB epidemic in the broader socioeconomic crisis, they all promoted the ‘epidemiographic’ assumption that it was the migration of relocated miners—and not just the crisis—that was the root cause of TB’s spread, placing Bolivia’s poorest sectors in the path of imminent danger, and threatening the health of other’s as well. Even the director of the PNCT was compelled to mention highland migrants, albeit in muted tones, when she visited Cochabamba in 1988—in what, to my knowledge, is the first public mention of the *relocalización* by a high-ranking national TB official. “Cochabamba is the area where we are working hardest to follow cases of tuberculosis,” she told *Opinión*, “since in recent years it has received

---

<sup>15</sup> For the connection between the *relocalización* and the expansion of Bolivia’s cocaine trade, see Painter 1998, Sanabria 1999.

<sup>16</sup> *Los Tiempos*, “Cochabamba es zona de alto riesgo para presencia de la tuberculosis,” September 18, 1987.

<sup>17</sup> *Opinión*, “Hoy inician vacunación contra la tuberculosis,” June 1, 1989.



considerable migrations.”<sup>18</sup> According to the director, the precipitous rise in Cochabamba’s TB rates—which, by the PNCT’s estimation, was anywhere from 300-600 infected per 100,000 inhabitants, firmly placing the region on the WHO’s list of global TB “hot-spots”—was less alarming than the unwillingness of infected persons to take advantage of available TB treatment services:

[W]hat is alarming and worrisome indeed is the number of people that are diffusing the disease and that don’t seek out antituberculosis treatment even though it is totally free. The problem of tuberculosis should not be measured by the number of registered patients, but by the proportion of people that, having been infected, walk the streets and gather at places of human concentration, coughing and spitting, further transmitting the disease.

Recalling the epidemiological truism, “One person with tuberculosis has the capacity of infecting one or two persons per month and 24 persons per year,” the director’s words lent medical authority to the broader cause of demonizing *relocalizados* as unhygienic, self-interested agitators, unconcerned with disseminating disease, even as she called for more state resources to conduct TB work among their ranks.

Often, these associations were drawn more implicitly, if perhaps more suggestively, through the juxtaposition of images of miners with articles about TB, many of which made no ostensive reference to the *relocalización*. Indeed, the use of visual representations was one of the most important and effective modes of giving narrative structure to the epidemic.

An article I mentioned above reporting on the *denuncia* of a parish priest in Sud Yungas province of La Paz, for instance, featured a large, stock photo of a miner, with pith hat and lamp, next to the attention grabbing title, “The disease of poverty” (Fig. 10).<sup>19</sup> Curiously, the article

---

<sup>18</sup> *Opinión*, “Intensificarán campaña contra la tuberculosis,” September 29, 1988.

<sup>19</sup> *Opinión*, “La enfermedad de la pobreza,” March 7, 1993.



Figure 10. “The disease of poverty”

(*Opinión*, “La enfermedad de la pobreza,” March 7, 1993)

made no mention to either miners or *relocalizados* but focused exclusively on TB among coca-growing *campesinos*. But, by entextualizing the article as about TB and “poverty” more generally, and by including the photograph of a miner, the overall effect was to further stabilize the links between TB, socioeconomic crisis, and the *relocalización*. That the depicted miner appears healthy is all the more powerful as imagery, as it evokes the growing public sentiment that, if miners themselves remained healthy, they were nevertheless the “carriers” (*portadores*) of a disease that would quickly disseminate among Bolivia’s impoverished agricultural underclass: indigenous *campesinos*.

In this way, regional health authorities, with the help of reporters, promoted their own cause by playing on growing public anxieties about the sociopolitical effects of neoliberal crisis and the plight—and flight—of relocated miners, anxieties especially salient among the mostly elite readership of national newspapers. Here, as elsewhere, the call for more state resources to combat TB could be framed as part of the national interest, but in a very specific way: as

protecting indigenous agriculturalists against the self-interest of miners. At the same time, it played into a broader political strategy with a long and storied past in Bolivia: undermining the moral authority of sindicalized mineworkers by pitting them against the nation's *campesinos* (Klein 1992).

Throughout the early-1990s this pattern of reportage would be replicated in other regions as well, as official state plans for relocating miners shifted away from Cochabamba to places like El Alto, the *yungas* of La Paz, and Santa Cruz. A 1992 article in the La Paz periodical *El Diario*, for instance, quoted the regional director of El Alto's sanitary unit as warning of a doubling of TB incidence in the city.<sup>20</sup> Migration and relocated miners, again, was the imputed cause. “[W]ith the migration of the rural populations and unemployed miners, the indicators of the illness have been growing steadily,” the director told reporters, “[...] such that cases of tuberculosis have increased 100 percent.” Indirectly quoting a regional official in El Alto, an article in the La Paz paper *Última Hora* likewise warned that more state resources were required to combat TB in Bolivia's premiere periurban city.<sup>21</sup> In the first half of 1992 alone, 172 new cases of TB had been detected in El Alto:

However, it is presumed that there are hundreds more persons with the illness in the third most important city of the country [...] The conditions that the majority of *alteños* live in, poverty, marginalization, lack of basic services and primarily malnourishment for the lack of economic resources—and foremost the scarcity of employment—are the principle causes of the propensity to contract tuberculosis.

By 1994, the Bolivian health ministry was informing the national press that 90% of Bolivians were at risk for contracting tuberculosis; that a “belt of risk” (*cordón de riesgo*) for TB existed in Bolivia, extending from El Alto and the Beni, through the *yungas* and the Chapare, and all the

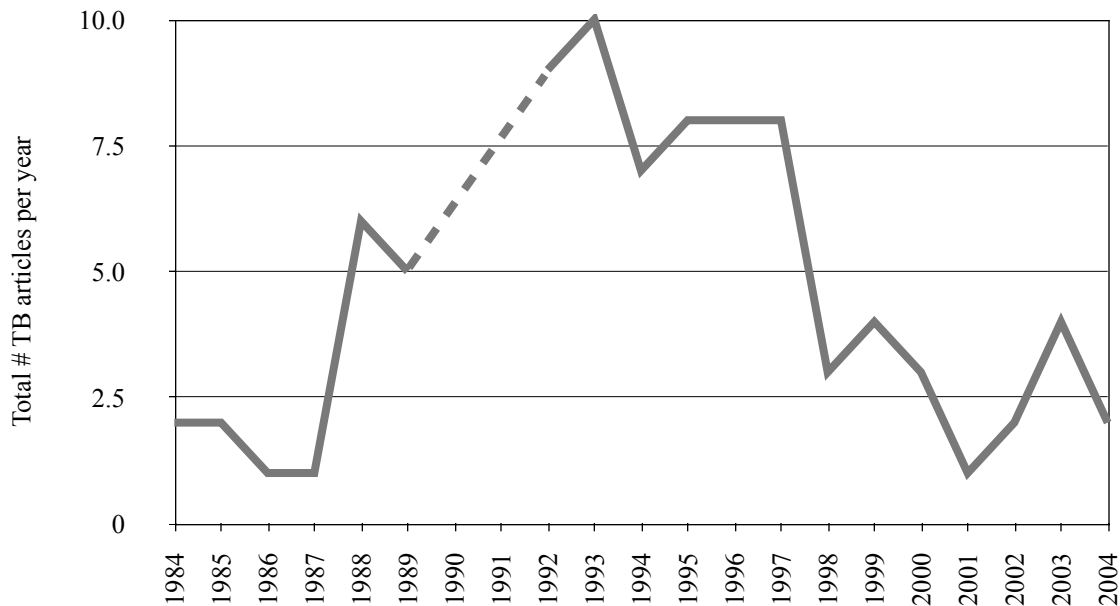
---

<sup>20</sup> *El Diario*, “Control de tuberculosis pulmonar se intensificó para bajar índices” September 22, 1992.

<sup>21</sup> *Última Hora*, “Datos alarmantes: Mayor incidencia de Tuberculosis en El Alto,” October 1992.

way down to the north of Santa Cruz. Indeed, by 1994, it was possible to say that the TB epidemic had become a matter of sufficient public concern to merit frequent media coverage, if not yet new state investments in Bolivia's TB control program. The intertextual links between TB reportage and reportage of the *relocalización*, moreover, had been sufficiently established to transform TB into a disease of relocated miners—a public association that, paradoxically, the PNCT would work hard to dismantle in subsequent years in the hopes of convincing Bolivians that TB was a broader national threat, affecting not only *mineros* and *campesinos*, but the national citizenry at large. One could almost say the narrative was too compelling.

I have been focusing on qualitative shifts in the narrative forms and functions of TB reportage in these early years. Reflecting and reinforcing these qualitative shifts, however, was a general quantitative expansion in the national media coverage accorded to TB in these years. Generally, national media coverage of public health concerns is not common in Bolivia, where stories more directly related to political and economic events are considered especially newsworthy. But between 1984 and 2004—from just before the neoliberal reforms to just after TB's national prioritization—more than 80 stories about the disease appeared in Bolivian newspapers. Compared to the more than 800 stories that appeared in the same newspapers reporting on the *relocalización* over that same period, this is not a lot. However, that TB, a “slow and silent killer,” less spectacular in its transmission and evolution than diseases like, say, cholera or dengue, should have garnered so much media coverage is remarkable in itself.



**Figure 11. TB articles in major Bolivian newspapers, 1984-2004**

Interestingly, the quantitative trends in patterns of TB reportage parallel trends in the growth of national TB incidence discussed above (cf. Fig. 8 to Fig. 11).<sup>22</sup> Between 1987 and 1994 there is marked rise in TB reportage, it is sustained throughout the mid-1990s, then sloughs off toward the end of the decade and into the new century. What I have been calling the “call for action”—characterized by a proliferation of sources from outside TB officialdom in public discourse and by an increasing density of intertextual links to broader public discourse about the *relocalización*—is, I argue, responsible for the spike in TB reportage after 1987.

The rest of this chapter will address transformations in public discourse about TB in the years that follow. As I show, public discourse in the mid-1990s reveals a more active role for the national media in the construction and circulation of the TB story. Through a series of media

<sup>22</sup> News articles about TB (and the *relocalización*) over this period were compiled by Bolivia’s *Centro de Información Boliviana* (CEDIB), as commissioned by the author. The absence of TB-related articles for the period 1990-1991 (as interpolated by dotted line) is owing to an incomplete archive, not to a lack of stories; I have represented the probable trend here with a dotted line. I intend this graph to give a basic picture of the broader argument, not constitute an argument in its own right.

exclusives and exposés the TB epidemic is more concretely linked to the *relocalización*, restructuring the more general newsworthiness of the epidemic. At the same time, and especially after 1996, a more concerted media campaign is waged by PNCT officials to interpolate their own expertise into the public uptake of the epidemic, to establish the PNCT as the “primary definer” of public discourse about TB. In the late-1990s and early-2000s, however, public discourse about TB shifts again, becoming more routinized, now almost completely dominated by official TB control sources and their own cyclical patterns of public campaign, most notably, Bolivia’s participation in the annual events of the WHO’s World TB Day. Here, narratives of *relocalización* become a recurring theme in stories about the epidemic but no longer constitute the story itself. The story, rather, becomes focused on what the PNCT is going to do about TB and whether the Bolivian government can be counted on to lend financial and institutional support—to what is framed as the local front of a war against a more global foe.

*“No señores: Tuberculosis is not a disease of miners”*: Media uptake, 1995-1996

In the late-1980s and early-1990s the presumed links between TB, miners, and the *relocalización* were a matter of public conjecture, circulated in the narratives of civil authorities and regional health officials. Beginning in the mid-1990s, however, there is a definitive “downshift” in the modalization of these linkages, in Latour’s (1987) terms, as narratives of epidemic approached a more fact-like status. Crucially, media organizations themselves came to take a more active interest in reporting the epidemic, namely, as one of “the dramatic effects of the relocalization.” Rather than passively reporting on official PNCT *informes* and extra-official *denuncias*—stories that originated elsewhere—media organizations began to allocate their own

journalistic resources to finding and even making the story. This involved another key shift in genres of reportage, and so, in the discursive framing of TB narratives in newspaper articles.

Before, TB narratives were largely reproduced in articles through represented speech, as explanations and claims neatly bounded off by quotation marks that clearly placed them in the mouths of quoted sources. In this way, the epistemic status of these narratives remained, at the level of public representation, hedged: newspapers merely presented the narratives, leaving the interpretive work of judging their validity to publics. In articles from the mid-1990s, by contrast, the narrative of relocation itself becomes the story, as the explicit theme of journalistic investigation or as background mobilized to explain and flesh out the quoted speech of sources as they expound on other aspects of the TB epidemic. The key genres of this period, the *exposé* (*exclusivo*) and the human interest story, reproduced TB narratives not through represented speech attributed to outside sources, but through prose attributed to (increasingly named) journalists. In this way, the narrated links between TB and the *relocalización* became increasingly objectified in public discourse, as “floating icons of the events they describe [...] inscribed in [public] memory as authentic and authoritative reflections of the world” (Briggs & Mantini-Briggs 2003:78). Epistemically modalized as publicly-available fact, discoverable by journalists, these narratives could be called upon to promote the “newsworthiness” of stories about the TB epidemic.

Reflecting and replicating the growing public interest in TB, a 1995 article published in the La Paz newspaper, *Última Hora*, featured a “human interest” story about the history of the disease in Bolivia.<sup>23</sup> The source for the story was Juan Manuel Balcázar’s 1952 *Historia de la*

---

<sup>23</sup> *Última Hora*, “Mitayos morían por miles con tuberculosis,” October 18, 1995.

*Medicina en Bolivia*. Drawing on Balcázar's book, the article recounted debates in early-20th century Bolivia about the origins of TB in the Andes: Did TB exist in Pre-Colombian times or was it brought to the region during Conquest? The headline of the article is telling: "*Mitayos* died of tuberculosis by the thousands." The *mita* or *mit'a* was an Incan system of corvée labor transformed by the Spanish into a key colonial institution for providing a steady workforce in the silver mines. *Mitayos* were Indians forced to migrate to the mines to work off tributary obligations owed to the Spanish by their households and communities. For most Bolivians this is common knowledge. But here the article elaborated on something most Bolivians would not know: that tuberculosis, or as it was then called, *mal de mina*, 'miner's sickness', was the most frequent cause of death among *mitayos*. To be sure, TB had existed before Conquest, known by the Quechua names *usunkallta* and *onccoyar*, but—or so the article explained—it was only with the Spanish transformation of the *mita* that TB gained wide extension across the Andes. "The *mitayos* died by the thousands," the article asserts, "turned into skeletons, with bloody vomit, copious night sweats, high temperatures and an intense cough"—an almost word-for-word cannibalization of Balcázar's 1952 text. But if physicians at the time did not recognize *mal de mina* as tuberculosis, the article continued, by the late-19th and early-20th century Bolivian scientists and physicians had begun "to observe the first cases of indigenous tuberculosis (*tuberculosis indígena*)," a tuberculosis "with an extraordinarily grave characteristic and that manifests a particular predilection for the indigenous race." The article ended by linking TB's spread in the 20th century to the Chaco War (1932-36), which, it asserted, "increased mortality from tuberculosis and consolidated its intimate links to conditions of poverty." TB in Bolivia was projected back to the Inca, then brought into the 20th century in its modern instantiation.



In chapter three I will explore this history in detail: its greater import for the constitution of public health and TB control institutionality in Bolivia. Here, however, I want to call attention to the way that, in articles like these, historical representations of TB's "national" evolution were unearthed and publicized as a means of contextualizing narratives of the current TB epidemic—which, evidently, by 1995, was judged sufficiently newsworthy, necessary for a broader public understanding of the disease. When read in the intertextual surround of other TB articles, this folk genealogy of the disease, as it were, served to further authorize, objectify, and routinize the presumed linkages between TB, mining, migration, poverty, and indigenous bodies, namely, by emplotting them within the long *durée* of national spacetime, locating them within broader debates about indigeneity, race, labor, and citizenship.

The voicing of the article is especially revealing in this respect. The article's author metadiscursively constructs him-or-herself (here unnamed) as a trustworthy purveyor of national knowledge about TB, not merely as an 'animator' of the claims of others, but as a kind of 'author' - 'principal' conveying and reinterpreting them in the name of the public interest, the article's broader 'principal' (Goffman 1979). According to the author, the book by Balcázar "indicates that tuberculosis has always existed in Bolivia and as proof of this *tells us* about phthisis and mining sickness in the colonial epoch" (emphasis added). The first-person plural pronoun here, as a dative of discourse, situates the article's author within the *we* of the national public, as delegated importer of relevant information bearing upon that public, giving the article an almost pedagogical ring. Likewise, the author's invocation of the Quechua names for TB enacts a more implicit voicing structure, reinforcing the article's overall argument by endowing it with cultural authenticity. Finding the proper denotational calque between Spanish and Quechua

or Aymara is a common strategy in public discourse in Bolivia, typically accomplished by looking to colonial sources to extract the indigenous language analogue (presumably) in currency in the Inca. This follows a broader local language ideology by which maximal discursive authority is seen to be derived by supplementing scientific and biomedical facticity—anchored foremost in the contemporary English language—with cultural authenticity anchored either in the Pre-Colombian languages of past or in their most “authentic” contemporary representative, the language of Quechua-speaking Kallawayá healers. Through these voicing strategies, we see how, once again, TB is pragmatically translated into a well-established structure of public recognition in Bolivia, as TB *en nuestro medio*, “in our medium.”

As culturally-authenticated, scientific and historical fact, journalists were then free to pursue the more contemporary links between TB and social transformation, stripping circulating narratives of the obligatory hedges that characterized previous TB reportage. In late-1995, a TB story dispatched by the Spanish news service, EFE, was picked up and independently published in *Los Tiempos* and *Presencia*.<sup>24</sup> The respective headlines of the articles said it all: “Dramatic effect of the ‘relocalization’: Ten thousand cases of tuberculosis are detected each year in Bolivia,” and “Tuberculosis expands as an effect of the ‘relocalization’.” The impetus for the articles was the official release of the PNCT’s 1994 annual report. The 1994 report, as I discussed above, came at a critical juncture in the institutional life of the PNCT, a situation reflected in the report’s breadth of epidemiological detail as well as in its noticeably polemical tone. Curiously, nowhere in the report is TB’s spread explicitly linked either to migration or the *relocalización* (to my knowledge). But this is precisely the causal claim attributed to the report by

---

<sup>24</sup> *Los Tiempos*, “Dramático efecto de ‘relocalización’: Diez mil casos de tuberculosis se detectan cada año en Bolivia,” December 7, 1995. *Presencia*, “La tuberculosis se expande por efecto de la ‘relocalización,’” December 7, 1995.

the EFE dispatch and subsequently incorporated into the two articles. Consider their respective ledes—the way the *relocalización* is pitched as the article’s “narrative hook”:

At least ten thousands cases of tuberculosis are notified each year in Bolivia, according to an official report that shows (*refleja*) the expansion of the disease to be one of the most direct and dramatic consequences of the “relocalization” in the state mining industries.

Tuberculosis which had a high incidence in the mining districts, has, as an effect of migration, expanded significantly to all the districts of the country, according to an official report that reveals (*admite*) that the “relocalization” of workers is one of the causes of this disheartening reality.

The article in *Los Tiempos* further explained that, “Ten years ago, the mining districts were the zones of major incidence for the disease, but after the relocalization and the migration of many families, tuberculosis has expanded itself in the country.” The *Presencia* article went so far as to claim that the PNCT’s 1994 report “ratifi[es] that the social problematic and the economic crisis are contributing to the heightened expansion of many illnesses and provoking difficulties in their control.”

In these articles, not only is the narrated link between TB and the *relocalización* reframed in more authoritative journalistic reportage, as fact lifted from official documents, but both articles quote extensively from interviews with health officials—presumably conducted by the original EFE field reporter—as further confirmation of the narrative’s causal imputations. After mentioning the dramatic effects of the *relocalización*, for instance, both articles quote the director of the PNCT on TB’s expansion: “There does not exist one single district that doesn’t have a case of this illness,” the director is represented as saying; “it’s presence always accompanies poor countries.” In these articles, then, one discerns a new role for national (and international) journalists, and a new form of interdiscursive interaction between the media and the PNCT in the co-construction of causal realities. If it was seen as scientifically improper

for a national agency like the PNCT to attribute unverifiable causalities to the spread of disease in their own official reports, on the other hand, when their own interests lined up with the PNCT's, the national media could be mobilized to not only disseminate facts originating elsewhere, but through journalistic elaboration and quasi-officials interviews with authoritative sources, to promote the broader epidemiographic framework in and through which epidemiological data could be recontextualized and further circulated as broader matter of public concern.

The link between TB and miners was, of course, nothing new to public discourse in Bolivia. As elsewhere, TB was and still is popularly associated with mining in Bolivia. TB is a miner's disease, and Bolivia, in its self-conception, is a mining country. Few Bolivians would have been surprised to read newspaper articles linking the TB epidemic to the plight of miners. It would seem but a short interpretive leap, then, to reconceptualize the spread of TB as about relocated miners, to viewing the epidemic as "one of the most direct and dramatic consequences of the 'relocalization'." And yet, while this was in some measure the case, it was precisely this that came to be seen as the problem. By 1996, the well-entrenched public association between TB and mining was problematized as itself an obstacle to promoting a broader public understanding of TB's more contemporary epidemiology in Bolivia. It was now something journalists had to write *against*.

The key set of articles here—arguably the most important set of articles about TB in Bolivia in the 1990s—appeared as the weekly feature in the *Reportajes* section of the Sunday, February 4, 1996, edition of *Presencia*. Never before had TB been accorded such prominent public exposure in the national press. Four separate articles, accompanied by a large map, three

tables, ten photographs, and an assortment of text-boxes and sidebars, spanned six pages of the periodical, deploying a variety of distinct genres and incorporating an impressive diversity of sources drawn from across the social and institutional spectrum—from epidemiological data and graphics drawn from PNCT reports, to interviews with WHO/PAHO and PNCT officials, to “reaction” quotes from interviews conducted on the streets of La Paz, to a page-long first person “testimonial” penned by a young journalist who had been diagnosed and successfully treated for TB. Taken as a whole, the feature formed a highly heteroglossic text that served to dialogically motivate a set of interrelated arguments: that TB had precipitously expanded throughout the country; that it no longer affected only miners; that the public had an erroneous conception of the disease; that all Bolivians were now at risk; that the disease could be easily treated if properly detected; and that the government needed to take its obligations to fund the national program seriously in order to properly detect and treat cases of the disease. In short, that Bolivia had reached a critical moment with respect to TB, where definitive state action was imperative to avert future crisis.

In narratological terms, one could say that here, at the start of 1996, the TB story had reached its dramatic “climax,” a turning point following a period of expository “incitement” and “rising action,” and that here, a clean break between the recent past and possible futures of the disease in Bolivia could be projected into public discourse, creating a set of imagined outcomes that maximally setting in relief the epidemic’s institutional protagonists (see, e.g., “Freytag’s [Narrative] Pyramid”). Of all the articles between 1984 to 2004, these were the most “creative” in their indexicality: as narrative texts, they were fully performative, mapping an authoritative description of the epidemic into a well-demarcated prescription for biomedical intervention.

The lead story is the most traditional concerning genre. The official documentary source appears to be the same 1994 PNCT report picked up on in the two articles mentioned above. Here, however, the focus was not the *relocalización*, but a more in depth assessment of, first, the report's epidemiological conclusions, and, second, the PNCT's operational capacities for combating the epidemic, fleshed out by interviews with national and international TB officials and given visual representation through the incorporation of epidemiological figures. At the same time, the article sought to recontextualize Bolivia's TB problem in a broader Pan-American, and ultimately, global framework, neatly entextualized in the article's oversized headline: "Bolivia: Second in the Americas for tuberculosis."<sup>25</sup> Just below the headline is a map dividing Bolivia into departments and coding each department on a scale of TB incidence, from "severe risk" to "very severe risk" to "extremely severe." A curved line traversing departments north-by-southeast indicates the "belt of major risk" for contracting TB, the same map discussed above, and, not incidentally, the target regions for migrants. To the right of the map, embedded in the prose of the story, are two epidemiological tables, one displaying rates of TB incidence by department, the other the evolution of national TB incidence from 1971 to 1994. Just above the article's lead is a sidebar, printed in large italic type, summarizing the article's key point: that Bolivia ranked second to Peru in the Americas for reported TB incidence, at 130 infected per 100,000 inhabitants (the numbers of the 1994 report). The article's lede is given to the WHO/PAHO representative in Bolivia, whose words are used to further contextualize TB incidence in global statistical space. "Bolivia's [TB] incidence is comparable to that of Africa," the director is quoted as saying, "There are even African countries with less [incidence]." The body of the

---

<sup>25</sup> *Presencia*, "Bolivia: Segunda país con más tuberculosis en América," February 4, 1996.

article goes on to explore the national epidemiology and etiology of the disease, the means and modalities of its control, and the PNCT's detection and treatment goals leading up to the year 2000, intercalating quotes drawn from the 1994 report with explanations offered by the PNCT's director.

In this way, the article presents a thoroughly epidemiological perspective on TB in Bolivia, anchored in the cultural authority of global science, the iconic textual forms of which are built into article itself, with its maps and tables and frequent quotations of official sources. On view is not only a representation of the TB epidemic, but a representation of the technoscientific rationality that could be brought to bear upon the disease: a ritual enactment of the epistemic credibility of state-sponsored disease control. When juxtaposed to the other articles of the series, this one serves as a kind of "objective" metadiscursive framework for the more "subjective" and "local" dimensions of TB explored in the subsequent articles of the series.

At the same time, there is a more subtle political argument dynamically encoded in the story, indexed, most notably, by the comparisons to Peru and Africa. The publication of the article is only four years after the Latin American cholera pandemic, with its epicenter in Peru. Though very different kinds of infectious disease, the implicit links that could be drawn between cholera and TB were strong enough to influence public understandings of TB at the time. One of the articles I discussed above, e.g., erroneously referred to cholera when it meant to refer to tuberculosis, suggesting that the article was carelessly adapted from an earlier article about cholera. More generally, to compare TB in Bolivia to TB in Peru pointed to a structural similarity between the two states on the plane of public health crisis, a comparison likely to raise red flags among the newspaper's elite readership. The comparison to Africa, on the other hand, played

upon overdetermined concerns on the part of elite nationals that, with the socioeconomic crisis, Bolivia was slipping farther down the gradient of economic development, approaching the tragedy that was “Africa” in the global development imaginary. Though the “least developed country” in South America, Bolivia was at least not “Africa”—or was it?—the article seemed to suggest. By way of TB incidence, Bolivia was projected into global geopolitical spacetime, foregrounding associations between “backward” nations and easily-controllable but nevertheless out-of-control epidemic diseases.

The next article in the series, “Governments have forgotten about tuberculosis,” then, lays out the political stakes, approximating the genre of *denuncia*.<sup>26</sup> Despite the fact that ten thousand Bolivians contracted TB in 1994, the story’s subheading reads, “For 11 years [Bolivian governments] haven’t given a cent” to the national TB control program—a direct echo of the main argument of the PNCT’s polemical 1994 report. The governments of the United States, France, Germany, and Belgium, along with a handful of non-governmental organizations, had all supported the PNCT’s efforts,

However, the national government has contributed no money whatsoever, neither for treatment nor for the detection of the disease [...] [S]ince 1985 it has forgotten that tuberculosis is the last name (*segunda apellida*) of Bolivians and that according to a policy agreement it is obligated to confront the grave epidemic “with substantial and progressive annual support” emanating from the General National Treasury.

[TB] has been forgotten to such an extreme that the [1994 annual PNCT report] forecasts that this year “[Bolivia] will not be able to detect or cure persons sick with tuberculosis and the problem will persist as long as the lack of economic support from the General National Treasury continues.”

Here, the polemic found in the PNCT report is recontextualized in broader public discourse, now backed by the cultural authority of the national media. *Presencia* quoted the PNCT’s director as

---

<sup>26</sup> *Presencia*, “Los gobiernos de olvidieron de la tuberculosis,” February 4, 1996.



saying that the money donated from external sources only “pays for the medication of five thousands sick persons, but we need double that.” The article invoked the image of the national director going from donor organization-to-donor organization, searching out funds. “She acquires a little from here, a little from there and like that seeks to cover demand,” the Bolivian WHO/PAHO representative is quoted as saying, adding:

This demonstrates that governmental authorities have forgotten the struggle against TB. In the exterior, organizations and countries are astonished that Bolivia offers neither support nor resources to sustain the antituberculosis program and this discourages them from financing them.

As such, the article invoked an even stronger image: Bolivia as pariah among the international community—a strong critique, coming from the mouth of a non-Bolivian representative of the world’s most powerful public health institution, one who had just, on the newspaper’s previous page, compared Bolivia to Peru and Africa.

The most interesting story of the series, however, follows this one. From the technical and political dimensions of TB, the paper shifts to explore local conceptions of the disease, reporting on an informal survey conducted by a staff reporter on the streets of La Paz.<sup>27</sup> Six named respondents were asked to answer three simple questions: *What is tuberculosis? Do you believe you have to isolate sick persons? Did you receive information about this illness in school or other educational centers?* Excerpts from the interviews were then published in the article, as “reaction quotes.” The pragmatic presuppositions of these questions are as interesting as the responses given. It is obvious from the framing of the questions that none of the respondents is presumed to have (or have had) tuberculosis, nor, one imagines, would they perceive themselves

---

<sup>27</sup> *Presencia*, “No señores: La tuberculosis no es una enfermedad de los mineros,” February 4, 1996.



Figure 12. “No señores: tuberculosis is not a disease of miners”

(*Presencia*, “No señores: La tuberculosis no es una enfermedad de los mineros,” February 4, 1996)

as at risk for the disease. The location of the interviews—the streets of La Paz, most likely the city’s *centro* or business district—and the emphasis placed on educational institutions as sites for transmitting public health information, moreover, situated the respondents as among Bolivia’s professionally-aspiring classes, a fact given explicit reference through characterizing descriptions. One respondent is characterized as a systems analyst, another as having a degree in tourism, two as public employees, and two as law students—in short, precisely the better educated, literate, professionals that comprise the “official” Bolivian public, the target readership of a newspaper like *Presencia*.

This verbal construal of status is given further iconic resonance through the use of visual images. Across the top of the page, measured to the exact width of the article, are six photographs, one for each respondent, each bearing the respective respondent’s name (Fig. 12). The photographs all show the respondent in active dialogue with the staff reporter (and

figuratively, the newspaper's public), here iconized by the presence of a Sony Professional cassette recorder lingering just below the respondent's mouth. Other icons of professional status are clearly available too: two men have coats and ties; another a full, well-manicured beard; another a collared shirt with a sweater; and the two female interviewees are dressed and coiffed in a way befitting university students and young professionals. Crucially, none of the respondents bear the local emblematics of "ethnicity"—they are all "white" or *criollo* by local categories of cultural recognition, a fact further reinforced by their identifiably *criollo* names and surnames. Not represented are *cholos*, *campesinos*, *indígenas*, or even *mineros*, social persons that, as the content of the reaction quotes makes clear, are locally understood to be more at risk for the disease. On view, then, is a cross-section of the official national public, here engaged in that quintessential mode of national belonging: the act of public discourse, and in the nation's flagship periodical no less.

But the reaction quotes portray a national public whose understandings of the disease are firmly entrenched in TB stereotypy. In response to the first question, the systems analyst explains that, "Tuberculosis is a disease of the lungs stemming from mining." A law student tells the paper that TB "is a disease that one acquires in the mines: it is a disease of miners." The most complex answer comes from a middle-aged public employee. "Tuberculosis is a disease of the lungs [and] Bolivia has an elevated percentage of cases, owing to nutritional deficiencies and overcrowding," adding, however, "Mostly it is detected in *centros mineros*." Answers to the second question—about isolating patients, a kind of proxy measure for the social stigma attached to TB—tended toward highly medicalized responses, emphasizing chemotherapy rather than isolation. "It seems to me that [isolation] isn't necessary," says the systems analyst, "because the

cure is a simple treatment with penicillin, antibiotics and nothing more.” Even here, though, the association with mining emerges. According to a law student, “we must help them [tuberculars], collaborate with them, because indeed they are mostly miners, the base of the national economy.”

The third question asks about information source. Interestingly, but not surprisingly, none of the respondents base their answers on personal experience. Almost all report a lack of public knowledge about the disease, and, given the phrasing of the question, the blame is clearly placed on the state’s educational apparatus. “I never received information about [TB], because in this country they don’t impart this kind of information,” the systems analyst reports. “Information about this disease is very deficient in our country,” says the law student; “In primary school, high school and the university they never educated me about this.” At the same time, all locate their understandings of TB in the circulatory pathways stereotypically associated with the textual practices of national elites. “I informed myself through medical books,” says the systems analyst. “I became informed through magazines”—the graduate of tourism school. And the middle-aged public employee: “I have knowledge about tuberculosis through the mediums of communication that provide useful statistics that one can take into account.”

Here we have a portrait of a misinformed public, but one that *could* be properly informed about TB, *if* more effort was made to create and circulate public information. Among the public represented in the article, the problem is not so much the circulatory pathways but the discourse pushed along those pathways. The lede to the article, printed in large, italicized type makes this clear, at the same time as it interdiscursively links itself to the other articles:

Since always, tuberculosis was considered the second name (*segunda apellida*) of Bolivians, but this never motivated a single government to create information programs

about this theme, directed at public school students, university students and public employees. As such what is known is insufficient and often distorted.

Yet, if the article chastised the government for “failure to inform the population” about the disease, the real efficacy of the story seemed to lie in correcting these insufficient and distorted public understandings. The headline is unambiguous, a rejoinder to these publicly-articulated equivocations: “No *señores*: Tuberculosis is not a disease of miners.” If tuberculosis is the “second name” of Bolivians, this means all Bolivians, not just those excluded from the elite national public. Even the readers of newspapers like *Presencia* were at risk.

This argument—that all Bolivians, and not just miners, are at risk for contracting TB—is the explicit theme of the *testimonio*, or first-person narrative of the last article in the series.<sup>28</sup> The narrative, written by a named journalist, is interesting in several respects. First, it offers living proof, as it were, that tuberculosis “is not [just] a disease of miners.” The narrative charts the yearlong struggles of a young professional to get a mysterious illness diagnosed. After countless misdiagnoses, and after being proclaimed “terminally ill,” the author is finally diagnosed with intestinal tuberculosis, a form of nonpulmonary TB. Constructed dialogue is used to create suspense and impart verisimilitude to the testimonial. “‘Finally we have your diagnosis and you have nothing to worry about’,” the journalist recounts his doctor informing him, “‘because we are dealing with a disease that is curable in this era, if you comply with the treatment exactly (*al pie de la letra*)’.” “‘What are we dealing with?’” the journalist-cum-patient asks his doctor. “‘Don’t be afraid’,” his doctor is then represented as saying, “‘we are dealing with an intestinal tuberculosis located in the large intestine. Now we can medicate you’.” The author recounts how he would never have guessed he had tuberculosis. Here the testimonial, as is appropriate to the

---

<sup>28</sup> Terrazas, Remberto, “Me dio tuberculosis y viví para contarlo,” *Presencia*, February 4, 1996.

genre, takes a pedagogical turn, using the perspective of personal experience to inform others about TB and about its treatment. “I got tuberculosis and lived to tell about it,” is the article’s headline. “I thought that people would become alarmed and reject me when they knew about [my TB],” the article begins, “Now, I believe my *testimonio* can serve others.” Evidently, the journalist had contracted a case of typhoid fever that, he speculated, engendered his TB infection:

I had typhoid fever some time ago and owing to that the walls of my large intestine became weakened. Then I ingested the bacillus. Perhaps [it was] on some infected kitchen utensil, perhaps from the unboiled milk of an infected cow... we will never know. What matters is that the bacillus entered my body, looked for a weak point and before being expelled in the feces, lodged itself in the intestine and from there developed in abundance.

After seven months of antitubercular drug therapy, the patient was cured. “In 1990, the medical tests revealed that I was completely healthy, thanks to God, the attention of doctors and the priceless love (*cariño*) of my family and friends.”

This is not, needless to say, a typical patient’s narrative, and certainly not the typical TB narrative then circulating in public discourse—not the TB of miners and *relocalizados*, in their own voice or others. But this was the entire point. The editors of *Presencia* could have published a TB testimonial more exemplary of the common narrative. Instead they published a testimonial in maximum contrast to the prototypical narrative. Viewed semiotically, the testimonial projected a radically new ‘world’ of the disease that the paper’s readership could plausibly imagine inhabiting (or being inhabited by!). Not only is the TB sufferer not a miner, but the form of TB itself is not the prototypical TB, not pulmonary but nonpulmonary tuberculosis, not *mal de mina*. The mode of infection, moreover, is neither through malnutrition, impoverishment, migration, or lung debilitation, but through the interaction of a body weakened by typhoid fever—a common

enough experience for most Bolivians—and a contaminated kitchen utensil or contaminated glass of milk, in any event, something “we’ll never know.” In short, the cultural practices linking bodies to bacteria radically diverged from those found in the common narrative. An entirely different TB imaginary is projected by this re-narrativization, anchored in and reinforcing a kind of second-order (trans)valuation of the epidemic, a reversal in roles and responsibilities. It is the journalist-*cum*-patient who, at first, views his illness as a stigma, a “spoiled identity” in Goffman’s sense; the reader, by contrast, is invited to view the patient sympathetically—as an accidental victim—and in this way, to view him-or-herself as a potential, accidental victim as well. The discursive figure that emerges from the testimonial is that of a person who has contracted TB, the disease, but managed to avoid contracting the cultural stereotypy associated with the disease, in this case, through the very act of public speech.

As the final article in the series, the journalist’s testimonial ties back to the more traditional epidemiological narrative found in the first story, while also elaborating on, as exemplar, the third article, about mistaken assumptions. The almost poetic use of technical language in the journalist’s account (“glucose IVs replaced all alimentation and with the needle eternally encrusted in the arm they subjected me to X-rays, sputum smears and other examinations to determine the disease that was consuming me”) gestures back to the more technical discussion of TB epidemiology, etiology, detection, and treatment found in the first two articles, construing medical authority as an unassailable point of passage for the effective control of the disease. At the same time, it projects a public with the technical capacity to understand—even wax poetic about—the scientific rationale behind such practices, a public with the potential of conceptualizing TB in biomedical terms. If the fact that the journalist “got tuberculosis” is

proof that anyone can contract the disease, that he “lived to tell” the story is proof that modern biomedicine is adequate and efficacious to curing it. And rapidly: “I began to immediately gain back my strength owing to the constancy of the treatment and less than a month I recuperated most of my weight and the desire to live.”

As a dynamic, heteroglossic set of texts presupposing a public order of already circulating TB narratives, the *Presencia* articles semiotically construct two kinds of TB and two kinds of publics, distinguishing each with respect to the other by the contrasting pathways that link the circulation of public discourse to the public dissemination of disease. On the one hand is the TB of miners, a TB whose mode of dissemination is given contour by the epidemiographic imaginary projected by the narrative of relocation, the victims of which are metadiscursively excluded from the official public sphere in the emerging second-order narrative. On the other hand is the TB of this second-order (counter)narrative, a TB made possible, perhaps, by miners, but that, nevertheless, is decidedly “not a disease of miners.” This second TB has its own distinctive mode of dissemination—infected cow milk, contaminated kitchen utensils, debilitated stomachs—emplotted into a pathway of transmission that potentially intersects with persons included in the official national public. The latter, unlike the former, are persons that could—and should—know better.

Here, then, is a discursive bifurcation of persons into what Charles Briggs, in his work on cholera in Venezuela, calls *sanitary citizens* and *unsanitary subjects*, a distinction predicated on cultural expectations about who can and who cannot be counted upon to properly receive and decode public health messages and modify their personal behaviors accordingly: a politico-cultural logic that maps attributions of agency into communicative ideologies (2003; Briggs &



*El último Informe del Programa Nacional de Vigilancia y Control de Tuberculosis de la Secretaría Nacional de Salud, advierte que este año "no se podrá detectar ni curar enfermos de tuberculosis, si persiste la falta de apoyo económico del Estado".*



**Figure 13**

**Figurations of public agency and passive patienthood**

(SOURCE: *Presencia*, "Los gobiernos de olvidieron de la tuberculosis," February 4, 1996.)

Mantini-Briggs 2003). This differential assignment of agency is perhaps most apparent in the respective photographs accompanying the various articles. Compare the photographs of the six *criollo* respondents in the third article to the two photographs that accompany the second article, the one chastising the Bolivian government for "forgetting" about TB (Fig. 13). One photograph—a photo appearing in other articles as well—depicts the director of the PNCT in a more agentive posture, in the midst, it seems, of active public communication. The second photograph, on the other hand, shows a reclined TB patient interned at a hospital in La Paz, as the caption explains. Unlike the photo of the PNCT director, and unlike the series of six photos in the third article, the TB patient is unnamed and un-individuated and, it seems, non-communicative, perhaps even resistant. He covers his face with his hand and his eyes avert the gaze of the camera. In contrast to the six respondents of the survey, this patient maximally appears as a



Figure 14

**Counter-figurations of public agency and active patienthood**

(SOURCE: Terrazas, Remberto, "Me dio tuberculosis y viví para contarlo," *Presencia*, February 4, 1996.)

subject of TB and its biomedical control, rather than an active citizen, privy to the channels of public communication. In this visual semiotic, it is as if the director speaks for the TB patient, and through the trope of metonymy, for all TB patients excluded from the official national public: they form a mass requiring public representation by national authorities. Compare this set of visual representations to the two images that accompany the journalist's testimonial (Fig. 14). The same technique of overlapping images is deployed, but here the journalist-*cum*-TB patient is portrayed in a semiotic of active public engagement. He is named and individuated and his eyes willingly meeting the camera's gaze, an embodied icon of his desire to communicate, to give public expression to his personal experience with the disease. He is, as such, the very embodiment of the sanitary citizen.

In articles from this period, not only are two kinds of TB and two kinds of publics distinguished, but each is emplotted into a divergent narrative pathway, a different horizon of past, present, and future with respect to the disease. This opened up a new space of possibility in public discourse about TB, one that the PNCT would opportunistically exploit in the coming years. If all Bolivians were now at risk for tuberculosis, it became possible to distinguish the

risks borne by sanitary citizens from the risks borne by unsanitary subjects—to pit the latter against the former in the public articulation of program demands. In this way, it is fair to say that, by 1996, TB had become a full-blown matter of public concern, potentially bearing upon, if in radically divergent ways, the everyday lives of Bolivians.

*“To raise the silent voice of the sick”: PNCT as primary definer, 1996-2003*

A month after the publication of the *Presencia* articles the PNCT hit the jackpot. In March of 1996, it was announced that the PNCT had been awarded a combined US\$ 2.5 million from external and internal funding sources—from the British Overseas Development Corporation and USAID, but also, surprisingly, from the Bolivian treasury. Miraculously, the allocated government monies had materialized. In a guest editorial in *Presencia*, the PNCT’s director explained that the funds—five times the previous year’s operating budget—would be used for the “acquisition of antitubercular medications, both for routine consumption and reserve stock, as well as for supplies and support for the network of sputum smear laboratories [...] [including] the purchase of 60 microscopes.”<sup>29</sup> This, she explained, would enable the program to meet the Global Year 2000 goals set forth by the WHO. “At the rhythm we are going and if we sustain the work and detect 70% of the sick (*enfermos*) by the year 2000, 85% of the affected population will have been cured.” This would be sufficient to break the chain of infection, but just as importantly, to bring Bolivia back into the good graces of the international TB community. In many respects, Dr. Marcia Ferrel, the PNCT’s director in these years, was the first

---

<sup>29</sup> *Presencia*, “Casi \$US 2,5 millones para el Programa Nacional de Tuberculosis,” March 6, 1996.

national TB official to effectively position herself in this broader, emerging sphere of global TB institutionality, a pattern that would be reproduced with future directors.

The 1995 PNCT report, made public in early 1996, just on the heels of the highly influential if much delayed 1994 report, deployed a new rhetorical strategy for motivating its demands. The strategy again involved Peru. But here Peru served as a model to emulate rather than the foil of an invidious comparison. Peru had one of the highest rates of national TB incidence in the world in the early-1990s, but, the report noted, the Peruvian government had taken its “obligation” to control the epidemic seriously, and by 1995, these efforts had shown results, earning Peru’s TB program international distinction. Bolivia’s 1995 PNCT report explained:

The success is attributed to the State assuming the obligation of prioritizing Tuberculosis Control in Peru with sustained support of financial resources for the training, supervision, evaluation, and delivery of diagnostics, treatment and social communication. (Programa Nacional de Vigilancia y Control de la Tuberculosis 1996:1)

Behind the invocation of Peru’s successes was another stratagem. In the World Bank’s 1993 *Investing in Health*, TB had played a central role in demonstrating that state expenditures in the health sector, if carried out properly, could be reconceptualized as a form of public investment, even in states in the midst of economic crisis. TB control in particular, it was argued, was an especially “cost-effective” health intervention. Since the disease disproportionately affected persons in their “economically active years,” state-sponsored TB control offered a good return on investment. As I mentioned in chapter one, cost-effectiveness is measured in DALYS, or “disability-adjusted life years.” By the World Bank’s calculations, an expenditure of US\$ 100,000 into TB control would directly save 500 lives; however, given the infectious nature of the disease the same amount would also yield a net gain of 35,000 DALYS—DALYS that could

then be reckoned in terms of increased productivity in the national economy. As a strategy for lobbying governments, this rhetoric of investment cannot be underestimated. The PNCT's 1995 report had taken full advantage of it to justify its demands. On page one, after sketching out what a fully functioning, state-sponsored DOTS program in Bolivia would look like, the report invoked the authority of the World Bank. "The World Bank calculates that the aforementioned programs present the best relation of cost/efficiency in terms of life years saved." The Peruvian government had realized this; now, it was time for Bolivian politicians to see the light. After 1996, this would become a key line of argumentation for all subsequent reports. The specter of poverty, moreover, though long a staple in global and national discourse about TB, could be revisited in this new light, now with the authoritative backing of the World Bank. The opening paragraph of the 1995 report, for instance, was directly lifted from the 1994 report, but with one addition, tacked on at the end: "that is to say, the presence of tuberculosis is the presence of poverty, its cause and consequence." This seeming truism reveals the degree to which Bolivian health officials increasingly saw national economic reformers as their primary interlocutors—and indeed the controversial neoliberal reform of Bolivia's health sector was scheduled to be rolled out in 1997. At the same time, it reveals how the logic of "medical prudentialism" that increasingly structured global disease control discourse (see chapter one) could be mobilized to justify the continued institutional relevance of national agencies like the PNCT, even in the space of neoliberal privatization.

In her 1996 editorial in *Presencia*, Ferrel justified the fivefold expansion in the program's budget along these lines. "In tuberculosis all these expenses represent an investment," she wrote, "since the best form of prevention is curing the sick." Here, however, she embedded the rhetoric

of investment in a more common epidemiological trope: “For each patient cured 24 new cases of infection are avoided.” A powerful figure of speech in epidemiology holds that each untreated patient with pulmonary tuberculosis infects two or more persons each month, creating 24 new cases per year, this before factoring in multiplier effects. But by framing TB control as a form of state investment, it was possible to reverse the equation and claim that each patient treated had the net effect of preventing at least two dozen new cases, and so on for each potential case prevented. And treating TB was relatively inexpensive—US\$ 375 per person. Current investments in TB control would save the nation more costly future expenses, while also bolstering a more productive labor force. Ferrel’s editorial invited readers to imagine the vast implications of this leap in probabilistic reasoning: “It is not difficult to imagine a grand rupture in the reproductive chain of the disease,” and thus a frontal assault on the cycle of poverty.

Not difficult indeed. Three months later the Bolivian government announced that it was elevating TB to the status of a national priority—“priority number one,” as an article in *Presencia* reported.<sup>30</sup> The same government that had neglected its agreements to disburse funds allocated to the PNCT for more than 10 years suddenly proclaimed its deep commitments to fighting the disease. Speaking to the press, Bolivia’s undersecretary of health—the same official who, in 2003, would again declare TB a national priority, only in the capacity of Bolivia’s health minister—invoked the connection between TB, poverty, and socioeconomic development to justify the new measures:

Tuberculosis is one of the pathologies that most attacks the population and more fundamentally the impoverished sectors, [and] for this motive constitutes a major concern of the government [...] since tuberculosis is not only a medical problem, but also reflects the indicators of social and economic development. (Reported through indirect discourse)

---

<sup>30</sup> *Presencia*, “Gobierno dará prioridad a la lucha contra la tuberculosis,” August 13, 1996.

The undersecretary announced that a “national interagency committee” for TB had been created to coordinate TB control efforts across all governmental, nongovernmental, and international organizations working in Bolivia, nineteen in total. The creation of these kinds of inter-institutional committees had been a key part of the new approach to global TB control advocated by the WHO and World Bank in the mid-1990s—a key means of reconciling the privatization of health care systems with the substantial public expenditures required for disease control interventions. But on the plane of local public representation, the committee’s creation was used to justify the government’s poor record in confronting the epidemic. According to the undersecretary, previous program operations had been plagued by “unnecessary expenses, owing fundamentally to the lack of coordination,” and this had weakened the state’s efforts to fight the disease. The new inter-institutional form would facilitate a more organized, if decentralized, TB campaign in Bolivia, one better suited to the coming reform of the health sector. As if to foreground the government’s newfound commitments to fighting TB, *Presencia* printed a large photo showing the representatives of various public and private organizations, all in suits and ties, signing the policy agreements that would formalize their participation in this new inter-institutional order. If TB was now a matter of public concern, its control—or so it seemed—was a matter of official state business.

Building on the inertia of these policy reconfigurations and the heightened public profile of TB in the national media, the PNCT began to more aggressively intervene in public discourse about the disease. As part of 1996’s new measures, Bolivia agreed to participate in the WHO’s World TB Day project, itself started in 1996. Celebrated annually on March 24th, in commemoration of the day in 1882 when Robert Koch announced his discovery of TB’s causal

agent, *Mycobacterium tuberculosis* (or “the Koch bacillus,” as it is more commonly known), World TB Day is “designed to build public awareness that TB today remains an epidemic out of control in most of the world” (WHO 1997). World TB Day joins the ranks of other such global health, human rights, and development-oriented “issue” days—International Day of the Family (May 15), World No-Tobacco Day (May 31), International Day for the Eradication of Poverty (October 17), World AIDS Day (December 1), and so forth. As the WHO’s 1997 project guide explains, the goal of World TB Day is to create a “peg” or regularly occurring day of global commemoration “about which an article could appear in the paper” (WHO 1997). Each year the WHO and TB governing bodies like Stop TB develop a campaign theme and send out promotional materials to the offices of participating national TB programs. The materials contain suggestions and examples “of varied media tactics, as well as a variety of strategies that have proven successful in spurring interest in the TB crisis” (ibid.:vi)—for instance, sample op-ed pieces and letters to the editor, advice on how to “pitch” statistics, create “local angles” and “sound bites,” how to hold press conferences and prepare press releases and TB fact sheets, how to recruit celebrity spokespersons and generate photo-opportunities; in short, myriad effective ways of “getting the TB message out to the public” by “creat[ing] a newsworthy story or event” (ibid.:vi). National TB programs are then responsible for refashioning the “key message” of the year’s global theme into a locally appropriate media campaign focused on “grabbing public imagination.”<sup>31</sup> World TB Day literature suggests “open-ended” messages that lend themselves “to creative visual and textual interpretation, expressing a multiplicity of individual/collective human emotions and contexts”.<sup>32</sup> For instance, the 2003 World TB Day slogan,

---

<sup>31</sup> See: [http://www.stoptb.org/events/world\\_tb\\_day/2003/](http://www.stoptb.org/events/world_tb_day/2003/)

<sup>32</sup> See: [http://www.stoptb.org/events/world\\_tb\\_day/2004/](http://www.stoptb.org/events/world_tb_day/2004/)



“DOTS, it cured me of TB and it will cure you too!” (see Fig. 56, chapter five) was aimed at promoting adherence to TB treatment regimens among patients. In Bolivia, this slogan was translated and deployed in patient meetings and other public health venues like neighborhood health fairs. But, given the recent introduction of the DOTS model at the time, a broader public campaign was launched under the simpler slogan, *Luchemos contra la tuberculosis*, “Let’s struggle against tuberculosis.” Through these measures, World TB Day aims to project the image of a unified global TB community, organized around a calendricalized cycle of public display and recognition about the global TB problem that can, in turn, be incorporated into the existing ritual calendars of participating nation-states. In this way, World TB Day serves as a key institutional mechanism for making TB public.

World TB Day is not merely about projecting a new public image, however. As an institutional mechanism, it also serves as a key means of streamlining and routinizing the communicative pathways through which public discourse about the disease circulates. In Bolivia, World TB Day helped reinforce the lines of communication between the PNCT and the national media, bolstering the role of national health expertise as the primary definers of public representations of the epidemic. PNCT officials repositioned themselves as national intermediaries for the “localization” of global TB discourse. This was a significant shift from the media strategies that dominated the late-1980s and early-1990s. If before regional health officials had been called upon to publicly describe and just as often denounce the growing TB problem in a particular province, city, parish, or social collective, making the local global, as it were, now national health experts worked in the reverse direction, relaying information about the broader global situation as a means of recontextualizing the national epidemic. Bolivia’s battle against

TB was just one front in a broader war facing the “developing” world, about which national TB control experts, by virtue of their global positioning, had privileged information. In effect, the PNCT was projected into a global order made up of parallel nation-states each with its own, singularly-authoritative TB control agency, all brought under the umbrella of several key global health institutions. In this way, the challenges besetting any one nation-state in controlling TB could be compared to the challenges facing other nation-states, with minor modifications to account for local political-economic and sociocultural factors. Likewise, the means of controlling TB in one territory could be compared with and calqued into the means deployed in another territory, enabling a kind modularity of disease control forms across participating nation-states. As with the ‘modularity’ of nationalist discourse in the 19th and 20th century (Anderson 1983), rhetorics of justification could be conscientiously pirated and replicated across national contexts with little transformation, but with maximal effect.

The World TB Day literature disseminated to each national program made these modular rhetorics readily available. The “success story” of a neighboring country’s national TB control program, for instance, could serve as a way of promoting a similar strategy in one’s respective national context. As the 1997 World TB Day guide explained:

It is often useful to refer to TB control “success stories” in articles and discussions with journalists. Examples of TB being treated successfully in your region of the world provide a positive “spin” to your story. While the TB epidemic is frightening, it is also important to communicate that TB the epidemic can be controlled by funding the right strategies. The following are some examples of successful TB control projects. Please feel free to use them in conjunction with your own stories.

The successful restructuring of Bangladesh's national TB control program in 1993 (revealed through a dramatic improvement in TB treatment rates by 1995) could, for example, be pirated by TB control officials in India to lobby the government for funds to enact similar measures.

Similarly, the repeated public invocation of the Peruvian “success story” by Bolivian health officials likely had its roots in the World TB Day literature. The World TB Day literature even proposed an effective metadiscursive framework for talking publicly about Peru:

PERU. In Peru in the 1980s, TB posed a huge problem. Thousands of sick patients could not get well because drug supplies were constantly disrupted by administrative problems and lack of funding. The Peruvian government, newly committed to TB control, worked with the WHO to devise a plan. Soon, Peru was curing many more patients, and actually reducing the number of new TB cases in the country. (WHO 1997:17)

In Bolivia, this emphasis on what amounted to a trickle-down approach to “getting the TB message out,” led to a significant standardization and simplification of public representations of the epidemic, reflected in both the kinds and frequencies of TB stories reported in the national press. For one, the quantity of TB stories dropped precipitously after 1997, approaching the pre-1987 levels (see Fig. 11). After 1997, a handful of TB stories appeared annually in major Bolivian newspapers, all on or around the designated March 24th day of Koch commemoration. Many stories, moreover, contained the same information and quoted the same sources, and stories from one year were often rerun in subsequent years with only minor modifications. The active role of the national media in finding and creating the story gave way to a more passive form of reportage in which stories ghostwritten by PNCT officials, with the aid of the global TB literature, were cursorily edited and printed by national newspapers, once again in the modality of “national public record.” The content and framing of the TB stories shifted accordingly, conforming more to the media genre of the “public service” article.

In short, World TB Day literature played the key role in giving discursive shape to public representations of the epidemic in Bolivia. According to the WHO literature, a good TB story, for example, should be built on the following metadiscursive scaffolding:

Information on TB in your country/region/city: TB incidence (new cases)/TB prevalence (existing cases), TB deaths, TB in the general population, TB in subgroups, DOTS coverage, DOTS acceptance, MDR-TB.

Information on socioeconomic development: What are the economic impacts or costs of TB on families, communities and countries? What are the social costs? For example, children having to drop out of school to take care of sick parents, children orphaned due to TB, mothers sick with TB unable to care for their children. (WHO 1997:11)

Good stories, it was advised, should also include simple, useful descriptions of the disease, its symptomatology, detection and treatment, information optimally presented in the form of visual representations, text-boxes, and accompanying sidebars. To maximally capture the attention of the public—and public authorities—stories should selectively, in alternating fashion, highlight the effects of TB in concrete demographically-defined national sub-populations: the impact of TB on children, women, or the family, most especially. Finally, the basic tenants of global TB control discourse—the “core knowledge,” as it came to be defined—should be emphasized as much as possible: that TB is caused by the Koch bacillus; that TB is linked to socioeconomic development and poverty; that TB and HIV/AIDS interact deleteriously; that patient noncompliance leads to drug resistant strains of the disease; and crucially, that TB is completely curable in the biomedical modality of DOTS, provided gratis by the state health system. In this way, articles about TB in Bolivian newspapers after 1996 increasingly portrayed a more abstract and highly medicalized vision of the national TB epidemic, as part and parcel of a “global tuberculosis emergency.” The local epidemiography of TB, as I have been calling it, was encompassed by another, more epidemiography

Two articles in the *Opinión*, for instance, from the 1996 and 1997 World TB Day campaigns respectively, mirrored each another in their basic textual layout and general discursive

content.<sup>33</sup> Both began, tellingly, by reckoning TB in Bolivia in terms of the global epidemic. “Tuberculosis is considered one of the most important contagious diseases in the world and in Bolivia,” one article began. “Bolivia in general, and the Chapare in particular, stands out for having one of the most elevated TB incidences in the world,” began the other. The articles reported that one in every three Bolivians was infected by TB, a datum predicated not on PNCT studies, but on a kind of metonymic sleight of hand: one in every three persons in the world is estimated to be infected with TB, and Bolivia is part of the world, therefore one in every three Bolivians is infected with TB. The 1996 article, e.g., paraphrased the words of the regional director of Cochabamba’s PNCT unit along these lines, to purport “that the Koch bacillus (cause of the disease) circulates (*anda campeando*) in the Bolivian environment to the point of infecting almost a third of the population.” This type of epidemiological knowledge is produced through difficult and expensive investigations of the “annual risk of infection,” but in Bolivia such studies would not be conducted until 2001. Instead, PNCT officials reasoned deductively from the WHO’s global epidemiological picture to depict the national TB before the public. The articles then used this epidemiological profile to motivate a more basic biomedical description of the disease and its treatment, readily extracted from the TB fact sheets prepared for the press and textually foregrounded in visual imagery, text-boxes, and sidebars. Both articles, e.g., featured a text-box comparing TB incidence in Bolivia and the Chapare to TB incidence in other nation-states: Cuba, Ethiopia, Mozambique, and Peru, suggesting a kind of cohort (interesting, Cuba, with the remarkably low incidence of 3/100,000 was included here, presumably as the exception proving the rule). Curiously, the text-box is flanked by two computer generated images, one of a

---

<sup>33</sup> *Opinión*, “La tuberculosis hace estragos en el trópico cochabambino,” March 23, 1996; *Opinión*, “Tuberculosis revela pobreza y desnutrición de ciudadanía,” March 25, 1996.

bedridden patient on a respirator, the other of a man in business suit reading a newspaper, coughing up bacilli. Likewise, both articles contain page-long sidebars presenting basic descriptions of the disease in bullet points: “Tuberculosis,” “What causes damage to the lungs?” “Symptoms,” and “Treatment.” And finally, in keeping with World TB Day’s focus on presenting TB as a curable disease, both articles contain embedded articles describing available state TB services in Bolivia, admonishing readers and patients to take advantage of them. “Tuberculosis is curable but prevention is better,” the 1996 sub-article’s headline read; “Free tuberculosis control and prevention services,” read the 1997 sub-article’s headline.

In articles like these, the local epidemiographic narrative that linked TB’s spread to the *relocalización* was increasingly displaced by a more medicalized, and at the same time, developmentalist account of the disease, one that wed scientific immunology to the well-worn chronotopics of modernization theory, with its division of the globe into three-ordinal “worlds” (Kelly & Kaplan 2001). Here, advances in the immunological sciences (spurred by the global AIDS epidemic, including the links HIV/TB co-infections) lent a kind of strange scientific backing to the neoclassical approach to international development economics increasingly promoted by the World Bank, among others. As poverty was reread through the lens of “human development,” immunological competencies and deficiencies were drawn into the orbit of human development and underdevelopment. TB could be reconceptualized as a “negative indicator of the economy of a people,” on the one hand, and, on the other, as “the biological result of poverty, underdevelopment, and education and sanitary backwardness (*rezago*),” as a World TB Day article appearing in *Los Tiempos* explained.<sup>34</sup>

---

<sup>34</sup> *Los Tiempos*, “La tuberculosis es la enfermedad de los pobres,” March 24, 1998.

In this kind of translation, the complex social, cultural, political, economic, and historical circumstances shaping the unfolding of epidemic in any given place and period could be erased from public discourse, the transmission of disease accorded a new set of spatiotemporal coordinates and equivalencies. One could speak about TB in “Bolivia,” how it affected “Bolivians,” just as one spoke of TB in “Peru,” affecting “Peruvians,” treating Bolivians and Peruvians as structurally-equivalent, internally-homogeneous national populations. That TB should resurface in Bolivia, like Peru, Mozambique, and Ethiopia—the cohort into which Bolivia was now cast—was self-evident: “Tuberculosis is an endemic disease in Bolivia and in the world, considered a social disease of poverty that has a higher incidence in countries that are in the process of development.”<sup>35</sup> Bolivia’s status as a least developed country was sufficient to explain elevated national TB incidence: compromised economy, compromised biology—the social and the medical were sundered apart only to be sutured back together in a rhetorically powerful way. Crucially, by reframing TB’s spread in the rhetorics of immunology, PNCT officials could more credibly articulate their own expertise to arguments about national economic development, re-engaging old debates and their main interlocutors—national economists—but in a new and more compelling way. Through the rhetorics of immunology, poverty and underdevelopment could be medicalized nontrivially, while, inversely, disease and its control could be socialized nontrivially.

As such, the spread of the epidemic *within* the Bolivian national population could be more complexly and credibly addressed by PNCT officials. On the one hand, the domain of

---

<sup>35</sup> *Los Tiempos*, “La tuberculosis es la enfermedad de los pobres,” March 24, 1998.



**Figure 15**

**TB's "epidemiological chain"**

(SOURCE: *La Razón*, "La tuberculosis, cada vez más fuerte," September 30, 1997.)

potential TB sufferers, owing to the nation's economic status, could be authoritatively enlarged to encompass *all Bolivians*. "[T]he majority of the country's inhabitants have already contracted the bacillus that provokes the disease," Ferrel, the PNCT's director, told *La Razón* in 1997.<sup>36</sup> Following the broader pattern of reportage, the article then articulated the immunological to the everyday, and importantly, translated it—in this case, quite graphically—it into spatiotemporalities of a national-*we*:

The infection could be contracted in the street, on the minibus, in the office or anywhere the bacillus is imperceptibly eliminated by carriers when they talk, when they laugh, when they sneeze or cough. The microorganism stays in the air until a human being or animal breathes it in.

For the director of the [PNCT], the risk for Bolivians is so high that she is moved to say that *we* have all contracted the infection at some moment in *our* lives since the enormous quantity of untreated sick persons in the country makes it such that *we* are living with an abundance of infectious sources. (emphasis added)

The *we* here is as much the national-*we* as it is the public-*we* of *La Razón*'s readership. As if to maximally foreground the argument, and perhaps stoke the anxiety of readers, the article included a visual representation of TB's epidemiological chain, the image of the disease's multiplier effect (Fig. 15). "We are all exposed to tuberculosis," the caption reads, eerily, "...the

<sup>36</sup> *La Razón*, "La tuberculosis, cada vez más fuerte," September 30, 1997.



disease is in the air.” In a 1998 World TB Day article published in the La Paz paper *Hoy*, the immunological argument was made even more credible through statistics.<sup>37</sup> Dr. Mirtha del Granado, the PNCT’s new director, explained that 80% of Bolivians over 50 years of age and 30% of Bolivians under 20 had been infected with the disease. Though many would not develop the clinical form of TB, “owing to healthy levels of organic defenses and adequate nutrition,” all were, nevertheless, “asymptomatic carriers of the disease.”

On the other hand, the argument could reasonably be made that only a fraction of Bolivians might, in fact, develop the clinical form of TB. In this respect, if the rhetoric of immunology emplotted all Bolivians, as members of one of the world’s least developed countries, into the pathways of the TB bacillus, it also made available a more scientific explanation of the differential distribution of the disease in the national medium—precisely along the lines of the discourse tracked in the ethnographic prologue to this chapter. As economic indicators fell, so fell the body’s organic defenses, causing incidence of the disease to rise.

Here the narrative of the *relocalización* resurfaced in implicit form, though, to be sure, shorn of its more political undertones. As the 1998 article in *Hoy* explained:

Many times the body (*organismo*) contains the bacilli and infected persons are able to live with them. Others develop the disease when the bacilli reproduce and damage lung tissue. These persons, generally, suffer from the infectious disease. *According to Mirtha del Granado, the physical and psychological stress of intense migration promotes the development of tuberculosis.* (emphasis added)

In the broader interdiscursive surround of prior TB articles, there could be little doubt here about “who” precisely was at risk for manifesting TB’s clinical form, and as such, about “where” one needed to look to find the “infectious sources” contaminating the national air, mention of

---

<sup>37</sup> *Hoy*, “5.000 tuberculosos sin atención,” March 24, 1998.

“migration” notwithstanding. “[P]ersons infected by this illness are generally the poor, those that do not have work and food to eat, which occasions their organic defenses to lower,” explained the lede of another World TB Day article, also from 1998.<sup>38</sup> In the rhetoric of scientific immunology-and-economic development, the fact that all Bolivian’s had tuberculosis could be more be compellingly reconciled in public discourse to the fact that only certain “Other” Bolivians were, in actuality, at risk for developing the disease.

Following the metadiscursive advise of the World TB Day literature, the PNCT began to tailor official reports and press releases toward specific, targeted “at risk” sub-populations, those that fit the right immunological profile. A 1999 article in *Presencia*, for example, reported that TB was the “principal cause” of death among poor Bolivian women and (the article could not fail mentioning) poor Bolivian mothers.<sup>39</sup> In the mid-1990s, the well-being of “women” had become a major problematic of international development discourse, a key means of measuring human development in the world’s least developed countries (Escobar 1995). According to Bolivia’s minister of health, interviewed for the article, the high TB morbimortality among poor, Bolivian women justified placing the struggle against TB within the broader struggle against poverty. The former was a sign of the latter. “The existence of the tuberculosis bacillus reveals the existence of poverty, malnutrition and overcrowding,” he told the paper, “indicators that must be reduced to a minimum within the struggle against poverty proposed by the government.” This was a strategic move on the part of the PNCT, since recruiting the minister of health to make remarks about the problem of TB alone would have been, at the time, unthinkable. But when rerouted through the developmentalist figure of the “poor woman”—that is, when translated into the

---

<sup>38</sup> *Los Tiempos*, “La tuberculosis es la enfermedad de los pobres,” March 24, 1998.

<sup>39</sup> *Presencia*, “Mujeres pobres affected by the tuberculosis,” July 10, 1999.

rhetorical framework of the nation's war on poverty and the terms of one its key measures—the active involvement of the health ministry in the public representation of the TB epidemic seemed a logical next step.

In these and others articles from the period there is a kind of semiotic equivalency drawn between those Bolivians excluded from national public discourse and those Bolivians most at risk for developing, and thus transmitting, the infectious form of the disease: an inverse relation between the circulatory pathways of public address and the circulatory pathways of disease. Those most at risk for contracting and developing active tuberculosis, were those who, through social exclusion and the “silence of poverty,” were least likely to find public expression in circulatory pathways of national discourse about TB. In fact, as director of the PNCT, Dr. Ferrel had explained the goals of World TB Day precisely along these lines. World TB Day, she told *Los Tiempos* in 1998, was a special day for appealing to the “social conscience” of the public regarding the disease, a time for “for raising the silent voice of the sick, of their families and of the collectivities at risk.”<sup>40</sup> World TB Day was a cyclically reoccurring day to give public “voice” to the fraction of poor Bolivians that, it was presumed, could not speak for themselves, so required a special space in which to have their voices heard, if interpolated through the more authoritative voice of the PNCT itself. The PNCT, in short, would represent those that could not—or so it imagined—represent themselves, as the anthropological trope goes.

As in earlier TB articles, this semiotic equivalency was achieved less through explicit discourse than through the juxtaposition of written reportage with highly-emblematic imagery. The article describing TB among Bolivian women and mothers, headlined “Poor women affected

---

<sup>40</sup> *Los Tiempos*, “La tuberculosis es la enfermedad de los pobres,” March 24, 1998.



Pese a que son las que mantienen la familia tienen que pelear contra la enfermedad de los pobres.

**Figure 16**

**“Despite being those that maintain the family they have to fight against the disease of the poor”**

(SOURCE: *Presencia*, “Mujeres pobres affected by the tuberculosis,” July 10, 1999.

by tuberculosis,” e.g., featured a large stock-photograph of periurban women hard at work paving a street, presumably employees of one of Bolivia’s temporary labor programs (Fig. 16).<sup>41</sup> The women shown are wearing *polleras* and *bursolina* bowlers, emblems of urban indigeneity, and, crucially, among the newspaper’s readership, of the well-entrenched sociohistorical roots of Bolivia’s national underdevelopment. The photo’s caption reads, “Despite being those that maintain the family they have to fight against the disease of the poor.” In the years leading up to 2003, this kind of imagery became increasingly common. As TB stories increasingly projected the national TB problem into international space, as part of the global TB emergency, photographic imagery of poor, usually indigenous Bolivians mapped TB back into the national context: Bolivia was, after all, known worldwide for its majoritarian indigenous population.

Another World TB Day story, from 2003, featured a photograph of an indigenous woman and a child sitting before a street lamp in what appears to be the Prado of La Paz, the city’s main avenue.<sup>42</sup> The article’s headline read, “Poor countries contain 95% of persons sick with

<sup>41</sup> *Presencia*, “Mujeres pobres affected by the tuberculosis,” July 10, 1999.

<sup>42</sup> *El Diario*, “Los países pobres cuentan con el 95% de enfermos de tuberculosis,” March 23, 2003.

tuberculosis,” while the photograph’s caption explained, “The poor are the principal victims of tuberculosis.” The photograph would be especially remarkable for the paper’s La Paz readership. The woman and child are not merely indigenous in the local cultural imagination, but easily-identified as *potosinas*—the infamous, now ubiquitous Aymara- and Quechua-speaking women and children from the department of Potosí that come to La Paz seasonally in search of alms. Their presence in La Paz dates back to the mid-1980s, and it is widely rumored that most *potosinas* have lost their spouses to the mines, through accidents, disease, and/or abandonment. For many urban Bolivians, the specter of the destitute, husband-less *potosina* begging on the streets of La Paz, is the very icon of Bolivian underdevelopment, and the embodiment of the consequences of neoliberal reform and the *relocalización*.

This kind of visual imagery was often coupled with a more dramatic use of statistical imagery. The World TB Day literature developed by the WHO emphasizes the strategic use of statistical figures of speech in publicizing epidemic. Statistics, it advises, do not stand alone but must be combined with key messages and stories. Each statistical figure of speech should be built around a key, unstated “implication,” which, when embedded in a story, functions as a “call for action.” For instance, the statistical message, “One person dies of TB every ten-seconds,” would be effective in a story lobbying the government for more funding, as it would help lead readers to draw the conclusion, “The time to act is now” (WHO 1997). In the late-1980s and early-1990s, TB stories tended to directly report data found in PNCT reports. While useful for epidemiologists, it is less meaningful to the lay audience: after all, is a rate of 150 reported TB cases per 100,000 Bolivians a lot or a little? After 1996, by contrast, TB stories began to incorporate statistics into the more dramatic figures of speech prescribed by the World TB Day

literature. Interestingly, there is almost a quickening of pace traced out in these statistical figures leading up to 2003, an image of increased, perhaps out-of-control circulation of infection. The following instances were culled from TB stories between 1992 and 2003, the year TB was declared a national priority, many of them headlines or sub-headers:

- (1992) In 1991 some 11,223 personas sickened with tuberculosis
- (1993) 160 of every 100,000 persons affected by tuberculosis
- (1993) Two persons are affected every day by tuberculosis
- (1994) 90% of the population is at risk of contracting TB
- (1995) Each year 300,000 persons contract tuberculosis
- (1995) Ten thousand cases of tuberculosis are detected each year in Bolivia
- (1998) Tuberculosis attacks 12,000/year
- (2000) Each day 27 cases of tuberculosis are diagnosed
- (2003) Six Bolivians die each day from tuberculosis
- (2003) Each hour one person in the country acquires the disease

The last three are especially exemplary. They give little information from an epidemiological point of view, but as forms of public representation they are particularly effective. TB is projected here into the circulatory spacetime of the public itself—TB in Bolivia, reckoned in days and even hours, the very periodicities in which the texts of newspapers are produced and consumed. Combined with other common epidemiological tropes, like representations of TB's chain of infection and culturally-emblematic visual imagery, and embedded in stories reporting on various target aspects of the national epidemic, these statistical figures of speech gave the impression of a disease that was quite literally at the doorsteps of the reader, circulated in the same spacetime envelope as the newspaper itself: *as you read this article, one person in Bolivia is contracting tuberculosis, six are dying of it...* In many respects, the kinds of epidemiographic figurations projected by these figures of speech resonate with the common figures of speech found in the discourse of terrorism, with its emphasis on the rates and periodicities of terrorist events, as they are made to seem both more frequent and proximal to the spacetime of the public.



**Figure 17**

**“A sick person infects another person each month”**

(SOURCE: *Presencia*, “OPS: En el país no se registran todos los casos de tuberculosis,” October 21, 1999.)

Consider, finally, an article published in *Presencia* in 1999, reporting on a review of Bolivia’s national TB control program conducted by PAHO officials.<sup>43</sup> According to the article, PAHO found that TB incidence in Bolivia was significantly underreported: of the 14,000 likely cases of TB in the country in 1998, the PNCT had detected only 10,000. The article’s lede explained, “not all cases of tuberculosis are registered in Bolivia and this makes it possible for the illness to affect healthy persons.” The article included a PAHO-generated table quantifying TB cases in Bolivia from the years 1980 through 1998, and next to that, a stock photograph of two indigenous women, a child and an infant, under which was printed the suggestive caption, “A sick person infects another person each month.” (Fig. 17) While the body of the article neither identifies TB’s sources of infection nor attributes causalities of any kind, when read as a semiotic whole, the article, table, and photograph diagram out a complex epidemiographic narrative. On the one hand, the participant structure of the newspaper text is mapped into the circulatory life of infection. Readers are invited to imagine themselves as among the potential

---

<sup>43</sup> *Presencia*, “OPS: En el país no se registran todos los casos de tuberculosis,” October 21, 1999.

“healthy persons” who, each month, are infected by “sick persons,” which, through the indexical-iconicities of the text, are, on the other hand, figured as Bolivia’s historic Other, the nation’s indigenous majority—persons excluded from the circulatory modalities of public discourse. As a consequence, readers are invited to imagine themselves in a position of agentivity regarding the future of this situation, precisely as members of a sovereign national public, in this case, figured as recipients of a message addressed to them, through the paper, by an important representative of a key international health institution.

This, then, is the implicit “implication” of the article’s message—the “call to action” around which the World TB Day literature suggests each article be crafted. According to a spokesperson for PAHO interviewed for the article, the PNCT’s poor detection rates stemmed from a lack of proper training at the local levels, among doctors and nurses in Bolivia’s primary health centers, as well as a significant shortage of regional laboratory technicians to perform sputum microscopy. But the ultimate responsibility is placed on government officials and their failure to provide institutional support for training and supervising local health personnel. As the article reports, PAHO recommended “the government give priority to the struggle against the illness” as a means of requisitioning the necessary state resources for these efforts, a proposition requiring, first of all, a new “political will” among Bolivian politicians, as the PAHO representative put it. From here it is not hard to imagine the projected public role of the readership of Bolivia’s most important newspaper in the formation of this new “political will,” one that, as we’ve seen, prides itself upon promoting the spirit of Christianity in Bolivia, now and historically, as a force for bringing together the one Bolivia with the Other.



## *Conclusion*

By the late-1990s and early-2000s, then, the narrative of the *relocalización*—the story that told the spread of epidemic TB in Bolivia in terms of the key sociohistorical transformations of the Bolivian state at the end of the 20th century, with respect to the dismantling of the corporatist state and the state-run mines upon which it rested, with respect to the sociospatial displacement of Bolivia’s historic mineworkers throughout the country, of the undermining of their livelihoods and the erosion of their moral authority, of the political, economic, and indeed *biological* consequences of neoliberal crisis itself—this national narrative had, by the the start of the new millennium, become increasingly effaced from national public discourse in its more explicit, semantico-referential modalities. But it had, at the same time, resurfaced in a transformed, and even more forceful configuration, in the socio-pragmatic modalities presupposed by and entailed in the circulation and reception of public discourse, namely, through a complex semiotic communicated through visual representation and more graphic, everyday epidemiological figures of speech. It was now possible to imagine, paradoxically, that all Bolivians “had” tuberculosis, but only some had “tuberculosis.” That “*we all* have contracted the infection at some moment in *our* lives,” that the “disease is in the air,” that here, in Bolivia, “*nobody* is free of the threat of becoming sick with tuberculosis,” as the regional PNCT official put it at the workshop I described in the chapter’s prologue—but that only *some of us* will become sick with tuberculosis, the disease, “if *our* organic defenses lower for any reason,” and that this “*some of us*” was not simply random, not just *any of us*, far from it, but “generally the poor, those that do not have work and food to eat,” in short, the Other Bolivia, the Bolivia of periurban neighborhoods and

rural indigenous communities, not as timeless collective entities, but entities fashioned in and out of the particular spacetime of neoliberal crisis and reform.

I have tried to trace two related sociosemiotic processes in this chapter, revealing their productive intersection, or rather, the institutional and discursive *product* of that intersection as I came to encounter it ethnographically, in 2003 and 2004, so well captured, even *captioned*, in that enigmatic and oft-repeated, double-voiced utterance, *We all have tuberculosis now*. It is not so much the discursive form of the utterance itself, as the distillation of more than a decade of debate about TB in Bolivia, that is remarkable here, as institutional and discursive product. Rather, it is the specific spatiotemporal envelope, the normative framework of tacit knowledge and cultural warrant communicated in and through the replication of this double-voiced utterance in public discourse: a kind of shared phenomenology of epidemic TB in Bolivia, of tuberculosis *en nuestro medio*, “in our medium.” It is double-voiced here, in Bakhtin’s sense, precisely because this epidemiological-*we*, as it might be called, grasping the national population as a statistical whole, besieged by disease, is simultaneously cut by, “shot through with,” a dialogicality that fractionates and polarizes it by mapping it into the dichotomized national-*we* of *los dos bolivias*, the “two Bolivias,” of Bolivia and its Other, the official Bolivia of elite national culture and the Bolivia of the nation’s popular classes. It is the play between this singular, authoritative epidemiological-*we* and this twofold, polemical national-*we* that renders broader public discourse about TB so rhetorically powerful as a means of *figurating*, through a triangulation of presupposable collectivities, tuberculosis into national space-time, as one among many matters of definitive public concern.

The first sociosemiotic process I have explored here, then, is the public narrativization of the epidemic itself, the progressive translation of epidemiological knowledge about TB into the rhetorical form of national narrative. In this, I have tried to not only sketch out the contours of that narrative, but also show how the particular circulatory pathways of this narrative reproduced and reinforced the very content figured in the narrative, locating it within a broader communicative topography of differentially-valued senders and receivers, of national agencies authorized as ‘primary definers’ of TB’s public representation on the one hand, and, on the other, through the discursive modalities of the national media, of elite national publics composed of responsible (sanitary) citizens called upon to help promote the forms of “political will” and social conscientiousness that would save the nation from the disease, by investing public health agencies with the requisite means to control the spread of infection among the “silent” majority (of unsanitary subjects) for whom they speak: the *indígenas*, *cholos*, and *mineros* maximally “at risk” for developing TB, but maximally excluded from full participation in the production, circulation, and reception of public discourse *about* TB.

The second, sociosemiotic process, then, relates the way this national narrative was strategically mobilized to translate the institutional expertise of national TB control officials into broader national debates about the causes and consequences of national underdevelopment and neoliberal reform and crisis, as credible spokespersons speaking from a position of global scientific and biomedical authority. Here, we saw how the work of translating TB epidemiology into a publicly-recognizable narratological form, was also, at the same time, a mode of forging and solidifying institutional alignments between national and international public health agencies, namely, between the Bolivian PNCT, other parallel TB control programs of other

nation-states, the WHO, and global TB governance organizations like StopTB, but also between these respective public health agencies and national governments like the Bolivian state as well as national and international development organizations like the World Bank, the British Overseas Development Corporation, and USAID, among others. In conclusion, to say that TB become a top national priority in Bolivia in 2003, now backed by “real political commitments,” is to recognize all the translational work that progressively drew these heterogeneous agencies into a more definitive alignment. The national prioritization of the disease stands, in this respect, as the solidifying institutional structure or normative umbrella under which all these forces could be assembled, here toward the formation of a new regime of state-sponsored TB control, routinized within the singular public agency of the PNCT, and underwritten by the collective charter of a national narrative that could be dusted off and paraded about each year on the commemorative occasion of World TB Day.

*“If This is the Art of Fiction, Reality is Infinitely More Cruel”*

*[TB’s inaugural moment]*

In early October of 1913, a torso “belonging to a head of cattle that had died of strange symptoms” was conveyed to Laboratory No. 1 at the *Instituto Nacional de Bacteriología* (INB), located in the fashionable La Paz neighborhood of Miraflores, Bolivia’s most “modern” of neighborhoods, and not incidentally, the heart of Bolivian liberalism, and what would become, as the 20th century unfolded, the center of Bolivian science and medicine. The deceased animal had been recovered by a local veterinarian who, in turn, had entrusted the cadaver, in partial form, to the INB’s founder and director, a Dr. Néstor Morales Villazón. With this rather macabre incident, or so the hagiography would have it, three careers were simultaneously launched: that of Morales, who would soon become known as the “father of Bolivian microbiology” (Guerra Mercado 2001); Bolivian microbiology, which would soon burgeon into Bolivian laboratory science—indeed the INB is today encompassed by INLASA, the *Instituto Nacional de Laboratorios de Salud*; and of special interest for us, tuberculosis, or rather, the set of institutional and discursive foundations out which Bolivia’s national TB control network would evolve and extend itself.

In early-January of the following year, 1914, in a speech before La Paz’s *Facultad de Medicina*, Morales revisited the incident, and, for added effect, brandished the torso of the animal of before his audience. “This is the anatomical piece, *señores*, that today I present before

you, and what is effective proof for the first time of the existence of bovine tuberculosis in the city of La Paz.”<sup>1</sup> Morales recounted, to what we must imagine was nothing less than a stunned audience, how, in his laboratory, he had sliced open the lungs and heart of the animal, encountering “thick caseous masses constituted by the mediastinal lymph nodes,” the nodes along the base of the heart near the trachea; how the membrane surrounding the heart, the pericardium, resembled “downy fibers in the likeness of a hairy plant;” and how, suspecting tuberculosis pericarditis, he mounted a sample taken from a lymph node under the microscope, discovering “an enormous quantity of bacilli; the same thing occurring with [samples] of the pulmonary zones in stages of caseous degeneration.”

Morales had been appointed dean of the *Facultad* three years prior, in 1910. The occasion of his 1914 speech, the dean’s annual address, was an important public ritual for the city’s civil elite in the years of the liberal Montes presidency: the president himself presided over the event. Two years earlier, in a paper presented to the 15th Congress of Hygiene and Demography in Washington, Morales had similarly offered “effective proof” of the presence in Bolivia of the microbe affecting human kinds, the Koch bacillus.<sup>2</sup> The close encounter with the bovine torso gave the dean pretext to promote his work before the national public, “a subject of burning contemporaneity,” he argued, “which merits to be intensely meditated upon and better known, as it constitutes a danger to the individual, a disgrace for the family, and a true scourge of modern societies.”

---

<sup>1</sup> Morales’ speech was republished in its entirety in 1989, in the Bolivian journal *Crónica Aguda*, under the title “Una hermosa conferencia en el Acto Inaugural del Año Escolar de Facultad de Medicina.” My account here and above is drawn from this source, cited in the bibliography as Morales Villazón ([1914]1989).

<sup>2</sup> The status of TB bacilli affecting humans and nonhumans remained a controversy at the start of the 20<sup>th</sup> century. Koch maintained they were distinct. Morales was aware of the debate, despite the simplification in his address. Today, Koch’s bacillus, or *Mycobacterium tuberculosis*, is distinguished from *Mycobacterium bovis* and other bacilli belonging to the mycobacteria family.

That same October month—Morales continued—a second, unexpected event had led him back to the question of “our national tuberculosis.” He had been tending to his experimental animals—“that is to say, our vulgar *cui*,” the humble guinea pig, that native of the *altiplano* which had already found its way to the center of global science—when one of the creatures “gave a little leap, followed by clonic convulsions, dropping dead some seconds later.” An autopsy of the animal revealed an infestation by the TB bacillus. “Where,” wondered Morales, “had the guinea pig contracted the illness?” With a little detective work, he traced the defunct rodent back to its supplier, a “manifestly sick person.” “The related case,” he reported to the *Facultad*, “has extraordinary value and merits the necessary attention of the sanitary authorities.”

Since the guinea pig lives in the better part of the homes of domestic servants, it would not be strange for the contagion to be transmitted to its surroundings, its first victim being the unfortunate *pongo*, this unwearied pariah that suffers all the exigencies and rigors of his despotic master.

The *pongo* was the rural Indian fulfilling the unpaid service obligations owed his patron under the institution of *pongueaje*, one of the more despised aspects of the hacienda system expanding on the *altiplano* at the start of the century (Klein 1992). By the end of the 19th century, many highland landowners had relocated to La Paz, managing their estates *in absentia*; *pongueaje* created a constant circulation of rural Indians to the city, to lodge in crowded tenements while discharging their obligations in their masters’ homes. The urbanization of *pongueaje*, as it were, was a key site of anxiety among La Paz’s emerging bourgeoisie (the majority of Morales’ audience at the *Facultad*), who viewed it as a feudal institution holding back the economic progress of the nation—though many, like President Montes himself, saw little contradiction in retaining their own haciendas (Klein 1963). More generally, the “Indian Problem” was the important social question in early-20th century Bolivia, as the free Indian



**Figure 18.**

***Pongo in La Paz, 1876***

(SOURCE: Photo by Reiss and Stübels, available at <http://www.lablaa.org/blaavirtual/historia/hue/images/70.jpg>)

communities of the highlands came under increasing attack, their corporate landholdings parceled up and privatized by new laws. Poor, landless, mostly Aymara-speaking Indians either migrated to the cities or entered into debt peonage on rural haciendas. As Indians themselves began to demand access to education, employment, and land, urban intellectuals, professionals, and policymakers increasingly concerned themselves with how best to integrate Indians into national life, and, in this respect, the nation's export-oriented capitalist economy (Zulawski 2000).

For Morales, however, the demerits of *pongueaje* were more immediate, more ominous, once one factored in the microbe. As he told his audience:

Thus it happens that a robust *indígena*, full of life, complying with the painful laws of slavery, come to serve his feared *patrón*, upon returning to his humble *cabaña*, brings



with him the germ of an illness, which, sapping him of his energy to work, produces in the family he feeds first hunger and afterwards desperation.

Morales had already warned, drawing on what was quickly becoming a wellworn trope of the global crusade against TB, that “the kiss that you give your children with the purist intentions, could be for them in the not so long run, a sentence of death fatally inflicted by destiny.” But mention of the tubercular *pongo* likely conjured up a second migratory circuit, one much more familiar to his elite audience: the circuit of migration that brought Indian girls from highland communities to the city to work as (paid) domestic employees in their very own homes.

Morales reminded his audience that little was in fact known of the disease in Bolivia—other, that was, as he surmised, than what might be gleaned from the TB-driven plots of the European literature his elite audience so loved to consume. “If this is the art of fiction,” he warned, “reality is infinitely more cruel.” Statistics revealed that TB had reached near epidemic proportions in La Paz: in 1913, 114 persons had died of TB in the city alone. With a population of only 80,000, this exceeded the proportion of TB deaths in Berlin for the same year, 142.5 compared to 135.5 per 100,000, respectively, as he explained.

Tuberculosis, the classic disease of the Old World, had become—or so Morales insisted—a New World disease. At stake was not simply rural productivity, the loss of Indian labor and livestock, but also, as the epigraph to chapter three makes clear, *civilization* itself. An “indigenous tuberculosis” festering within the borders of a modern liberal state, threatening the nation’s cities, was, in Morales’ estimation, “a crime of civilization,” requiring no less than the “greatest utility” of civilization: science.

In his annual address to the *Facultad de Medicina*, Morales had argued that the propagation of TB in Bolivia was “so clear and conclusive that it is impossible to doubt it.” But many of his fellow doctors and scientists did doubt it, or, at the very least, differently understood its causes and consequences and their implications for state policy. Either way, tuberculosis, a matter of little concern in 19th century Bolivia, became, at the start of the new century, a matter of much concern. The past, present, and future of the disease in the Andes, in fact, constituted one of the early controversies of a nascent, national “scientific medicine,” a *medicina científica*. In his annual address, Morales was using his office to promote one position in what was then a brewing debate about the “national tuberculosis”—which for him, ultimately resolved into a question of the “indigenous tuberculosis.”

Bolivia’s mountainous environs and the relatively isolated, pastoral lifeways of its inhabitants had long been presumed a natural barrier to tuberculosis and other infectious disease. By the end of the 19th century, however, those barriers had been breached, or so it appeared to the nation’s elite. Border disputes, the construction of transnational railways, the influx of foreigners from the coastal regions, waves of city-bound Indians from *altiplano* communities—these were the more salient effects of the “Great Transformation” underway in the Andes at the start of the 20th century (Sowell 2001). As chapter three shows, the TB debate took on special significance in relation to these transformations, and more particularly in relation to the indigenous peoples they were seen as adversely affecting. In this respect, the concern with tuberculosis was not just about the historicity of the disease in the Andes, but about the “autochthony” of the disease among the Aymara- and Quechua-speaking inhabitants of the *altiplano*, the destruction of whose “natural” way of life was seen as contracting a special

relationship to the Koch bacillus. Cross-cutting these matters, investing them with political urgency, was the emergence of an urban civil bourgeoisie that, with increasing connections to the liberal state, proffered “modern” modalities of discourse, often imported from abroad, as an authoritative way of describing the national territory and its inhabitants and of prescribing new forms of social policy. As chapter three shows, the “epidemiography” of TB that emerged in the late-20th century has its roots in this early about an “indigenous tuberculosis.”

## CHAPTER THREE

### INDIGENIZING TUBERCULOSIS: DISCOURSES OF DERACINATION IN EARLY-20TH CENTURY BOLIVIAN SCIENTIFIC MEDICINE

“I believe that society doesn’t have the right to commit, in the name of the supposed superiority of the white over the *indígena*, a crime of civilization and that it is necessary to protect the health of the Indian, through all the means that today’s science advises, as in our current state of organization it is perhaps the element of greatest utility.”

—Dr. Néstor Morales Villazón, director of Bolivia’s *Instituto Nacional de Bacteriología*, in his address to *Facultad de Medicina*, 1914

“I believe that if, in this country, human action, properly lead, knew how to take advantage of the [nation’s] natural factors, this maximum desideratum could be achieved: to exile tuberculosis from Bolivia.”

—Dr. Jaime Mendoza, *Apuntes de un Médico: Ensayos y Semblanzas*, 1936

As we saw in chapter two, TB and its state-sponsored control became a matter of public concern in Bolivia beginning in the mid-1990s, achieving the status of a national priority only at the start of the new millennium. This came after much public lobbying on the part of the PNCT, and came at a crucial juncture in the history of the nation, the controversial turn to neoliberal policies of state. As the prologue to this chapter suggests, however, this was not the first time that TB had become a matter of public concern in Bolivia, nor was it the first time that TB had become a public concern in a period of liberal state transformation. In fact, a glance backward, from one liberal period to another—from the contemporary neoliberal moment to the formative years in

which liberal modes of statehood were first extended in Bolivia—reveals a prior space of encounter with the disease, one in which, like today, TB came to be both a subject of public anxiety and an object of expert intervention. But then, unlike now, there was no such thing as the PNCT, no such thing as state-sponsored TB control, no such thing, for that matter, as a public health approach to the disease in Bolivia. In fact, as this chapter’s prologue also suggests, it was even questionable whether tuberculosis—the disease, the microbe—existed at all in Bolivia. At the start of the 20th century, these were scientific controversies in their own right.<sup>1</sup> As this chapter shows, the discursive foundations of contemporary Bolivian TB institutions have their origins in these early-20th century scientific controversies. The way in which tuberculosis, an Old World disease, was first “indigenized” in Bolivia, so to speak, how it was first made recognizable and relevant in local orders of collective action—as scientific construct, as medical problem, and as policy target—continues to shape in critical ways the basic discursive horizon that informs and animates contemporary figurations of TB in Bolivia.

By looking at these early-20th century scientific debates about the presence and provenience of TB in Bolivia, we shall see more particularly how national scientists and doctors used the construct of an “indigenous tuberculosis”—a *tuberculosis indigena*—to insinuate their expertise into the institutional interstices of the expanding liberal state. In turn-of-the-century Bolivia, primordialist assumptions about the salutary effects of rural highland lifeways on Indian bodies afforded the easy conclusion that TB was, paradoxically, a disease particular to Indians displaced from their natural way of life. By translating these broader concerns into a bacteriological paradigm, one that privileged the laboratory over the clinic, Bolivian scientists

---

<sup>1</sup> The existence, origins, and epidemiology of *Mycobacterium tb.* in the pre-Conquest and pre-colonial Americas continues to be a scientific debate. See Daniel 2000.

construed their expertise as an obligatory passage point in an ongoing policy debate about state modernization and the fate of Aymara- and Quechua-speaking highland peoples—what was called the “Indian problem” in the language of the day (Zulawski 2000). As I argue in this chapter, the development of Bolivian TB expertise appealed to, at the same time as it transformed, an emerging national imaginary that staked public health risks to the characterological figure of what I call, in shorthand, the *deracinated Indian*: the Indian pushed off his land, drafted into the army and sent to the battlefield, handed a pick-ax and stick of dynamite and taxied underground to work the mines, or, as the century progressed, resettled in poverty to the margins of the nation’s cities. By lending scientific authority to these ethnoracial understandings, by giving them a new point of a focus—the microbe and its differential demographic predilections—Bolivian scientists helped to transform this national imaginary into concrete public policies with long term consequences.

This chapter offers, then, a broader genealogy of contemporary TB control discourse in Bolivia—a genealogy of the “epidemiography” of the relocation narrative explored in chapter two. The structural similarity between the characterological figure of the *deracinated Indian* and the contemporary figure of the *relocalizado*—the relocated miner at the heart of the national TB narratives analyzed in the last chapter—is not coincidental in this respect. Though the concept of an “indigenous tuberculosis” would give way, as the century unfolded, to the notion of TB as an “occupational disease,” the basic link between the disease and the presumed epidemiological consequences of sociospatially-displaced Indians would be preserved, entrenched in the very culture of Bolivian TB control. When contemporary Bolivian health officials and healthworkers try to grasp and articulate the broader cultural significance of TB’s “return” to Bolivia, whether

in theory or practice, whether in science or policy, they do so in a space of discourse historically shaped by these early scientific constructs and thoroughly populated by the characterological figures they project. This is especially the case, as we shall see in this chapter and in part two of the dissertation, when the problems of conducting TB control work in Bolivia's periurban neighborhoods, among the nation's ethnically-marked *cholo* or "urbanized Indian" population, is countenanced. In short, the genealogy offered in this chapter is a genealogy of the "two Bolivias" thought through the lens of biomedicine—under the microscope, as it were.

By providing a genealogy of TB control discourse in Bolivia, this chapter contributes to a broader picture of the historical circuits of translation involved in organizing and routinizing sociotechnical forms in public agencies. The last chapter showed how the PNCT, as an already constituted public agency, went about forging alliances or alignments with other institutional actors by strategically promoting a particular public representation of the current TB epidemic in Bolivia, one in which the PNCT could position itself as a 'primary definer'. National narrative, I argued, was the key discursive modality for performing this kind of translational work. This chapter, by contrast, looks at how the PNCT came into being in the first place. What kinds of communicative competencies and discursive repertoires did early-20th century Bolivian scientists and doctors draw upon to organize and routinize their scientific and medical expertise within the institutional structures of the rapidly expanding state? Here, more than anywhere else in this dissertation, we will be concerned with 'translation' in the special sense developed in the science studies literature, namely, the dialogic processes by which social actors transform the grounds of debate by adding or subtracting actors and entities—nonhuman as much as human—and in doing so reposition themselves within that debate, as irreducible authorities,

spokespersons for those newly-added or subtracted actors and entities (Callon 1999; Latour 1988).

The first half of this chapter examines the way that Morales and his colleagues mobilized the construct of an “indigenous tuberculosis” to irreversibly translate the ongoing debate about TB in Bolivia into a scale of being that their laboratory was particularly well-suited to explore. Curiously, the “indigenous” here referred not to a category of person, but to a “race” of microbe: a new entity. Over time, however, and in a second moment of translation, Morales and his colleagues would borrow ideas from the then emerging science of immunology to extend the denotation of the “indigenous” from the microbe to the person, to the “race” of peoples understood to be “native” to the Andes—thereby adding yet another actor. This second translation afforded the startling conclusion that TB, as a complex immunological phenomenon, had a particular predilection for Indians displaced from their native ways of life—“deracinated Indians”—the new actor, here immunologically-defined. The second part of the chapter then deals with the *unmaking* of the “indigenous tuberculosis”—the subtraction of an actor/entity, as it were—tracing out the course of the disease in and after the devastating Chaco War. The important translation here, the third major translation in this genealogy, involves the emergence of a new form of TB expertise centered on the technical means of radiology and its application to the epidemiology of social collectivities, and committed to a form of public health anchored in occupations—TB as “occupational disease,” as *enfermedad ocupacional*—another new actor/entity. Before turning to this, however, I discuss the broader connections between science and state in Bolivia and Latin America at the start of the 20th century.



*Scientific Medicine and the Liberal  
State in the “Special Period”*

With few exceptions, science in Latin America is considered the periphery of global knowledge production; the tremendous costs of doing basic scientific research would seem to forever relegate regions like Bolivia to the scientific periphery. And yet, as scholars like Marcos Cueto (1989) have argued, this sense of Latin America as ‘scientific periphery’ is at best a mid-20th century construction. In the first half of the 20th century, as scientific institutions were cultivated in the framework of state modernization, Latin American scientists conducted basic experimental and applied research that rivaled research in the centers of scientific advancement. In the fields of bacteriology and physiology especially, “there emerged a creative and not just reproductive capacity, that achieved scientific excellence and enriched the common heritage of international science” (Cueto 1989:186). As Nancy Stepan (1991) reminds us, the field of international eugenics was vigorously taken up in Latin America, where its basic principles were reworked in provocative ways. Likewise, the numerous scientific institutes in Latin America modeled on the Pasteur Institute of Paris (Morales’ INB was one) pioneered research into such fields as tropical medicine and high-altitude physiology. Latin America, in the first half of the 20th century, could be said to be a laboratory at large for both social scientific and biological knowledge production. In fact, it was only with the start of the Cold War, when international disparities in wealth and power became increasingly pronounced and transnational aid agencies like the Rockefeller Foundation, UNESCO, and World Health Organization came to dictate the distribution of (medical) research and development, that the current global division of scientific labor began to take shape—and “homegrown” Latin American science was increasingly peripheralized. That much of the technoscientific infrastructure explored in the rest of this dissertation dates to the

early-20th century—what Cueto calls the “special period” in Latin American science and medicine—should be understood in this light.

Stepan (1976) has argued that what are often regarded as the causes of scientific advancement in Western Europe and North America—industrialization, utilitarian ideology, state modernization—ought to be viewed in Latin America as the consequences of scientific institution-building. Unable to take for granted a public understanding of the utility of science, Latin American doctors and scientists had to promote the very merits of their practices before the state, the only organization capable of funding the research development, but without the benefits of already accomplished local research programs to point to as exemplars of publicly-useful knowledge. Building local scientific institutions required first crafting the discursive fields in which science could be seen as a legitimate public service. More often, this was achieved through the modality of national crisis, and as such the first scientific institutions in Latin America were biomedical in kind, taking up the morbid qualities of population delimited in geopolitical and often, racial terms. The growth of *medicina científica*, “scientific medicine,” enabled regional doctors and scientists to grasp what Winichakul (1994), in another context, has insightfully called the “geo-body” of the nation, in this case with respect to its characteristic pathologies, making the case that modern statehood rested upon knowledge of national territory and the capacities of national population. With the arrival of microbiology in the Andes toward the end of the 19th century, scientific agendas could more concretely be linked to state policy. Hygiene campaigns, e.g., served as an especially effective genre of practice for expanding the dominion of the state over formerly remote regions (Cueto 1989; Stepan 1991). These knowledges were, moreover, inter-regionally construed, each national geo-body elaborated in a

reticulated structure of local pathology—the “national tuberculosis” in Bolivia as similar but etiologically distinct from neighboring national tuberculoses, for instance—local knowledge that formed the basis for myriad interregional scientific and medical congresses.

In the Andes, the growth of scientific medicine coincided the end of the War of the Pacific (1879-1884), which pitted Bolivia and Peru against Chile in a grab for the nitrate-rich Atacama Desert. In Bolivia, like Peru, the loss of the war was attributed to regional disunity and an historic failure of elites to know the national reality: the nation’s territory, resources, and internal distribution of population. In an early echo of today’s “two Bolivias” discourse, nationalists concluded that they “lived in two different countries” with little in common—the highlands of the Andes, the lowlands of the Amazonian and coastal regions. The sentiment was that, “[t]o not fall again into a situation similar to that brought about by the disastrous war, one had to start by recognizing the territory that, from the scientific and empirical point of view, was unknown” (Cueto 1989:56). With the state in shambles, a positive knowledge of local territory was linked to the unification of the national geobody—a necessary condition for regional stability. As a form of authority neither ecclesiastical nor militaristic, the scientific administration of relations was proffered as a more rational way to overcome the profound regionalism of the time, re-founding the Andean states along the liberal political model (*ibid.*; see also Stepan 1991; Vásquez V. 1997). By the start of the 20th century, a secular civil elite emerged in the Andes with a “romantic confidence” in the role that technoscience could play in national development. Science ceased to be the gentlemanly hobby of dilettantes and became an everyday pursuit to which members of an emerging professional class could legitimately devote themselves.

This movement in the Andes paralleled developments elsewhere in Latin America. In Argentina, Brazil, Mexico, and Chile, a “new liberalism” had emerged, reworking classical liberal thought from the perspective of French Positivism, viewing society as a social organism regulated by its own laws of development, with its own national character, a practical knowledge of which was necessary for social progress (Hale 1984). The state was seen as an organization of public powers to be administered rather than governed, an objective best achieved through a “scientific politics” that eschewed abstract, legalistic knowledge for more practical, technocratic knowledge. A secular, centralized, scientifically-guided liberal state was put forth as the “unifying myth” required for national development, given the profound regional factionalism and the vast socioeconomic and ethnoracial heterogeneity of most Latin American countries.

In the Andes, these changes in sociopolitical ideology coincided a more general transformation of productive relations at the turn of the century, as the recovery of mineral prices intensified the breakup of Indian communities and the penetration of the countryside by an urban capitalist class intent on realizing the Bolivarian ideals of a rural “natural economic order”—a European style peasantry built by urban capital. In Bolivia, the consolidation of silver mining interests in Sucre and Potosí after the 1880s promoted temporary political stability, as the mining oligarchy looked to the state, now under control of the Conservative Party, to fund large-scale engineering projects like the electrification of the mines and the construction of railway and communications networks (Klein 1992). When world silver prices collapsed in the 1890s, the national mining infrastructure was quickly adapted to the extraction of tin, based out of Oruro and the Liberal stronghold of La Paz, which soon replaced Sucre as the key “servicing center” for mining. With expanding mining revenues, the Bolivian government no longer had to rely

upon the Indian “head tax” as the primary source of national revenue—the single-most important impediment to the practical realization of liberal rural relations in the republican era. New reforms outlawing corporate landholdings facilitated the rapid breakup of the free Indian *comunidades* and the expansion of the hacienda system. Reform of the banking system enabled the diversification of mining capital into haciendas, creating a class of urban capitalists that controlled large swaths of the *altiplano* and nearby *yungas* valleys. Indians that did not contract as agricultural workers were forced to migrate to the cities, resulting, with the start of the new century, in the nation’s first major wave of rural-to-urban migration (Klein 1963).<sup>2</sup>

Capitalizing on widespread Indian discontent, the Liberal Party ousted the Conservative Party from power in 1899, moving Bolivia’s *de facto* capital from Sucre to La Paz. The “Liberal Revolution” was less a revolution of principles than a change of guard, as Liberals largely shared their predecessor’s commitments to state-driven capitalist development and the destruction of Indian communities. Still, the class of men the Liberal Revolution brought to power differed in certain important respects. Unlike the silver magnates, the new tin barons took a hands-off approach to government, leaving the management of their interests to a new bureaucratic class of *paceño* professionals and civil servants. President Montes, who ruled discontinuously from 1904 to 1920, was a middle-class lawyer and a professor of civil law at the *Universidad de La Paz*, the institution of the bacteriologist Morales. Montes took advantage of the booming tin economy to expand state bureaucracy, reform the banking system, pass hygiene legislation, build new railways, and create a modern electrical and sanitary infrastructure for La Paz (Klein 1992). The undisputed victor of this enormous expansion of commercial and government powers was La

---

<sup>2</sup> As Klein notes, if in the mid-19<sup>th</sup> century there were more than 11,000 free Indian communities in Bolivia, little more than 500 remained by the 1930s. The large haciendas that came to dominate agricultural production in turn created a readily available surplus of cheap seasonal wage-labor for the growing mining economy.

Paz's urban middle-class. By contrast, the conditions of rural Indians dramatically worsened under the Liberals.

If, before the 20th century, knowledge of the nation had been geological and geophysical in kind, the new liberal elites that came to power concerned themselves with a biological and “moral” knowledge of the national territory, mixing geography, ethnography, and archeology with bacteriology, physiology, scientific hygiene, and social psychology (see Cueto 1989 for the parallel case of Peru). New genres of public discourse (e.g., biomedical journals and doctor's chronicles) supported the emergence of medical literati that was not just positivist in outlook, but naturalist. This homegrown “medical naturalism” took as its objective *el hombre Boliviano, en su medio natural*, “the Bolivian man, in his natural environment” (Vásquez V. 1997). As elsewhere in Latin America, the desire to know the nation led to the discovery of the Other within, as a subject to be observed, studied, and in the final instance, reformed, as doctors and scientists “set their sights on ‘the things of the land’ where they encountered the natural ‘muse’ through allegory, the aesthetics of the man of the plateau, of the valley and of the plains in order to construct his natural history, his culture” (ibid.:58). Alcides Arguedas' internationally-acclaimed *Pueblo Enfermo* (1909[1988]) drew on Le Bon's social psychology to “diagnose” the racial character of Bolivia's ethnically-heterogeneous population, portraying the Aymara Indian as “harsh” like the frigid *altiplano*, the Quechua “dreamy” like the idyllic mountain valleys, and the much maligned *cholo* (“urbanized Indian”) that increasingly populated the nation's cities as “sick” and “degenerate.” Medical naturalism intersected with the broader current of Andean *indigenismo*, which since the start of the century had “began to explore the interior world of the Indian” (Larson 2003:190). The twin concepts *raza y medio*, race and environment, became the



**Figure 19**

**Artist's rendition of the Ministry of Public Health and Social Prevision, constructed in the 1930s**

(SOURCE: *Revista de Salud Pública Boliviana* 1992, 52(17))

point of departure for addressing Bolivia's internal Others and their increasingly abject conditions of existence.

In the second decade of the 20th century, as the social transformation of the *altiplano* became more pronounced—rural Indian uprisings continued apace, the ranks of urban Indians swelled—the question of how to integrate the nation's indigenous population into the modernization project became an object of state policy. The “Indian Problem” took the form of a debate about indigenous citizenship, but along the contours of social protections, viz., access to health, education, and land, demands that an increasingly radical and political savvy Indian leadership foisted upon political elites (Zulawski 2000; 2007). Scientists, doctors, and pedagogues took the lead alongside lawyers and politicians in defining the new social agenda. Conservatives argued for the tutelary role that the state should play in “hispanicizing” Indians given their loss of communal lands. Progressives, meanwhile, argued that a land policy

promoting a small propertied Indian class (vs. a wage-laboring yeomanry) might more effectively reverse Indian migration; on the social front, rural hygiene, not hispanicization, was the progressive's panacea to Indian immiseration. But both sides agreed that the proper—and natural—role of Indians in national life was, as the great Bolivian pedagogue Franz Tamayo wrote, “to produce, to produce incessantly in whatever form, be it agricultural or mining labor, rustic manufacturing or manual service in the urban economy” (quoted in Larson 2003:187).

At the same time, the growth of the Latin American eugenics movement began to influence the Bolivian debate about the “Indian Problem.” As Stepan (1991) has shown, Latin American eugenics was unique in its uptake of Lamarckian (vs. Weismannian) theories of the inheritance of acquired genetic traits. Paradoxically, Lamarckism promoted the reformist agendas of Latin American hygienists, holding up the possibility that, through state intervention, “degenerate” populations could be “improved.” In Bolivia, Lamarkism provided, in spirit if not in practice, a scientific base for arguments about raza y medio and the limits of social reform, “explain[ing] how the Indian population had become congenitally degenerate as a result of colonial exploitation [but] also offer[ing] some small hope that under very favorable circumstances, Indians might be changed enough to take on a (debated) role in a modern nation” (Zulawski 2007:25). *Medicina científica*, in this modality, took up the cause of the public's health and well-being, arguing that it was the critical interface for integrating and developing Bolivia, from the highland plateau, to the mountain valleys, tropical lowlands, and dry savannah. The study of “native diseases”—tuberculosis among them—played a particularly formative role in this broader discourse of national development, liberal statehood, and the problem of the Other within.



*Is There an Indigenous  
Tuberculosis?*

In 1906, Bolivia's celebrated hygienist Elías Sagárnaga resisted the idea, growing since the start of the century, that TB had become a problem in Bolivia. "I don't believe sufficient motives exist," he wrote in *Revista Médica*, the journal he edited, "to suddenly stamp the label 'tuberculosis' to all skinny and pale persons and the like" (Luna Orosco E. 1996:59). The hygienist was responding to a flurry of reports published in Bolivian medical journals (his *Revista* included), all observing an alarming trend in the national tuberculosis.<sup>3</sup> Sagárnaga had been director of military sanitation during the 1903 Acre campaign. The "first line" of defense against both "enemy bullets" and the "invisible enemies" (the microbes), he was famous for saying, was a sound geographical knowledge of the field of action (Mendizábal Lozano 1995:177). In his influential *Tratado Elemental de Higiene Militar* (1908), Sagárnaga constructed a "medical geography" of Bolivia, mapping out each region of the country in terms of the differential clinical interactions of the soldier's organism with the local environ (Costa Ardúz 2000). With respect to TB, Sagárnaga retorted that Bolivian doctors, in their haste to diagnose a growing problem, failed to appreciate the influence of regional geography. "[T]uberculosis owing to the Koch bacillus is endemic in almost all the countries of the hemisphere," his *Tratado Elemental de Higiene Militar* explained, "except for Bolivia, where isolated cases are observed only in foreigners coming to the country" (quoted in Arteaga Cabrera 1996:7). For Sagárnaga, TB could be excluded from the purview of the national medical

---

<sup>3</sup> One colleague—the proximal target of Sagárnaga's 1906 critique—had chastised his fellow medical men for their myopia with regard TB in Bolivia, "that devastating scourge, that I have encountered in my private practice [...] in an abundance all the more astonishing since until the present no one preceding me called attention to it" (quoted in Balcázar 1956:485).

geography as the majority of tuberculars were foreigners who came to Bolivia for its high altitude.

*Foreign matters: The early debate*

The idea that TB was foreign to Bolivia and that its development was effectively neutralized by the salutary effects of high altitude dated back to the work of Jaime Mendoza, the source of the TB controversy. The first scientific study of TB in Bolivia, Mendoza's 1901 thesis *La Tuberculosis en Sucre* had been elaborated in the framework of Sagárnaga's medical geography. Mendoza had been a student at the *Instituto Médico Sucre*, where he studied under Sagárnaga's predecessor. As the 20th century unfolded, Mendoza would emerge as the leader of Bolivia's new medical literati, an accomplished novelist and essayist as well as doctor and scientist. In the 1930s, he would found the *Geografía Médica Boliviana*, a doctor's society devoted to the principles of *geomedicina*, study of "the differential dispersion of morbid characteristics in the world, originating as much in the investigation of their causal factors and the knowledge of the physical and biological medium of the terrestrial surface as in the bio-conditions of the habitat" (Gamarra Durana 1998). Bolivia could be categorized into three objects of investigation, each with its "characteristic regional pathologies": the high-plains (*altiplanicie*), the Eastern mountain range (*cordillera oriental*), and the Eastern plains (*llanura oriental*). The pathologies of the high-plains were, for instance, rickets, streptococcus, tetanus, syphilis, gonorrhoea and, of course, TB, though each, he argued, was effectively neutralized by high-altitude. "[T]o the climatic prescription"—Mendoza's gloss for tropical medicine—"can be

overlaid the medico-geographic prescription, saying of the High Plateau: *tierra sana*” (Mendoza 1936c:19).<sup>4</sup>

In his 1901 thesis, Mendoza concluded that Sucre’s dry climate and alpine altitude inhibited the development of TB (see Balcázar 1956). Mendoza had read the recent work of the Swiss doctor Jaccoud on the effects of altitude, temperature, and solar radiation on TB and reckoned Sucre, at 2,750 meters above sea level, would be ideal to test the hypothesis. After collecting the relevant climatological evidence—measurements of barometric pressure, temperature, winds, and rainfall—Mendoza “plott[ed] lines, valleys, mountain peaks, in relation to the hours of the day and with reference to the march of the disease or to its treatment;” to grasp “the movement of the disease in the civil population,” he conducted interviews with regional doctors and notables (Mendoza 1936a:76). Like Sagárnaga, Mendoza took a measured approach to the TB of his hometown. He confirmed what had been observed by *empíricos* (non-degreed healers) since at least the 1870s: that tuberculosis presented in the highlands “in analogous conditions to that of more favorable *pueblos*.” At the same time, he downplayed his confirmation by arguing that the Andes, and Sucre in particular, formed a “natural prophylaxis” to the spread of the disease.

But critics emerged soon after the publication of Mendoza’s thesis. A doctor from La Paz warned that TB “develops perfectly” in Bolivia; “It is not evident that tuberculosis spares us, owing to our topography, climatology and altitude, an idea that allowed us to live without worry” (quoted in Balcázar 1956:485). Sucre too joined the debate: “In the years 1899 and 1900,” one doctor observed, “[...] death by tuberculosis was rare. It was believed that the climate

---

<sup>4</sup> This because alpine altitude counteracted tropical latitude. Mendoza: “[B]oth characteristics neutralize one another since each ten meters of altitude above sea level counts for a degree of advance toward the polar circle.”

of Sucre, its altitude and the conjunction of the peculiar condition of the city, were little hospital to this affliction. Then, afterwards, the number went about progressing” (quoted in *ibid.*:260). At issue was not just Mendoza’s view of the salutary effects of Sucre’s environs on the disease’s development, but the very idea that geographical (and demographic) factors could have effects. “The frequency of the illness results independently of the climate, of the latitude and of the altitude above sea level,” wrote another, “[...]the Koch bacillus does not respect climate, altitude, age, or sex [...] morbidity, as well as mortality owing to tuberculosis has started to increase” (quoted in *ibid.*:485).

While none of these critics offered as eloquent an analysis as Mendoza, they sharpened the theoretical stakes of the growing controversy: TB either was or wasn’t found in the diverse regions of Bolivia; its effects either were or weren’t checked by the region’s peculiar climes. Up to this point, the debate centered on clinical research into regional environmental difference, most of it anecdotal. Insofar as TB existed in the Andes—that is, was detected by elite doctors catering to mostly elite patients—it presented among urban whites and *mestizos-criollos*, almost all of foreign extraction. Missing from the early debate were two things. First, the extent of TB among the Bolivia’s majoritarian indigenous population was unknown, had never been considered; the “national tuberculosis” had yet to be linked to the “Indian problem.” Second, the Koch bacillus itself had yet to surface in the debate, at least in explicit experimental terms. Despite calls to privilege the “seed” over the “soil” in the locally-accepted etiology—to use the terms of the time—the actual action of the microbe in and out of its human medium remained unexplored territory, a consideration for foreign scientists. Tuberculosis was a foremost a foreign matter. A national TB policy was gratuitous, at best an issue for the nation’s soldiering

population stationed in the ports of the Pacific. If anything, Bolivia should pursue a policy encouraging tuberculars from neighboring countries to seek an alpine cure. Mendoza seems to have had Sucre in mind as the perfect location for a new TB sanatorium:

Indeed, there was no doubting myself. Sucre, with its climate of singular qualities, in the face of a disease like tuberculosis, was calling out to occupy a place of maximum importance in the world in combating the disease, even in its most advanced stages and said to be entirely incurable in other countries.<sup>5</sup> (Mendoza 1936a:75)

This would soon change. In 1908, Aniceto Solares, who would later help found Bolivia's TB vaccination (BCG) program, pushed the controversy into broader public consciousness with an article entitled, straightforwardly, "Tuberculosis advances," in which he claimed to be treating new patients daily—Bolivian nationals—and in which he called for a broader investigation into the matter (Mendizábal Lozano 1996:34). Solares' article evidently resonated with his fellow doctors and scientists, those from La Paz in especial. Trained in bacteriology and armed with laboratories, a cadre of young, ambitious *paceños* soon entered the fray, only to reframe—and re-scale—the "national tuberculosis" in radical, new ways.

### *The médico and the científico*

One of those who responded to Solares' call was Néstor Morales Villazón. Morales was appointed lecturer at the *Universidad de La Paz* in 1903, having received his medical degree from that institution the year prior. In 1905, he traveled abroad for advanced training in pediatrics and microbiology at the Pasteur Institute in Paris, at the time pioneering research into TB among newborns (Costa Ardúz 1996). This kind of foreign training was not uncommon in

---

<sup>5</sup> To be sure, TB sanatoria had existed in the Andean foothills since at least the 17th century, in Peru and Argentina. See Luna Orosco 1996.

turn-of-the-century Latin America. The rise of international commerce toward the end of the 19th century facilitated the circulation of progressive doctors from countries like Argentina, Brazil, and Mexico to the centers of European science, to learn the basics of microbiology in the hopes of returning home to found bacteriology laboratories. In this way the network of Pasteur Institutes had spread across the globe, outposts of a scientific empire promising to rid entire continents of “tropical diseases” and the like. In Latin America, the most renowned was the Serum Therapy Institute in Rio de Janeiro, founded by the Brazilian doctor and scientist Oswaldo Cruz, whose laboratory famously curbed the yellow fever epidemics that threatened the city at the start of the century (Stepan 1976). A cult figure in Latin American scientific circles, Morales almost certainly had Cruz in mind when he set off to Europe.

Morales’ training traces out a broader shift in early-20th century Latin America in which the *científico* displaced the *médico* in the hierarchy of knowledge production. As Stepan (1991) reminds us, the *médico* was more the product of an elite, humanistic education than a technical, scientific training—akin to the recipient of a liberal arts degree in the contemporary United States. In 19th century Bolivia, the *médico* embodied, in a secular capacity, the Christian virtue of “charity” (Hurtado Gómez 2002). The calling proper to elites, the virtuousness of the physician translated seamlessly into the charisma and paternalism of the statesman; many 19th century politicians were also *médicos*. The *científico*, on the other hand, was a professional aligned with social reform and the emerging possibilities of the new century. In Bolivia, and especially La Paz—the heart of the new liberalism—the scientific career was a novel means of

social advancement for the urban middle-classes.<sup>6</sup> Subsidized by the expanding export economy and bolstered by a growing commitment to “Pan-Americanism” (the Pan American Health Organization, PAHO, had been founded in 1902), the *científico* was the growth edge of a newfound and increasingly technocratic cosmopolitanism in Bolivia.

Upon returning to Bolivia in 1910, Morales founded the *Instituto Nacional de Bacteriología* in La Paz. With bench space in the *Facultad de Medicina*, the new laboratory set about analyzing the city’s potable waters, which Morales determined to be of “questionable purity,” a matter that stirred up considerable interest in the local media and led to new guidelines for water provisioning (Guerra Mercado 2001). While the INB was not the first bacteriology laboratory in Bolivia—a laboratory dedicated to the production of smallpox vaccine had operated in Sucre since the end of the 19th century—it was the first specifically experimental facility. Modeled on the Pasteur Institute, emphasis was on bacteriologically-driven public health and policy prescription rather than “the clinic” (Guerra Mercado 1998). In 1912, Morales founded the *Revista de Bacteriología e Higiene* (henceforth RBH). Unlike Sagárnaga’s *Revista*, which it replaced, Morales’ journal was dedicated to empirically-based “scientific journalism” with policy implications (Zulawski 2007). The back cover of the journal laid out its mission:

Suggestions of the press regarding questions of sanitation and hygiene will be given preferential attention. It is suggested that the political authorities of the different departments notify [the editor] of the epidemics that could develop in their respective circumstances so as to bring them to the attention of the Supreme Government and manage the deployment of medical auxiliaries. (Mendizábal Lozano 1995:181)

---

<sup>6</sup> In part, this was an effect of the professionalization of medicine at the end of the 19th century. On the one hand, the War of the Pacific revealed the ineptitude of national medical institutions—largely unchanged since the founding of the Republic—to deal with concrete problems. On the other hand, there was a growing fear that little distinguished the *médico* from popular healers and “charlatans” of all sorts (*curanderos, yatiris, naturistas, empíricos* and so forth). In fact, it was with the objective of modernizing medical training that the *Instituto Médico Sucre* had been established in 1895 (Hurtado Gómez 2002; Vásquez Luna 1999).

The INB had disproportionately benefited from the reform of the national health system under the Montes administration. (With the collapse of the regime in the 1920s, Morales would likewise suffer the consequences, stripped of authority and exiled to Argentina.) New laws had centralized public health authority in newly-minted government agencies with broad powers to oversee sanitation, hygiene, and public assistance programs as well as the formation of the medical professions (Mendizábal Lozano 1995). The La Paz *Facultad de Medicina*, for which Morales served as dean beginning in 1910, had beat out the more established *Instituto Médico Sucre* to become the *de facto* seat of the new authority. *Paceño* doctors and scientists successfully argued that La Paz, at 3,600 meters above sea level, was better suited to scientifically exploit Bolivia's national asset—altitude—facilitating the accumulation of internationally-relevant biomedical knowledge (Hurtado Gómez 2001). Shrewdly, Morales positioned his laboratory at the center of the Liberal regime's "healthy and patriotic" project to create a "national medical body." As Morales argued, the INB would "forever constitute a new link in the chain that serves to unite the professions in all the country" (Morales Villazón 1916c).

Ann Zulawski (2000; 2007) has called attention to how 20th century Bolivian medical science was shaped by the growing rivalry between Sucre and La Paz, and more particularly, by the clash between Mendoza and Morales and their respective institutions and ideologies. An episode from their lifetime rivalry is instructive here. One of the early triumphs of Morales' INB was to contain an outbreak of typhoid on the *altiplano* through the therapeutic use of a vaccine developed by the Institute. The idea of "vaccine-therapy" (*vacunoterapia*) was to strategically inoculate the population of an epidemic-ridden area, viz., after the original spread of infection. Morales argued that these measures were especially appropriate for the rural indigenous



population, the target of the outbreak. On the one hand, the lack of a “hygienic disposition” among Indians foreclosed the possibility of a broader hygiene campaign (with vacuno-therapy, all that was required was a series of injections).<sup>7</sup> On the other hand, state-sponsored vaccination would serve as a symbol of the Liberal administration’s good will in a time of widespread Indian discontent.<sup>8</sup> When measures were developed to extend obligatory typhoid vaccination to Bolivia’s primary schools, however, Jaime Mendoza publicly lampooned the INB’s vaccine. According to Mendoza, baths with cold water gave better results.<sup>9</sup> An accompanying editorial furthered the assault, claiming that “those inoculated with the Bolivian anti-typhoid vaccine are more exposed than those not inoculated to contract typhoid fever.”<sup>10</sup> Morales and his students responded from La Paz, accusing Mendoza and his colleagues of envy: “[S]ince the world began,” Morales publicly charged, “there have always been enemies of the truth, that feel true choleric shudders when others realize what they cannot attain.”<sup>11</sup>

---

<sup>7</sup> Morales: “In Bolivia more than anywhere else it was essential to look for methods to prevent typhoid given ... the special conditions of the Indian, his unique psychology, his horror of any hygienic measures that oblige him to change his habitual mode of existence” (quoted in Zulawski 2007:41).

<sup>8</sup> Morales: “The miserable indigenes, accustomed to carrying only the most difficult part of social obligations, without anyone ever having thought of improving their sad conditions nor alleviating their pain, must have felt happy to see that the Supreme Government has seen fit to make such an effort to improve their humble condition. Perhaps for the first time in the existence of the Republic, the Indians of Curaguara have benefited from the attention of the government and the advances of science” (quoted in Zulawski 2007 42).

<sup>9</sup> “The anti-typhoid vaccine is still not a medical resource whose benefits have been authoritatively demonstrated [...] [It] is scarcely an agent in study. It is an agent frequently inexact and sometimes dangerous. In order to count on some security of success as a preventative [measure], [one] has to repeat the injections various times over several days [...] As for curative results, without negating that this method has produced numerous treatment successes, [one] has to say that it is not superior to various other simpler resources of relatively ancient use.” (Jaime Mendoza, “Sobre la vacunación antitífica,” *La Mañana*, June 8, 1918). The news article, along with others, was reproduced by Morales in the 1917-1918 Informe of the *Instituto Nacional de Bacteriología* to the Ministry of Government (in the bibliography as: Morales Villazón 1919). I am working from the latter reproduction.

<sup>10</sup> Editorial, “La epidemia de fiebre tifoidea.—Justa alarma de la población. La vacunación antitífica es contraproducente,” *La Mañana*, June 8, 1918. Also reproduced in Morales Villazón 1919.

<sup>11</sup> Néstor Morales Villazón, “La vacuna antitífica y la campaña de un diario,” *El Tiempo*, June 19, 1918. Also reproduced in Morales Villazón 1919.

In some sense, the broader antipathy between Mendoza and Morales could be understood along the lines of the emerging distinction between the *médico* and the *científico*. A student of Morales insinuated as much when he defended the INB's vaccine against the "insidious campaign provoked by a doctor of medicine, disinherited of opinion in the field of bacteriology, sustaining with uncommon arrogance the inconvenience of putting into practice the most modern arm that current medicine possesses against typhoid fever (*dotienenteria*)" (see Orihuela 1918:1266).<sup>12</sup> But the heart of the matter likely had more to do with differing conceptions of scientific medicine itself. Mendoza, for his part, remained critical of the positivistic pretensions of Bolivian scientists. For Mendoza, the *médico* was the "moral conscience" of society; it was incumbent upon the physician to immerse himself in the "misery" of the people, a misery at once biological, psychological, and social (Gamarra Durana 1998). He was a socialist, and the figure of the doctor, as the exemplar of "modern rational man", was the hero of social progress (Zulawski 2000). Mendoza's disdain of Morales' vacuno-therapy was embedded in his social project; "prophylaxis" of Indians might attenuate an epidemic, but never resolve the epidemic's ultimate source: the oppressive conditions in which Indian's lived. The real problem was "Indianness," an impediment to the formation of class-consciousness. True social progress, for Mendoza, lie in the proletarianization of Bolivia's indigenous peoples.

Morales, by contrast, placed his eggs in the basket of strategic bacteriological interventions. "[Improving the situation of the Indian population]," he wrote, "would require, besides too much time—the element par excellence for this type of social transformation— money in abundance which, unfortunately, Bolivia lacks for even more urgent

---

<sup>12</sup> Néstor Orihuela, "La epidemia de fiebre tifoidea.—Justa alarma de la población. La vacunación antitífica es contraproducente," *La Mañana*, June 8, 1918. Also reproduced in Morales Villazón 1919.

necessities” (quoted in Zulawski 2000:39). If Mendoza, the *médico*, saw little future for Bolivia’s indigenous population—and accordingly, for a medical science constituted around such backward-looking constructs—Morales viewed the “indigenous race” as a semi-permanent fixture of liberal science, medicine, and politics. The *científica*, armed with the laboratory, had a very special role to play in addressing the nation’s “Indian problem,” a core assumption that ran throughout his TB work.

*First translation: Indigenizing the bacillus*

In 1912, Morales was selected to represent Bolivia to the 15th Congress of Hygiene and Demography in Washington. For his presentation, he chose TB, a subject he had been experimenting with at the INB. Like Mendoza, Morales used the biophysical implications of high-altitude as the independent variable of his research. But here he translated Mendoza’s arguments more directly into the terms of the Koch bacillus, and as such, the methods of his laboratory. His paper, *La tuberculosis experimental en las grandes alturas* (“Experimental tuberculosis at high altitudes”), maintains a curious, pluralist theory of the national tuberculosis. Morales bacteriologically confirmed the existence of TB in Bolivia—but here one had to be careful: there were two kinds of TB in Bolivia, a “foreign tuberculosis” and an “indigenous tuberculosis,” the latter perilously more pathogenic than the former. The foreign tuberculosis was found among Peruvians and Chileans, among tuberculars who took advantage of the new transnational railways to migrate to Bolivia, “attracted by the beauty of the climate and the salutary effects of the altitude” (Morales Villazón 1913:140). This was the argument, to recall, that Sagárnaga had used to negate the existence of a homegrown, autochthonous TB. But

Morales subsumed and reversed the argument by distinguishing an indigenous tuberculosis, which—he argued—“manifested a particular predilection for the indigenous race, in which it presents itself with more frequency than in the white or *mestizo* [race]” (ibid.).

It is important to see that the “indigenous tuberculosis” was not, at this point in Morales’ work, distinguished with respect to the racial characteristics of Indians. Its specificity, rather, lay in the internal variation of the bacillus itself, in the virulence of the “race” of the microbe, as it were. When imported to the highlands, the virulence of foreign sea-level bacillus was attenuated; the “native” bacillus, on the other hand, had already acclimatized, forming a race of microbe with unique properties. To prove this, Morales had samples of the Koch bacillus sent from laboratories abroad and compared their performance in guinea pigs to samples collected in La Paz. Animals inoculated with the foreign bacilli, he reported, made rapid recoveries; those inoculated with the native bacillus developed mortal infections. Morales concluded before his Washington audience:

I have said that the imported tuberculosis cures itself in this highland climate; I have said also that the indigenous tuberculosis has an essentially serious development. Translating this in other words, we can say that the non-acclimatized bacillus dies and that the bacillus that has taken up among [our] citizenry is eminently frightful for its exceptional virulence. (Morales Villazón 1913:143)

This is a startling, if self-serving conclusion. Morales was maintaining that it was not the climatological effects of high altitude on the body of the human, but the effects of altitude on the bacillus more directly. Moreover, his experiments suggested that the attenuation of the pathological properties of the microbe at altitude could be reversed over time, via acclimatization. Significantly, this was a scale of being inaccessible to the clinician but discoverable by the experimental means of the microbiologist: had Mendoza had access to a

laboratory, he would have found, as Morales purported to show, that the seeming straightforward links between climate, geography, and TB's clinical pathology involved a more complex mediation—that the benefits of altitude obtained only in certain circumstances, determined in the first instance by the provenience and natural history of the bacillus itself.

By maintaining a pluralist theory of the national tuberculosis, then, Morales was completely redirecting the debate, finding a middle ground between Mendoza and his critics, populating it with the Koch bacillus and its internal “racial” variations. Doctors who argued that TB was increasing in Bolivia—that its clinical development progressed unchecked by environment—were correct insofar as they were describing the indigenous tuberculosis. Doctors like Mendoza who espoused the salutary effects of climate on TB's clinical development were also correct—only they were describing the foreign tuberculosis of sanatorium-seeking immigrants, “flatlanders” as Thomas Mann would aptly call them. The implication of the argument was unequivocal: medicine needed microbiology. The INB, with its privileged access to the Koch bacillus, was the obligatory passage point for unraveling the complexities of Bolivia's tuberculosis problem.

To Morales' audience in Washington—and to his readership back in Bolivia—talk of an “indigenous race” of microbe was perhaps not as strange or jarring as it sounds today. In his work, Morales alternated between the terms *indígena* and *indigene* in describing both the microscopic and the human. The reference was vegetal, if anything, referring the flora and fauna “native” to a region; the microbe fit the paradigm as easily as the human. (In fact, the word “indigenous” did not come into common currency for categories of person until later in the 20th century, see Geslin & Hertz 2005.) In this respect, the foreign bacillus' lack of viability in the

Andes required little explanation: “As happens with all organisms that are not in their true environment (*su verdadera medio*), reproduction is nullified” (Morales Villazón 1913:143).

But if the inverse was true for the indigenous bacillus, this opened up a troubling paradox at the center of Morales’ 1912 paper. Throughout his career Morales held fast to the idea that TB had not existed in the New World prior to the Spanish Conquest; that, to the contrary, its presence in the Andes dating no earlier than the 1880s. So if the Koch bacillus was not, in the end, autochthonous to the region, if its tenure in the highlands had a history of less than 30 years, in what sense could it be said to be “indigenous”? At first blush, this appeared to be a question for microbiology, turning on the processes of acclimatization. But in fact Morales remained vague, shrouding himself in the ambivalence of his technical term, *tuberculosis indigena*—for Morales was indeed arguing that the indigenous tuberculosis was a problem particular to indigenous persons. Thus, was the exceptionally-virulent Koch bacillus itself “indigenous,” as he seemed to be suggesting? Or did its indigeneity owe more precisely to the microbe’s “predilection” for a specific category of person—the true “natives” of the Andes, the Aymara and Quechua Indians—not incidentally a growing topic in turn-of-the-century Bolivian proto-ethnography?

At this point Morales’ TB work seemed to link up with the eugenics movement gathering steam in Latin America—introducing race into the debate was an easy invitation to ready-made arguments about TB and acquired racial degeneration. Morales’ prized student at the INB, Néstor Orihuela, had in fact started working in this direction, importing Renón’s concept of the “social disease” (*enfermedad social*) in a series of articles published in the RBH. According to Orihuela, if left unchecked, the indigenous tuberculosis would “lead by firm and certain step toward

degeneration, as much physical as moral and consequently, [to] racial inferiority,” this for the Bolivian “social organism” in its totality (1914[1989]:ii). In his 1914 address to the *Facultad*, Morales too had flirted with the idea, asking provocatively, “Is tuberculosis hereditary?” But here Morales was affecting a subtle shift in the grounds of the argument. Citing recent research from Cruz’s Institute in Rio de Janeiro, he argued that the theory of TB through inheritance should be replaced by “the theory of the tuberculizable soil (*terreno tuberculizable*),” recalling the dictum “one is born tuberculizable, not tubercular.” In this respect, the “indigenous tuberculosis” had little to do with a native microbe. It was the race of the human—race, viewed as a repository of factors conditioning susceptibilities—that accounted for observed differences in the disease’s frequencies among Indians and non-Indians, a proposition that opened up, rather than foreclosed, the possibility of further research.

*Second translation: Pathologizing the cholo*

The grand synthesis of Morales’ research on TB came in a 1916 paper he presented to the Second Pan-American Scientific Congress, also held in Washington. His work, *La tuberculosis en Bolivia: Su etiología y profilaxis*, was published in two parts in the consecutive issues of the RBH (1916a; b). According to the medical historian Costa Ardúz, this work “offers a highly reliable and condensed picture of the opinions in circulation in the years of the second decade [of the 20th century] precisely the period in which the article’s diffusion had links with the political history generated by the hegemonic thoughts of those days” (1996:118). Of all the works produced on TB in Bolivia before 1925, this one “conformed to the general vision of the epidemiological problem.” But perhaps it is more accurate to say that the vision promoted by

Morales in this article became the authoritative representation of TB in Bolivia. Its importance lie not so much in having succinctly articulated a general opinion as in having successfully translated the debate into terms that encompassed the work of prior participants, from military hygienists, to clinical practitioners, pathologists, and experimentalists.

To be sure, the article's success did not owe simply to its research merits. The years after 1916 were boom years for the INB. Montes had returned to the presidency in 1913 for a second term, and by 1917 an upturn in global metals' prices restored support for his government (Klein 1992). The prestige of Morales' laboratory grew under the new administration. The INB started to receive a fixed allocation of the national budget, the technical capacity of the lab was updated and expanded, and in 1919, Morales negotiated the construction of a new facility for the Institute. The war in Europe, meanwhile, was everyday revealing the importance of bacteriology for the emerging military-industrial complex, a fact that Morales masterfully exploited, linking microbiology to the modern nation and its military might. Opportunistically, Morales renamed INB after his political patron, President Montes (Fig. 20).<sup>13</sup> That Morales' 1916 TB article was addressed to an audience beyond Bolivia's national borders—the second in a series of specifically “Pan-American” scientific congresses—further enhanced his prestige at home. Morales' participation in the conference, like the INB more broadly, became a point of pride that local scientists and doctors, politicians and policymakers could single out as a unique contribution of the new Bolivia to Pan-Americanism and “Latinity”.

---

<sup>13</sup> Presiding over the new institute's inauguration, Montes's Minister of Government pronounced, “The work of the *Instituto Nacional de Bacteriología* is absolutely national. To help those that envelop themselves in the silence of the laboratory is to work for the prestige of the entire country (quoted in Morales Gúzman 1989:9).”





**Figure 20. Plans for the Instituto Nacional de Bacteriología “Montes,” 1919**

(SOURCE: *Crónica Aguda*, 1989)

The first part of *La tuberculosis en Bolivia* takes up the “origins of tuberculosis on the Andean altiplano,” elaborating in more detail Morales’ thesis that TB arrived in the New World in the wake of the Conquest. The article begins, however, with a defense of the “unitary” (*unicista*) theory of tuberculosis—the theory, still controversial at the time, that the Koch bacillus was TB’s sole causal agent. The Spanish bacteriologist Jaime Ferrán, a contemporary of Koch, had influentially argued that the relationship between TB’s clinical manifestation and its microbial origin remained underdetermined. Morales challenged Ferrán’s research, but in doing so, adopted its critical insights. While Morales’ engagement with Ferrán may seem a diversion from his more limited concern with the origins of TB in the Andes, in fact it forms an important basis for that argumentation. Morales had been at the Pasteur Institute in Paris at the precise time that the revolutionary work of scientists like Virchow and Metchnikoff

began to challenge the “bacillocentric” precepts of Pasteur and Koch (Morales Gúzman 1989), injecting new concepts like organic immunity and cellular pathology into received etiologies. (Metchnikoff had received a Nobel Prize in 1908 for his pioneering work on phagocytosis, the basis of immunology.) Ferrán had approached TB from this new perspective, pushing bacteriologists to consider the role of the body’s “organic resistance” in the development of the disease. Reworking Bolivian bacteriology through these new immunological concepts, Morales was able to articulate his discussion of TB’s Andean origins to the contemporary problem of the indigenous tuberculosis, and as such, to effective policy measures, the theme of part two of his paper.

According to Ferrán, TB was best understood as a general immune response provoked by the presence of a class of “saprophytic” bacteria (bacteria that feed on the body’s detritus) which, through interaction with the animal organism, had developed the characteristic of acid-resistance. Since the mid-1880s, the peculiar capacity of the Koch bacillus to resist exposure to acid had been the basis of its identification in the laboratory. But Ferrán purported to have isolated a family of bacteria that likewise produced tubercles in experimental animals, only wasn’t acid-resistant. This confirmed, he argued, that the Koch bacillus was not the unitary cause of TB, but merely a descendent of this broader class of “tuberculogenic” saprophytes (baptized the “Ferrán bacilli,” by Ferrán). Morales challenged Ferrán’s results in his 1916 article. His own benchwork, he insisted, showed that resistance to acid is a characteristic acquired within the life-cycle of the Koch bacillus, not across generations. The lack of acid-resistance could not be the sole rubric for denying the unitary theory: Ferrán could have mistakenly inoculated his animals with the Koch bacillus in its non-resistant stage. As for the other members of Ferrán’s class of tuberculogenic

bacteria, Morales speculated that repeated inoculations “played the role of facilitating cause, awakening a latent bacterial process” (1916a:852)—namely, the action of a dormant Koch bacillus.

Morales did not, however, have substantial disagreements with Ferrán’s broader critique of TB’s dominant etiology. In Ferrán’s work TB was redefined as a “clinical complex” involving both a microbial agent and an immune response to it, both of which had to be separately understood by the bacteriologist.<sup>14</sup> In essence, TB was the weakened bodily state brought about by hyperactive erythrophagocytosis (the consumption of attenuated red blood cells, erythrocytes, by the body’s own phagocytes, in this case erythrophages)—a more general immune response only partially attributable to the invading microbe, but with links to the pathways of “senescence” by which the body brought about its own “natural death.” Between the microbe and TB’s clinical manifestation now stood the newfound world of the immune system: the microscopic stuff of red blood cells, lymph, antibodies, macrophages, and the mysterious matrix of the body’s serum.

As editor of the RBH, Morales devoted considerable space to articles reviewing the new concepts of immunology propounded by scientists like Ferrán and Metchnikoff. An article by Orihuela, for example, sought to clarify what was at stake in Ferrán’s revolutionary approach to TB. “The simplicity of the explication that used to be accepted before, with respect to the manner of engendering the tubercle,” wrote Orihuela, “has been totally revised and it is possible that today, thanks to Ferrán, we are in possession of the real thing (*lo evidente*)” (1920:2011).

---

<sup>14</sup> Morales quoted Ferrán at length: “Spontaneous tuberculosis almost always begins with a slow and silent chemical labor, provoked by a bacterial toxin that localizes its effects in the erythrocytes leaving the lymphatic network. The red globules become modified so as to appear more sensitive and to succumb more or less readily to the destructive actions of the visceral erythrophages (*eritrófagos viscerales*)” (1916a:852).

According to Orihuela, Ferrán's contribution to TB research could be summarized in two propositions, each a further blow to clinic medicine. First, "tuberculosis begins much earlier than its discovery." The transformations of the body's viscera that formed the core of clinical diagnosis did not correspond to the disease's onset but to an advanced stage in its development—"the clinic" always arrived late, as it were. Second, the bacillus found in the tubercular lesion was not in actuality the cause of the disease, but better understood as a consequence of the disease's development. TB proper was the degenerative process leading up to the microbe's "habituation" to the body's immune system. Or, as Orihuela explained it: "the constant struggle between cells and the bacteria facilitate an immunization whose advantage is the bacillus', since having passed through the successive phases of evolution it arrives at acid-resistance, which assures its persistence, [capable of] withstanding attacks by antibodies" (1920:2012). The failure of bacteriologists to develop an effective vaccine against TB owed to this fact. Like the weakened body of the tubercular, the virulent Koch bacillus was the end-point of a progressive immunological interaction. "Tuberculosis" was in reality a contest of immunities: the bacillus versus the animal in a struggle to determine which would habituate itself to the other first.<sup>15</sup>

With this complex understanding of TB's immunological origins Morales set about analyzing Bolivia's "indigenous tuberculosis." Here, Bolivia's proto-ethnographic tradition came in handy. That TB "was completely rare or totally unknown" in pre-Columbian times was demonstrated, for Morales, by comparing the current native "way of life" to the conditions favorable for TB's development (assuming, of course, that one ignored differences between the

---

<sup>15</sup> The upshot of Ferrán's work—of particular interest to Morales, a practicing pediatrician—was that effective prophylaxis could occur in a child's youth, before the bacillus acquired resistance to its human host. In fact, Ferrán went on to develop his own prophylactic vaccine for newborns, independent of the better known Calmette-Guerin (BCG) vaccine.

lifeways of contemporary indigenous communities and their pre-Conquest progenitors—presuming, that is, that Indian communities were essentially static, as Morales unequivocally did). Pathology and scientific hygiene, for instance, had shown that the healthy human thorax required a certain minima of fresh air and nourishment. By Morales calculations, the quantity of fresh air available to the “primitive inhabitants” of the altiplano exceeded the hygienists’ recommendations by a magnitude of more than fifty. Proto-ethnography showed, moreover, that Indians only used their homes for sleep, spending most of their time in the fields, and that traditional highland agriculture was exceptional in its nutritional content. Proto-ethnography often remarked on the superior lung capacity of native highlanders. Laying the ground for the mid-century development of high-altitude biology in the Andes (Cueto 1989), Morales rendered data on lung capacity in microbiological terms. By his own measurements, the “thoracic perimeter” of the highland Indian was six to seven centimeters larger than the average human. This extra lung capacity translated into an elevated count of red blood globules (*glóbulos rojos*). Metchnikoff and his colleagues had found that humans dwelling at sea-level had on average 5 million globules per cubic millimeter of blood; research at the INB showed that Indians had on average 6,498,585 globules per cubic millimeter, an advantage of nearly 1.5 million globules.

Thus, from the combined perspective of pathology, physiology, bacteriology, hygiene, and proto-ethnography, Morales concluded, “the American race, and especially that of the *altiplano*, offered from the first moment [...] a high [level] of organic resistance.” “Along with civilization, the Spanish that came to the Americas brought with them various diseases, but the action of the climate, [and] the natural globular defenses of the race, ensured that these morbid entities propagated very little” (1916a:860). It was the vicissitudes of colonialism and the

destruction of Indian communities in the 18th and 19th century, then, which finally broke the natural immunity of the indigenous race to the Koch bacillus, becoming visible only after the 1880s. In the first instance, it was the resettlement of Indians to Spanish-style towns (*reducciones*). “[L]ike most Spanish settlements,” Morales wrote, the new Andean urbanizations were “insalubrious in all respects,” with narrow, sewer-less streets crowded by houses with tight corridors, low ceilings, and small doors and windows, preventing access to sunlight and ventilation. In the second instance, the *pongueaje* obligations imposed upon Indians create a circuit of misery along which the bacillus could travel. “[I]t is thus easy to suppose,” Morales concluded, “that the Quechua and Aymara, far from their habitual environment (*medio habitual*), offered a readily vulnerable terrain” for the development of tuberculosis (1916a:861).

This was not merely a “virgin soil” hypothesis. Rather, for Morales, the Indian way of life in itself guaranteed health. Reckoned in terms of organic immunity, health was the outcome of an historic harmony between culture, biology, and environment, what taken together comprised the deep continuity of race. It was the fit between the Indian, as a racial grouping, and the native habitat that ensured resistance to diseases like TB. As long as these links remained unbroken, the Indian’s natural organic immunity remained effective. “All the physicians that practice in La Paz, Potosí and Oruro know that Indians that have not left their lands, call them *comunidad*, *hacienda*, or *sayaña*, never present tubercular lesions, being to the contrary notable in their robustness, their resistance to the hardest labors and their incredible sobriety” (ibid.:856).

“Very distinct,” warned Morales, “is the profile of the Quechua or Aymara raised in the city or that dedicate themselves to petty commerce” (ibid.). Here, Morales’ sympathy for the “unfortunate *pongo*” was inverted into antipathy for the *cholo*, the class of Indian that had

abandoned his community for the city, adopted Spanish dress, manners, and language, and that by the second decade of the 20th century increasingly controlled regional highland markets. For Morales, the transplanted Indian was most at risk for developing—and transmitting—TB. Few elites in Bolivia needed to be convinced of this. After all, the *cholo* had been the abject object of Arguedas' influential *Pueblo Enfermo*, the crown jewel of the Bolivian literary canon. In his “physiognomy” of the nation, Arguedas had argued that the Bolivian *cholo* was a “hybrid” of the worst traits of the Bolivia’s two “pure races”: the white man's “bellicosity, his selfishness, his pride and his vanity, his accentuated individualism, his bombastic oratory, his invincible nepotism, his furious matter-of-factness;” and the Indian’s “submissiveness to the powerful and strong, his lack of initiative, his passivity in the face of wrongs, his indomitable inclination to lie, deceive and be hypocritical, his vanity, exasperated for reasons of pure appearance and without base in grand ideals, his gregariousness, and finally, to conclude it all, his tremendous disloyalty” (1909[1988]:73). For Arguedas, race was the result of a protracted psychological adaptation of a people to their social and natural environment, a racial “character” (*carácter*) that was passed down through inheritance, echoing the broader Lamarkian eugenics of the time but with the characteristic Bolivian emphasis on geographical difference. An amalgam of two pure races without the benefit of the “slow process of selection,” the *cholo* was both cause and consequence all that was wrong with Bolivia.<sup>16</sup>

---

<sup>16</sup> Consider Arguedas poetic ruminations on *paceños*, the *cholo* population par excellence: “Heredity has impressed harsh traits onto [the *paceños*] character, and left on him the indelible mark of the structure and aspect of the soil. Of an arid despair, aggressive in all that embraces the Andean plateau from which the race springs, he doesn't present at a glance the happy note of green. Everywhere the eyes look, they find only the gray, the ashen, the muddy. The hills that surround the capital, arid and miserable, if they inspire anything, it is the desire to travel, to leave, and the farther, the better. Wretched is their vegetation: rough, blackened straw, course even for the ox's taste. In the depths of the valley, adorned with melancholic weeping willows, leafless eucalyptus and plain acebuches, two torrents of muddy water wind between immense masses of granite. And accustomed to this desolate countryside, [the *paceños*] ideas are born pregnant with melancholy and inspired by evil desires, poor ambitions, yearning for stillness and to disappear” (1909[1988]:89).

For Morales, however, the shortcoming of the *cholo* was less his hybrid racial character than the immunological consequences of what I am calling *deracination*, the breakdown of the health-conferring fitness between a body and the environment to which it was adapted, between *raza y medio*. Urbanization, not miscegenation, was the social vehicle by which this “organic” harmony was ruptured. Morales and his colleagues were translating the standard eugenicist arguments about disease and racial degeneration into the discourse of *raza y medio*, and in the same stroke, translating the discourse of *raza y medio* into the more experimentally-tractable discourse of immunology. The *tuberculosis indigena* was “indigenous” precisely to the degree that Indians abandoned their native way of life for the city, for a lifeway not native to them—to the degree, that is, that they ceased to be “indigenous” and became *cholo*! Here, alas, was the final paradox of Morales research on TB in Bolivia.<sup>17</sup>

The degree to which Morales relocated the “indigenous tuberculosis” in the body of the *cholo* can be seen in his vehement rebuttal of Indian alcoholism. The links between TB and alcoholism ran deep in early-20th century biomedicine. Not only had the eugenics movement fixed on alcohol as a factor bearing upon the receptivity of the tubercular terrain, but the great Euro-American anti-TB campaigns had in fact sprung out of the temperance movements of the 19th century. Syphilis, alcoholism, and tuberculosis were the three constituents of Renón’s infamous “terrific trio” of modern social disease, a mainstay of Latin American eugenicism. In Bolivia, the association between Indians and the excessive consumption of alcohol was more than a tacit cultural assumption. Arguedas had lent ethnographic legitimacy to this perspective:

---

<sup>17</sup> French hygienists had drawn similar associations between rising urban TB rates and the “rural exodus” underway in turn-of-the-century France. The argument, statistical by design, was that as the *compagnards* (the guardians of the “morally pure and purely French lifestyle of the countryside, *la France profonde*”) migrated to the cities, their lack of “moral resistance” gave way to diminished organic resistance, then TB (see Barnes 1995). With his work on the organic immunity of highland Indians, was in a position to provide actual microbiological evidence to support such associations.



Exasperated, dejected, physically and morally spent, unfit to attempt the violent recovery of rights, the indigenous race succumbs to alcoholism in an alarming manner. Unsociable, surly, suspicious, the Indian seeks in alcohol energies for his used muscles: he lets it drag him down, without protest. Absolutely unaware of its depressive action, nobody told him that it is venom: it gives strength, it distracts, and this is all he asks. (1909[1988]:65)

In his 1916 paper, Morales denounced explanations of the indigenous tuberculosis that, “without complete observations and guided by a superficial examination of the facts,” presumed links to alcoholism. “[F]ar from being alcoholic,” he observed, “[the Indian] is essentially sober and when he gets inebriated it is done exceptionally and only in grand festivals, where he forgets his miserable conditions, to take refuge for a moment in liquor, from the suffering that burdens him” (1916b:895). Less careful observers had mistaken the excessive consumption of alcohol by urban *cholos* for that of rural Indians. In this respect, Morales agreed with Arguedas’ dire assessment of *cholo* alcoholism—that it revealed the “latent degeneration” and “imperfect adaptation” of *cholos* to modern life, a cursed people who “hadn’t inherited from his ancestors a nervous system sufficiently complicated to respond to the excitements of modern culture” (Arguedas 1909[1988]:65fn).

Ironically, no mention was made in Morales’ 1916 paper of the indigenous race of Koch bacillus. His pluralist theory had been abandoned. Alas, there was only one race of TB microbe, and its virulence was—new experimental results showed—effectively attenuated by high altitude, as Mendoza had observed some 15 years prior. “For being more fragile, less virulent than that of other countries, the bacillus was not able to produce the death of the guinea pig, loosing completely its vital properties, such that the culture is nullified” (1916b:893). The key to differential susceptibilities to tuberculosis resided in the human body, in its race and environment in its environment, not to the body of the microbe.

From the broadest perspective, the Bolivian TB debate fit a pattern more general to Latin American scientific discourse at the time, connecting race to disease to degeneracy, but also to the possibility of racial regeneration through policy intervention (Stepan 1991). All participants presumed that TB, like alcoholism and VD, was a “racial poison”: both cause and consequence of degeneracy. By the same token, hygienic measures aimed at returning social groups to their “natural”—usually rural—environments could be effective means for sanitizing and regenerating the damaged genetic protoplasm. However defined, environment conditioned race through the exercise of effects on the human organism that could, as the defining factor of culture, be acquired and transmitted to subsequent generations. By strategically manipulating environments, then, race could quite literally be sanitized and improved upon. In Latin America, the urban environment more particularly became the ground upon which eugenic intervention could take place. On the one hand, given the epochal demographic shifts at the start of the 20th century, it was viewed as the seat of proliferating degeneracy. On the other hand, it offered a relatively controlled environment in which actual hygienic intervention was seen as both possible and consequential. In Bolivia, the theoretical orientation to the “indigenous tuberculosis” had as its practical edge an affective preoccupation with TB among urban *cholos*.

In the conclusion of his paper to the Second Pan-American Congress, Morales called for the formation of national anti-TB leagues across the Americas, on the German model, but overseen by a concerted Pan-American body. In fact, Morales had helped create a Bolivian anti-TB league run by the wives of La Paz’s civil bourgeoisie in the years before 1916. The battle cry: “Bolivian mothers, save you’re your children!” (Morales Villazón 1914[1989]). Though a far cry from the broad social transformations that colleagues like Jaime Mendoza trumpeted, this

essentially charity-based organization ran a TB sanatorium for children in La Paz as well as waged periodic hygiene campaigns in the city's schools, barracks, and hospitals. In the 1920s, a more organized intervention into the national tuberculosis was devised. Stricter public health measures were implemented in well-known *focos de infección*, "sites of infection": schools, hospitals, military barracks, manufactures, and ports. A *cordón sanitaire* was proposed along the nation's borders, especially with Chile, where, according to the estimates of *General Dirección de Sanidad*, 65% of the population was infected with the Koch bacillus (Valenzuela 1930). According to the plan, immigrants would be required to undergo medical examinations and receive health certificates before entering the country. It was argued that if Bolivia, with its "pauper budget" could not afford a "true struggle" against TB, viz., a system of TB dispensaries and sanatoriums, it could start by launching health education campaigns in the ports, primary schools, and places of work. It was suggested that "[persons] that have fortunes contribute a part of their profits for the upkeep of leagues and congresses, schools and public health clinics (*casas de salud*) for those sick with the Koch bacillus (ibid.:258).

Such was the liberal, laissez-faire approach to tuberculosis, indigenous or otherwise. This would all change in the 1930s, however, with start of the Chaco War. The links between Indians and TB, between disease and deracination, would take on an altogether different, and much more concrete, significance.

### *Remaking the "Indigenous Tuberculosis"*

In 1930, Jaime Mendoza conducted a survey of Sucre's medical men concerning the question of tuberculosis. It was unanimously agreed that, while more frequent than in the past, TB was less a

threat in Bolivia than their colleagues in La Paz supposed. When the same question was put to the medical men a few years later, however, the opposite conclusion was reached: TB in Bolivia, all concurred, had reached epidemic proportions. The cause was the war in the Chaco. Mendoza himself had to admit that the salutary effects of Sucre's environs had been trumped by the war:

[T]uberculosis, in Sucre, is indeed showing an extraordinary increase in these recent times. If before the war of the Chaco, the percentage of mortality was around 1 per thousand inhabitants, today that proportion has tripled [...] [O]ne sees, indeed, that Sucre has become one of the points of concentration for the rejected detritus of the unlucky valley. (quoted in Balcázar 1956:487)

The “unlucky valley” was, of course, the Chaco; the “rejected detritus” the indigenous military conscript, presumably infected. With the Chaco War, Sucre had become the center for processing highland soldiers en route to the lowland battlefield. As the war dragged on, the city became the center for evacuating and attending to the war's sick and wounded (Hurtado Gómez 1996b). Epidemiological studies in the postwar period confirmed that, while between 1900 and 1934 the incidence of TB mortality in Sucre averaged 13 deaths per 10,000 persons, in 1935 the rate climbed precipitously to 50 deaths per 10,000, leveling off around 40 per 10,000 in the 1940s (Vargas Sivila 1943). A study revealed that almost 30% of hospital deaths in the postwar period were TB-related (ibid.).

Mendoza blamed the precipitous rise in Sucre's TB incidence on the “fatigue, overcrowding, dirtiness, the hunger, the thirst, the collaboration of other illness [...] as well as the moral suffering” of wartime (1936a:102). With the war, he remarked wryly, tuberculars no longer came to Sucre to take advantage of its therapeutic environs, but to finish dying. “Such are the results of a stupid war [...] For the work of this beating, Sucre, the city of ideal climate against the tubercular aggression, has today jumped to the level of one of the *pueblos* most

afflicted by the illness in the land” (ibid.:100). Now a respected senator, Mendoza had vociferously and often singularly opposed the war. The hardships of the Chaco, he argued, had induced a “moral intoxication” in the national collective, one consequence of which was a “true tuberculosis epidemic” (Gamarra Durana 1998). In 1936, then, Mendoza returned to the disease that launched his career three decades prior. Reviewing Sucre’s hospital registries, he discovered a city awash in TB, a “boiling center at the mercy of the war” (1936a:101). What would become of La Paz, he wondered, with its larger indigenous population and poor hygienic conditions? For Mendoza, the tuberculosis epidemic was a stinging indictment of the decadent society that had let the war happen. It also gave the perfect foil to the social anxieties that proliferated in the war’s wake, about which Mendoza, the essayist, had much to say.

*Trials of strength: The wartime tuberculosis*

The war with Paraguay, from 1932 to 1936, is regarded as an historical turning point in Bolivia, opening the way to the National Revolution in 1952. In the war’s aftermath, the traditional oligarchy of white and *mestizo* elites gave way to populist and militaristic regimes fostering state-socialism and national-corporatist economic development. For the first time urban *cholos* and Indians, many veterans of the war, entered the political fray in an official capacity. The impetus for change owed largely to the brutality of the war. In a brief four years, Bolivia lost 65,000 soldiers—more than 25% of its military force and 3% of its national population, the majority highland Indians (Klein 1992). Exacerbated by poor provisioning in the military camps, the Chaco Boreal claimed more lives in thirst, hunger, and disease than enemy bullets. For the



**Figure 21**

**Indigenous recruits en route to the Chaco, 1932**

(SOURCE: La Guerra del Chaco, <http://hispanismo.org/index.php>)

disillusioned “Chaco Generation,” the root of the disaster lie in the arrogance of Bolivia’s traditional hierarchy, reproduced on the battlefield—Indian foot soldiers, *cholo* subalterns, and a *criollo* rearguard. The general sense was that the governing elite failed to grasp the complexities of waging war in the remote, inhospitable borderlands between Bolivia and Paraguay (Crespo R. 1996). “Nobody knew with scientific certainty what hid in the territories called the hinterlands of the Chaco,” recalled Abelardo Ibáñez Benavente, the wartime director of military health and later director of Bolivia’s first national TB control program (quoted in Guaraz Gutiérrez 1996:202).

In the first years of the war, military doctors were confounded by the frequent affliction of Bolivian soldiers by cervical adenopathies (inflammations of the neck’s lymph nodes). The “tropical adenitis” appeared to follow no recognizable pattern, save for one: the disease was confined to soldiers from the highlands. Some military doctors suspected an allergic reaction to a

regional insect; others argued that soldiers had been infected by an unknown venereal disease. Soon, it was observed that soldiers with active pulmonary tuberculosis rarely presented with adenopathies; they seemed immune. As the war progressed, military surgeons started to see increasingly grave cases of adenitis, in which swollen lymph glands suppurred, forming fistulas that upon closer inspection revealed infections by the Koch bacillus (Gamarra Durana 2004). The mysterious illness among highland soldiers turned out to be cervical adeno-tuberculosis—scrofula. Enrique Vargas Sivila, a leading TB expert of the postwar period, outlined what became the consensus explanation:

In effect, the war episode displaced the inhabitant of the Bolivian high plateau to the Chaco valley of the southeast; displacing particularly the *indio* from his *altiplano* environment—where he lived dispersed in small nuclei of population—toward the barracks and the trenches, exposing him to contagion and tubercularization [...] [C]ases of primary infection (*primoinfección*) characterized by great cervical adenopathies, that, in the beginning were diversely interpreted, [...] soon revealed their tubercular nature. (Vargas Sivila & Wenger 1943:85)

By mid-1934, two years into the war, a military doctor attributed upwards of 13% of Bolivian casualties to pulmonary and adenopathological tuberculosis (see Cormejo B. 1996).

In the late 1920s, as physicians were increasingly employed in Bolivia's mining centers, TB and other pathologies of the thorax (viz., silicosis and pneumoconiosis) came to be modalized as *enfermedades profesionales*, “professional illnesses.” Numerous studies in the years before the Chaco War sought to formalize the diagnosis *mal de mina*, “miner's sickness.” Many of these doctors played important roles in discerning the wartime tuberculosis. Germán Orozco, who in the 1920s ran a pathology lab dedicated to professional illnesses in Potosí (Moreno Sanjinez 1996), was the first to notice the connection between TB and cervical adenitis. Orozco reasoned analogically from research showing that Senegalese troops fighting in World

War I frequently developed cervical adeno-TB on the European battlefield (Hurtado Gómez 1996). Félix Veintemillas, who replaced Morales as director of the INB after his exile,<sup>18</sup> had pioneered research in the late 1920s into cutaneous tuberculosis among miners, showing that while the bactericidal effects of solar radiation were indeed scientifically sound, they were vitiated by the wretched conditions of existence in the mines (see Luna Orosco E. 1996). When reports of the mysterious illness reached La Paz, Veintemillas ventured to the front to collect samples from suppurated lesions. Back at the INB, his experiments revealed that the Chaco adenopathies had two distinct etiologies: the inguinal and ileac adenopathies were, in fact, related to venereal disease; but the adenitis of the neck and groin turned out to be tubercular. Veintemillas conjectured that the poor hygienic and nutritional conditions of the camps, and the camp hospitals more especially, hastened the spread of infections (Guerra Mercado 1996). Under Veintemillas' supervision, laboratories were set up on the front and an intra-military campaign was mobilized to identify and isolate soldiers with active lesions from healthy troops (Gamarra Durana 2004).

In the years following the war, studies by Veintemillas, Orozco, Mendoza, and others further established the tubercular nature of the wartime adenitis.<sup>19</sup> At the same time, new diagnostic techniques like radiology, tuberculin sensitivity, bronchoscopy, and improved sputum

---

<sup>18</sup> According to Guerra Mercado, Morales' exile was "owing to the unfortunate vicissitudes of creole politics, which exercised against Dr. Morales Villazón, a systematic and petty revanchist action" (2001:72). In fact, the INB was temporarily shut down in the 1920s until a suitable replacement was found in the person of Veintemillas, a student of Morales but a supporter of the new regime. Still, from exile in Buenos Aires, Morales played an important role in the war effort, organizing a key supply chain for the military hospitals in the Chaco. He was also responsible for developing an effective wartime prophylaxis against the shigella infections prevalent on the battlefield. According to Comejo, "the vaccine saved more than ten thousand lives," reason enough to consider Morales "the scientific hero of the war" (1996:117). And of course Morales would also play a role in diagnosing the adenopathic tuberculosis, experimentally distinguishing it from 'Nicholas Fabre' venereal lymphogranuloma (ibid.).

<sup>19</sup> The most important studies were: Jaime Mendoza (1936), "La lucha antituberculosa en Bolivia"; Aurelio Meleán Camacho (1937), "La sanidad boliviana en la Guerra del Chaco"; Félix Veintemillas (1933), "El bubón tropical del Chaco"; Germán Orosco and Ovidio Suárez (1937), "Las adenitis del cuello observado en la Campaña del Chaco".



microscopy were set to the task of surveying the extent of TB's spread among Bolivian's civilian population at large. The results were shocking. Tuberculin sensitivity studies conducted in the early-1940s, for instance, found that 50% of Sucre's schoolboys had undergone the primary infection with the Koch bacillus (Vargas Sivila 1943). A more comprehensive project using radiology, tuberculin testing, and sputum microscopy, showed that if in 1940 33% of "supposedly healthy" (*supuestamente sana*) students returned positive results for the primary TB infection, by 1942 that number had doubled, 65% of schoolboys now presenting positive—a frequency far exceeded analogous results coming out of Cordova and Buenos Aires, cities renowned for TB (Chavarría Lizarazu 1948). There could be little doubt that the tuberculosis, in all its forms, had expanded in the post-Chaco War period.

*Third translation: TB as "occupational disease"*

At play was not just a new set of diagnostic technologies, but a novel mode of scientific classification. In the 1930s, German scientists began to distinguish a "primary" tubercular infection from a "secondary" reactivation. It was believed that cases of active TB in adults stemmed from often-asymptomatic primary infections contracted in childhood. The radiological exam, insofar as it revealed past, healed infections as well as new, active forms, became the preferred method for detecting TB among the "supposedly healthy." Like sputum microscopy and other techniques of TB bacteriology before it, radiology offered a new window into the disease, one that came with its own set of distinctions and directions of growth, including, of course, the development of a new scientific expertise and institutional support. While radiology had circulated into Bolivia during the Chaco War, it was not until after the war that it was

systematically employed by national scientists and doctors. In fact, a new category of professional scientist emerged in Bolivia with respect to radiology—the *tisiólogo*, or “phthisiologist”—displacing the institutional lien of bacteriologists on the disease. By the end of the 1950s, the INB ceased to be the institutional locus of TB research and policy, subordinated to newer, more specialized institutions like the *Instituto Nacional del Tórax* (National Thoracic Institute), mentioned at the beginning of chapter two.

In 1940, the renowned Argentine phthisiologist Gumersindo Sayago gave seminars in Sucre and La Paz. Sayago was a fierce proponent of applying radiology to epidemiology, using x-ray technologies to establish the incidence of what he called *tuberculosis inapercepta*, “inappreciated” or “nonapparent tuberculosis” in a population. With the aid of Sayago, the new classificatory scheme reached out to the Bolivian population at large, enumerating and systematizing the various gradations between the healthy and sick. “Early diagnosis” (*diagnóstico precoz*) became the mantra for the new TB expertise, a method that had collective socioeconomic benefits far beyond the scope of individual therapy or strategic bacteriological intervention. “[T]he argument is no longer valid,” wrote Vargas, a product of Sayago’s tenure in Bolivia, “that in the provinces or the countryside the physician does not have the resources available for an early diagnosis of the disease or that, in consequence, he must abide by limited clinical means without any further responsibility” (1947:50). Mobile radiological units, for instance, could open up rural indigenous communities and remote mining centers to modern medicine, capturing nonapparent tuberculars before they migrated to the nation’s cities. Almost ecstatic, Vargas quoted the Brazilian radiologist de Abreu, inventor of a rapid radiology exam for TB:

We have distanced ourselves from individual medicine, in which the experience and culture of the physician was driven by a narrow purpose [...] We are in a period of social

medicine. Our thought is directed now toward the diagnosis of tuberculosis in the human masses, toward collective treatment and prophylaxis; we have conceived for the first time, in all its grave extension, the problem of tuberculosis. (1947:50)

This emphasis on the “collective” was critical for the reconceptualization of TB in the postwar period. For it traced out not only the growing import of social medicine in Bolivia, but also the broader turn to social welfarism and corporatism on the national political scene. In 1938, the liberal constitution of 1880 was replaced by a new political charter founded along the lines of “social constitutionalism”. Under the new constitution, private property was no longer an inalienable right but contingent upon social utility, and the state became responsible for the socioeconomic well-being of its citizens, through collective guarantees to health, education, and work (Klein 1992). Ministries of public health, social assistance, and labor were created or re-organized to better respond to the demands of the new collectivities that increasingly dominated public life: war veterans, miners, industrial workers and artisans, university students, and urban professionals of all ilk. With the 1952 National Revolution and the nationalization of the mining industry, public health institutions in particular became politicized sites for the extension of the state. To retain control over state agencies like the *Caja Nacional de Salud* (National Health Fund), medical professionals adopted the corporatist models of Bolivia’s powerful labor syndicate, the COB (*Corporación Obrero Boliviano*), founding the *Confederación Médica Sindical de Bolivia* (COMSIB) as their official voice (Hurtado Gómez 2000). Phthisiology, as a medical science that grasped the social collective as its point of departure, was well suited to these new demands. In bureaucratic discourse, TB was coupled with silicosis, as silicotuberculosis (an illness primarily affecting miners), and re-classified within “occupational health.” The “indigenous tuberculosis” was almost forgotten in the new Revolutionary State, TB now

problematized as one of Bolivia's most important *enfermedades ocupacionales*, "occupational diseases."

"[It is important] not to forget," argued Vargas, "[...] that we live in the hour of collective medicine (*medicina colectiva*), and that, against tuberculosis, we must collectively unfurl a plan of struggle for all the collectivity" (1947:22). Collective by collective, the nation's citizenry had to be subjected to radiological examination, beginning with those associated with the highest known incidence: the families of known tuberculars and those at risk given their work environment (i.e., miners). Following that came the collectives easiest to control owing to their institutional location (schools, asylums, universities, barracks, factories); collectives whose vocations placed them in contact with potential sources of infection (domestic employees, food service workers, barbers, school teachers, health functionaries and doctors); and finally rural Indians, who could be considered a kind of primordial collective (ibid.; see also Medeiros Querejazu 1947). Within any collective, three kinds of sub-populations were to be distinguished: "virgins of contamination," "infected tuberculars" that might become sick, and "sick tuberculars" that would benefit from the new public services (Choque Pozo 1966).

Bolivian specialists invoked what they called the "secular curve," the notion that each collectivity progressed through an ordered sequence of encounter with the Koch bacillus, radiological rendered. Most social collectives, it was argued, had passed through the "pre-tubercularization" phase in the years before the Chaco War, characterized by low TB mortality and a predominance of primary infections. With the Chaco War, however, the nation's collectives had passed into a phase of "massive" or "epidemic tubercularization," characterized by high TB mortality and in which cases of galloping consumption frequently presented. Two other phases

lay on Bolivia's horizon: a "benign" or "endemic tubercularization," characterized by a progressive drop in active cases; and a final phase of "detubercularization," where TB mortality leveled off (Choque Pozo 1966). At the same time, with the financial and technical assistance of the Argentine Sayago, a laboratory producing the Calmette-Guérin (BCG) TB vaccine was created in Sucre with Vargas as its director (Hurtado Gómez 1996a). By the 1960s, BCG vaccination campaigns were mounted in the armed forces, the nation's primary schools and universities, in factories and mining centers, as well as in the rural communities of the *altiplano* (Mendizábal Lozano 1996).

If before the Chaco War, TB expertise was confined to a few charismatic doctors and scientists and their respective institutions in a more or less *ad hoc* way, in the years after the war TB expertise was routinized in state-sponsored institutional mechanisms. Likewise, the methods of TB control were overhauled. As Zulawski points out, there was "a recognition by the nation's leaders that the piecemeal, charitable approach to medicine—typified by private citizens' leagues against tuberculosis [...]—simply was inadequate for the country's needs" (2007:84).

At first, doctors and scientists that served as medics and laboratory technicians in the Chaco sought advanced TB training in neighboring Argentina, Chile, and Uruguay. Soon, however, an array of homegrown professional societies and academic programs sprang up in Bolivia, bolstered by better organized scientific conferences, journals, and global public health organizations. Bolivia's first TB control program was founded in 1935, at the insistence of Ibáñez, the wartime director of military sanitation (Mejia 1988). In 1937, Ibáñez helped found the *Sociedad Boliviana de Tisiología*, the same year that Sucre's *Escuela de Medicina* launched the nation's first program in phthisiology (Moreno Sanjinez 1996). In 1938, the *Dirección*

*Antituberculosa y Antileprosa* was created as an umbrella institution for the various public and private TB organizations operating in Bolivia, and the following year, the *Hospital Reparación y Ortopedia* was founded in La Paz to treat “the mutilated and wounded of the war or with [tubercular] lesions serious enough to render them invalids” (Calvo Vera 1996:184)—what would later become, in 1950, the *Hospital Broncopulmonar*. TB dispensaries soon opened up in each of the Bolivia’s department capitals, offering free diagnostic, treatment, and educational services to the growing urban poor. Over the years, these dispensaries would serve as centers for accumulating biostatistical knowledge on apparent and nonapparent TB in Bolivia, in part by creating and distributing *fichas de salud*, “health cards,” to primary schools, maternity wards, and other health clinics (Choque Pozo 1966; Mendizábal Lozano 1996).

By the late-1940s, the basic groundwork for a more extensive knowledge of the national tuberculosis had been laid in Bolivia. In this “decade of societies,” the new public health professions took the lead, with TB expertise at the helm, in the the division of biomedical labor. The *Sociedad Boliviana de Salud Pública* would, for instance, focus on the infecto-contagious nature of TB, while the *Sociedad Boliviana de Traumatología* would focus on osteoarticular tuberculosis, and so forth (Moreno Sanjinez 1996). In 1959, after more than ten years of planning, as “the culmination of the forces of various generations of médicos dedicated to combating pulmonary tuberculosis,” the *Instituto Nacional de Tórax* (INT) opened in La Paz, boasting Bolivia’s first fully specialized tuberculosis laboratory (Mendizábal Lozano 1996:40). The minister of public health and social prevision inaugurated the new institution with these hopeful words:

[W]ithout euphemism, without hyperbole, because we seek to conceal nothing, nor to exaggerate, we robustly affirm that the *Instituto Nacional de Tórax* will mark an epoch in



Figure 22. *Instituto Nacional de Tórax*, opened in 1959, as it is today

the institutional life of the country. This unique Institute in Bolivia, unique in all of Latin America, locates us in the high grade of technological and scientific advancement and on a higher plane of consideration in the concept of other countries. (quoted in Criales Alcázar 1996:50)

Indeed, by the 1960s, a half-century after Morales' address to the *Facultad*, it was possible to say that Bolivia had a nationally-instituted TB control program, organized on the modern public health model and backed by of a growing set of state-supported and highly specialized scientific and medical institutes.

For these new TB experts, the idea of a specifically “indigenous” tuberculosis held neither ideological allure nor scientific merit. In a broader sense, the “Indian Problem” and the Pan-Americanism which fostered it in the early-20th century had been replaced, by mid-century, by Third-Worldism and the problem of “underdevelopment.” TB, from this perspective, could be

viewed as a complex social problem intersecting with, and often subordinated to, the key ailments of the “developing” world—malnutrition, ignorance, poverty, and rapid urbanization—problems to which the state, as was increasingly understood, bore a special regulatory relationship (Choque Pozo 1966). In another sense, the specific focus on the “collective” undermined the uniqueness of a specifically indigenous tuberculosis. TB could be seen as “indigenous” only insofar as Indians constituted themselves as a social collective or corporate body, as they often did, in the form of “peasant” syndicates—after all, the National Revolution had officially re-categorized Bolivian’s majoritarian rural Indian population as *campesinos*.

More often, however, the question of TB among indigenous peoples presented a practical dilemma for mid-century Bolivian phthisiologists. As one researcher complained, the presence of a large Indian population foiled attempts to place Bolivia on the global curve of tubercularization, “mak[ing] it impossible to compare our results with statistics of other countries that have already passed through this phase [of tubercularization]” (Urioste F. de C. 1948:152). In this respect, the question of an indigenous tuberculosis resurfaced in the form of an obstacle, standing in the way of Bolivia’s inevitable march toward a “detubercularized” national collective—precisely what phthisiologists had been promising policymakers.

### *Conclusion*

This is not to suggest that tuberculosis became the primary, or even a major concern of the Bolivian medical establishment in the early-20th century. Reviewing the national scientific and medical journals of the period, for instance, Costa Ardúz has concluded that “the theme of tuberculosis was of little interest in contrast to other pathologies” (1996:116). Until 1925, only



31 articles even dealt with TB, less than 3% of the total 1,300 scientific and medical articles published in Bolivia at the time; only fifteen of those, moreover, were devoted to original TB research. Even so, what is crucial here is that, nevertheless, TB became an important and formative field of scientific and biomedical discourse in Bolivia, one that served to organize and routinize not only a public agency for controlling the disease itself—a national TB control program—but, more remarkably, an entire public health apparatus.

In this chapter I have suggested that behind this proliferation of TB discourse in Bolivia were broader concerns about the plight of Bolivia's majoritarian indigenous population in the contexts of the expanding liberal state, and more particularly, concerns about the risks posed by the growing ranks of urbanized Indians, or *cholos*. But this is not the usual story of elite fears of contagion. Rather, I have tried to emphasize the curious ways in which TB, reckoned at the microscopic scales of the bacillus and the red blood cell itself, was first "indigenized" in Bolivia, and as such served as the grounds for the emergence of a specific kind of biomedical expertise—one staked to the biological implications of deracinating "indigenous" peoples. When viewed through this broader historical lens, the contemporary concern of Bolivian health officials with the sociospatial dislocations caused by—or involved in—rural migrations and the relocation of Bolivian mineworkers to periurban spaces can be seen in an entirely new light. It should not be surprising, in this respect, that the problem of epidemic TB and the problem of periurbanism resonate so well with one another in contemporary discourse: these links are in fact at the very cultural foundations of public health institutions. They shape the broader discursive horizon in which public health, and TB control more particularly, are both constituted and conducted.

In part two of this dissertation, as we turn to ethnographically explore the various discursive sites of Bolivia's contemporary TB control network, we shall see how these basic links and the characterological figures that hold them together are reproduced and reinforced in the everyday work of detecting, treating, and preventing tuberculosis.

*“What Will It Be, These Things?”*

*[TB, with documents]*

Don Rogelio was a patient at the neighborhood *center de salud*, the CS, where I volunteered as a community-DOTS promoter, and of course, conducted fieldwork. I'd heard him talk about how he was diagnosed with tuberculosis on several occasions, at the monthly TB patient meetings. There, the story was always the same, not much different from the stories of other patients, and not much different from the model of medical encounter promoted by the national TB control program. When, after a few weeks his cough didn't subside, he went to the *médico*, where he was given a sputum exam and diagnosed with pulmonary tuberculosis, then enrolled in the neighborhood's DOTS program, set on the 8 month's "short course" of anti-tubercular drug therapy—the official story of TB diagnosis, it would seem. It wasn't until I visited Don Rogelio in his home that I heard another story, the unauthorized version perhaps. Instead of weeks and days, this story unfolded over months and years, and instead of doctors and nurses and lab techs, it involved all kinds of other folks as well: *naturistas* and *yatiris*, a daughter and a wife, a nephew. Other things too: not just tuberculosis and its cough, but lightening strikes, the winds and a witch, chronic snoring, and of course, the hopes and hard work of everyday life, along with its obstacles and frustrations, and this: the existential perplexities of *not feeling well* and *not knowing why*. And lest we forget: money and documents, paperwork and state institutions—the frictions of moving between social scales and cultural worlds.



**Figure 23. “More or less the campo”**

At the time, Don Rogelio rented a small room with his wife and daughter in one of the countless *urbanizaciones* that have cropped up on the edges of El Alto, resident to recently-arrived rural migrants and the families of men that work in nearby mining cooperatives. Don Rogelia and his wife belonged to the former category: they had come to El Alto from an Aymara-speaking herding community outside Oruro, victims of the diminishing quality of pastureland. In El Alto they joined the ranks of the periurban underclass, its *gente humilde*, ‘humble people’, deriving income from oddjobs and small-scale mercantile activities in the city’s burgeoning informal economy. At the time, in early-2004, Don Rogelio’s *urbanización* wasn’t much of an “urbanization.” There was no school, no police post, no health center, just a newly constructed church and long unpaved boulevard flanked by houses, here and there. *Medio campo*, “more or less the countryside,” Don Rogelio had joked as he led me from the minibus stop to his residence, an adobe compound of single rooms around a common courtyard, each room occupied

by a different family, all renters like himself. Neighborhoods like these are the periphery of the periurban, the end of the line for minibus routes, where rides pay extra tariffs to get this far.

Like most homes I'd visited in El Alto, Don Rogelio's room was neat if spartan: a shelf for foodstuffs, a dresser, a double bed, a bundle of clothes in the corner. According to Don Rogelio, this living arrangement had been temporary. Before he was diagnosed with TB he had been saving money to build a house on a nearby plot of land his brother had helped him acquire. He and his wife, both in their early-30s, had been living together for eight years now, as *concubinatos* (domestic partners, 'concubines'). When the house was ready they planned to get married officially, or as Don Rogelio put it, *con documentos*, "with documents." This would mean not only registering with the state and the Church, but mobilizing new *compadrazgo* relations to sponsor the festivities—a politically-delicate and time-consuming enterprise, but one necessary for the formal recognition of a new household. But with TB this was out of the question. Visits by relatives and neighbors had become rare; with TB, Don Rogelio was unable to work and they'd been living off the money they'd saved for the house. The wedding had been postponed and they'd resigned themselves to staying on as renters.

I asked Don Rogelio if he could tell me again how he found out he had TB. He had been working with his nephew, he explained, when he first noticed a cough. At the time they were working as *ambulantes*, ambulatory street vendors, in Caranavi, a coca- and coffee-producing town in the *yungas*, midway between the highlands and the lowlands. He and his nephew would buy clothes, mostly manufactured shirts, in La Paz's garment district, then hawk them on the streets of Caranavi at a slight markup. The work was exhausting, the climate in the *yungas* different than the *altiplano*—hot and humid—and, as Don Rogelio recalled, they often skimped

on meals to save money. After one especially gruelling trip, his nephew became ill with a cough that grew progressively worse. Months later Don Rogelio was “grasped” by the same cough. At the time, he recalled, neither he nor his nephew had heard of *este enfermedad*, “this disease,” tuberculosis.

Contrary to the story Don Rogelio repeated at the monthly patient meetings, he did not, however, go directly to the *médico*. Instead, at the insistence of his wife, he returned to his community to consult with a local *yatiri* (in Aymara, a ‘wiseman’ or ‘knower’). According to the *yatiri*, Don Rogelio had been the object of *brujería*—witchcraft. Someone had maliciously sent lightning to his household, and he had breathed the air (*humo*) in the immediate vicinity of the lightning strike. The result was *aljach’oyo*, a usually fatal wasting sickness characterized by an interminable cough. To reverse the curse, he would need to prepare a *misa* (ritual offering) in the precise location of the lightning strike, and inhale the smoke produced by the offering, “until the body is full.” But Don Rogelio didn’t know anything about a lightning strike, and he didn’t have enemies he could think of. Besides, as he explained, *aljach’oyo* was a disease of the *campo*, not the city, and he had been living in the city when he became ill. He decided to return to El Alto to consult with a *naturista*, or herbal healer, that his nephew had consulted. “‘Perhaps with time I will be dead’, I said to myself, ‘I am going to see this man’ [...] I went to to the consultation to say, ‘What will this be, these things?’” According to Don Rogelio, the man had successfully cured his nephew of his cough.

But the *naturista* didn’t diagnose Don Rogelio with *aljach’oyo*, nor with TB. “He said to me, ‘It’s this, simply this, snoring (*ronquis*),’ as they say, ‘snoring’, he told me. ‘You have to start treatment,’ he told me. ‘Injections!’, he told me, ‘with injections we are going to calm/cure

(*calmar*) you. Six months!” What kind of injections, Don Rogelio didn’t know, he hadn’t asked. But the treatment would be expensive, and the *naturista* wanted to “bond” him with a downpayment of 5,000 *bolivianos* (around US\$650). This was more than half the annual income Don Rogelio was bringing in selling clothes in Caranavi, so it was impossible for him to pay, even with the money he’d saved. “Since I didn’t have it, then I- from there I was a little- I was thinking, waiting, ‘What am I to do?’” According to Don Rogelio the *naturista* took pity on him. Don Rogelio recalled seeing billboards through El Alto, and through the *yungas*, something about a disease called tuberculosis. He mentioned them to the *naturista*, who dismissed the possibility, but was willing to impart information nevertheless. (A public health initiative in El Alto aims to incorporate *naturistas* and other “traditional” healers into the municipal health network.) “‘If you think it is this, tuberculosis,’ [the *naturista*] said to me, go there, to the Tórax—they have to attend to you’, he told me.”

The *naturista* collected a minimal consultation fee and directed Don Rogelio to the *Instituto Nacional de Tórax* (the INT). Don Rogelio recalled being skeptical at first: neither he nor his wife, nor anyone in his family had consulted a *médico* before, and this was not merely a *médico*, but a major state institution, located in La Paz, *la ciudad abajo*, “the city below.” Though the *naturista* assured him that diagnosis and treatment would cost nothing, he couldn’t believe it. There were lines to wait in, *trámites* (bureaucratic procedures) to be fulfilled, and at the end of lines always more lines, more *trámites*, and as everyone knew, this cost money. Besides, he would need documents—an identity card (*cédula de identidad*), proof of residency in El Alto (*registro de domicilia*), and who knew what else—documents he didn’t have. According

to Don Rogelio, had he had the 5,000 *bolivianos* at the time, he would have gone ahead with the *naturista*'s cure, the one for snoring. "I just didn't have the money," he told me.

Don Rogelio delayed the trip for several weeks. Maybe the cough would go away. But it didn't and it was then that he began to lose weight. "He became thin! thin!" his wife interjected. "He was coughing ta! ta! ta! 'What will it be, a cold? Will it be asthma? What will it be!?' " she recalled thinking. "'Alcohol', I said to myself. 'No, it won't be this'. It was almost a month. For that we went there, to the Hospital General"—that is, to the INT, just next to La Paz's main general hospital, *Hospital de Clínicas*.

Coughing, thin, and weak, Don Rogelio made the trip down to the INT in La Paz, with his wife and daughter, some 6 months after he first noticed his cough, and who knew how long after he'd become infected. There, he recalled, "they took my salivas." No money was exchanged, no documents were requested, and no *trámites* had to be performed. They only wanted "saliva" and an address. "'What kind of a place will this be?' I said to myself." But Don Rogelio had little time to think on it: things happened fast. When he returned to the INT days later, to retrieve his results, he was told he had an advanced case of pulmonary tuberculosis. "*You can die*, they were telling me." He was informed too that a sample of his wife's "salivas" would need to be analyzed, and that both he and his daughter would need to begin TB treatment immediately—his daughter, then 3 years old, would need a prophylactic drug regimen. Since there was no health center in his *urbanización*, Don Rogelio was transferred to the CS of a nearby neighborhood, the one in which I volunteered, which is where we met. At the CS he and his daughter were registered as TB patients and given clinical examinations. DOTS case files were created for the two of them, and the *licenciada* explained how treatment would proceed:



that they were entitled to free drug therapy, but would need to come to the CS, daily, for supervised treatment. Don Rogelio would also have to attend the monthly TB patient meetings.

“She told me, ‘This disease- this treatment, it is a right and an obligation of all Bolivians. Eight months! As a Bolivian you have to complete it, for your daughter more than anything’.” A few days later, the *licenciada* made a special trip to their home. “The *señora* came- the *señora* came,” Don Rogelio’s wife recalled, “He is not going to sell or work. He is not going to sicken afterwards for fault of that. I’m available to you-all. He has to get healthy, then he can work, like that she said [...] If he goes about working’, she said, ‘he is going to get ill another time afterwards’.” The *licenciada* explained to Don Rogelio’s wife the crucial role she would play in supporting her husband, during his treatment, to ensure that the disease wouldn’t spread to their daughter, to their relatives and neighbors.

In short, Don Rogelio had become a state-sponsored TB patient, and so, by extension, his household would form an important new front in the struggle against the disease. Don Rogelio’s story, like those of all other periurban TB patients, in their official and unauthorized versions, continues, of course. But for now we need to take a step back and consider the institutional process that makes possible and effective these transformations in Don Rogelio’s status—his recruitment to new roles, rights, and responsibilities, not only with respect to his illness and the CS, but also with respect to his family, his neighbors, and importantly, the state. This will require, however, that we tune out for the moment the discourse of TB produced and circulated *by* patients in order to tune in the discourse of TB produced and circulated *about* patients, that is, by the state institutions designed to care for them. In particular, the next chapter, chapter four,

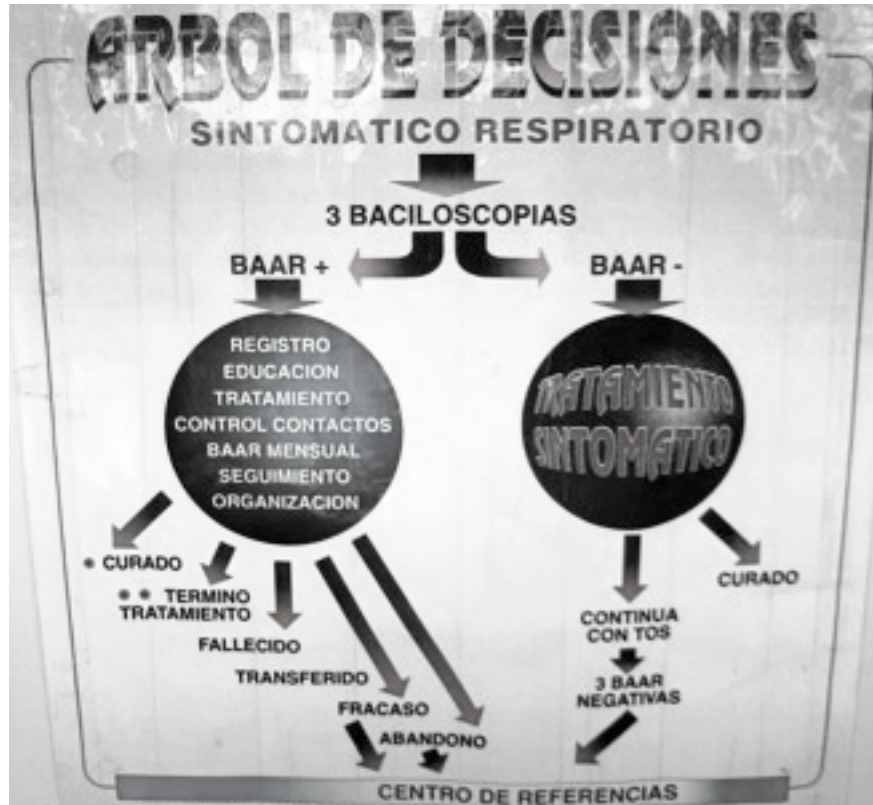


Figure 24. “Decision Tree” for TB cases

examines the key (meta)discursive practices that make up, through institutional role-recruitment, the structure of state-sponsored TB patienthood in periurban Bolivia: the production and circulation of designation-bearing texts in Bolivia’s TB control network.

The “decision tree” (*arbol de decisiones*) reproduced in Fig. 24 can serve as a guide—as indeed is its intended function—for our journey through the institutional worlds of Bolivia’s TB control network, the objective of Part II of this dissertation. Affixed to the walls of countless health centers, hospitals, and laboratories in Bolivia—and unequivocally presenting the “insiders” perspective—this diagram depicts the progression of a TB case from start to finish, along branching nodes of institutional process, each with its own distinct set of officially-sanctioned

outcomes. The diagram presents the process as seamless, as maximally logical, one thing leading effortlessly to the next, including even the logic of treatment failure. But, as we shall see throughout Part II, it is anything but that. Each link in the chain, each step in the progression, requires its own kind of negotiation, its own site-specific translation—generates its own “friction,” to invoke Anna Tsing’s (2005a) illuminating metaphor.

Chapter four focuses roughly on the base of the (inverted) tree, the process of patient recruitment leading up to the designation of a new TB case, “case-finding” (*localización de casos*) as it is called in the network. As the diagram shows, the “respiratory symptomatic” person (*sintomático respiratorio*) is the trunk of the entire decision tree; “sputum smear microscopy,” or baciloscopía, is the lab technique authorized in Bolivia to transform persons with respiratory symptoms into treatable, state-sponsored TB cases, here represented in the technical terms of the technique itself (BAAR+). In fact, we left Don Rogelio at this node, having been diagnosed BAAR+, and as such, ready to enter the next phase: treatment.

In the chapter five, then, we will follow state-designated TB patients like Don Rogelio as they move down the decision tree, entering the cascade of institutional processes brought to bear upon the way they come to inhabit the new institutional roles to which they are recruited. In the diagram: patient registration, education, treatment, contact mapping, monthly sputum exams, follow-up, community organization—and of special importance, the processes of patient conscientización, ‘awareness-raising’, that take place at monthly TB patient meetings, where they learn to tell their official, authorized stories—in short, the broader institutional framework, and its respective (meta)discursive techniques, that aims to promote patient “compliance” to treatment protocols. In the final chapter, chapter six, we will focus on the bottom of the diagram,

the leaves of the decision tree, as it were, each of which represents a distinct, treatment outcome for state-designated patients: cured, terminal treatment, died, transferred, failed, abandoned, and so forth. In particular, we will follow all the institutional and para-institutional work that goes into handling the problem presented by one the official treatment outcomes, the patient who “abandons” treatment—the abandono. This will take us out the institutional network and back into the periurban neighborhood, TB in the “campo, more or less.”

But first, designation.

## CHAPTER FOUR

### DESIGNATION: RECRUITING PATIENTS IN THE PUBLIC DIAGNOSTICS LABORATORY

In fact, the TB laboratory at the *Instituto Nacional de Tórax* did more than diagnose Don Rogelio's pulmonary tuberculosis: it gave him a valid and legitimate case of the disease in Bolivia's official order of TB control institutionalities—TB “with documents.” As we've seen in previous chapters, TB in Bolivia is as much a legal category as it is a biomedical category. In this chapter I further qualify that by exploring the extension of these medico-legal categories to particular individuals in authoritative events of biomedical designation. By virtue of designation, private persons like Don Rogelio become the bearers of categorially-prescribed public identities, bestowed with new rights and responsibilities before the Bolivian state, a form of ‘biomedical citizenship’ that, given the current climate of global TB governance, the Bolivian state can hardly afford to overlook. As officially-designated sufferers of a disease of immense state interest, individuals like Don Rogelio—one's with official cases of TB—become not only therapeutically-entitled patients, but *epidemiologically-relevant individuals*. As the decision tree above makes clear (see Fig. 24), patients can officially “die” of tuberculosis, they can officially “abandon” treatment for tuberculosis, and, among other things, if all goes well, they can officially be “cured” of the disease.

Nothing of this sort exists for sufferers of *aljach'oyo*, nor snoring, nor for the thousands of TB victims that go undetected and undocumented in Bolivia each year. And for patients that have already entered the system of state-sponsored TB treatments—for patients like Don Rogelio, that have climbed up the proverbial trunk of TB Officialdom—this is perhaps the most remarkable thing of all: that by contracting a disease, one could contract a special relationship to the state.

In her work in post-Chernobyl Ukraine, Adriana Petryna (2002) has shown how questions of citizenship in the aftermath of the nuclear reactor disaster have been shaped by an elaborate political-economy of medico-legal designation, as Chernobyl survivors struggle to obtain special access to state health care and other social protections set up in the disaster's wake. In a social milieu in which the Ukrainian state is reluctant (if unable) to extend benefits to all Chernobyl survivors, Petryna shows how sufferers make use of legal and extra-legal means to secure the coveted "ties" to the disaster, what Ukrainians call *sviaz*, "legal document[s] attesting to the link between certain illnesses and radiation exposure" (2002:19). Though less spectacular, the political-economy of TB case-designation in periurban Bolivia is analogous to the Ukraine. But the order of individual and state interests often runs in reverse. Social inclusion rather than exclusion is the organizing principle—and challenge—of TB designation practices on the ground.

That is, if in the Ukraine biomedically-inflected forms of citizenship are forged by the struggle of Chernobyl survivors to obtain state recognition, in periurban Bolivia, by contrast, it is the state, with its mandate to actively recruit and recognize new TB cases, that delimits the primary problem space of state-sponsored patienthood. Events of patient designation are

hardwon institutional accomplishments in Bolivia's periurban neighborhoods, and accordingly, sources of great concern and anxiety for local public health authorities.

By making TB patienthood a matter of public record, patient designation is one way of bringing national priorities and the programs that pursue them on the ground into alignment with the personal lives of Bolivia's periurban dwellers. As a kind of value-added diagnosis, designation launches its subjects into a new sphere of state-citizen communication, one predicated upon new relations of state care and control. With designation, the manifold interests of TB sufferers and their families, but also the healthcare professionals, program administrators, and numerous government officials whose own livelihoods depend upon the management of the disease, encounter one another, if only tangentially, in the pliable forms of institutional objectives. The desires of Don Rogelio to return to work, to build his home and marry his wife, become entangled in strange new ways with the interests of local doctors and nurses to ensure that the patients entrusted to their care adhere to treatment protocols, interests which are in turn in dialogue with the broader demands of (and on) national program administrators to stop the spread of the disease in the national medium, demands given ultimate financial, technical, and organizational backing by the agencies of global TB governance and their own directives to lessen global TB burdens and rout the emergence of drug-resistant strains of the disease. Designation creates a kind of "event-origo," a point of irreducibility in the fabric of state-sponsored disease control, projecting a new tactical front or axis in the "war against the bacillus," one around which myriad, often competing interests can be mobilized.

More than this though. With designation, the order of state epidemiology becomes metonymically linked in nontrivial ways to the biographical body of the patient: caring for the

diseased body of the patient becomes both icon and index of the control that *is* and *can be* exercised over the frequency of the disease in the national population. If part and parcel of the official means of TB diagnosis and treatment, then, TB designation is at the same time a key component of the sociotechnical infrastructure aimed at rationalizing the field of TB control at large, construing it as an internally-consistent space of state representation and intervention, the successes and failures of which can be measured and evaluated through epidemiology, demography, and other population techniques. Designation is like a discursive rivet, which, when replicated across the social field, anchors the TB control network into everyday life, creating a more supple socio-institutional topography, one capable of resisting the shear forces of the periurban ‘lifeworld’. Each newly recruited patient—to extend the metaphor—is at the same time a point of structural reinforcement in this greater topography of TB epidemiology.

Let me briefly, if telegraphically clarify what I mean by TB designation and situate it somewhat in its respective institutional locale, the public diagnostics laboratory. As Don Rogelio’s story makes clear, the public diagnostics laboratory is the ‘obligatory passage point’ through which all patients must pass to be officially-designated TB patients in Bolivia. All roads to the recruitment of a new TB patient lead to the laboratory bench. This rather imposing place in the order of things is, of course, owing to the specific epistemic practices that go on inside laboratories. By transforming complex, contextually-rich biological samples into self-sufficient, minimal texts with highly-constrained interpretations and usages—*lab results*, in short—diagnostics labs create the warranted knowledge required by Bolivian law to recognize a new TB case. Designation, in this sense, can be viewed as a kind of *virtual* performative nomination—virtual because co-



terminous to the production of the lab result itself—in which patients come to be, even in their physical absence, “baptized” with new medico-legal identities, as instances or instantiations of legally-prescribed biomedical categories, with all the rights and responsibilities entailed by the new status.<sup>1</sup> By producing lab results, public diagnostics labs produce official TB designations, and as such, produce treatable TB cases.

But, as any good lab tech knows, the integrity of lab results rests not only on the work performed inside the lab. The laboratory is but the culminating node in a much larger process of semiotic production that begins long before the lab bench. Diagnostics labs rely upon the delivery of reliable samples taken from patients, just as health centers rely upon the delivery of reliable results to begin treatments. The importance of this preparatory work can hardly be overstated, especially in the neighborhoods of periurban Bolivia: potential patients fail or refuse to produce samples, the samples that are produced are contaminated or non-representative, they arrive at the lab late, moldy, without identifying paperwork. In fact, a whole range of official and unofficial strategies are mobilized to maintain the integrity of the networks through which persons, samples, and texts circulate in and out of the lab. As we shall see, much of the everyday challenge of recruiting new periurban patients comes down to building and extending what, in the introduction, I called the metrological networks of TB control—the chains of strategic textual transformation or semiotic ‘transduction’ that link the lab bench to the health center to the homestead—and within which TB designations can be validly and securely attached to individuals, and further circulated as such.

---

<sup>1</sup> My account of biomedical designation as an act of ‘performative nomination’ (or institutional ‘baptism’) draws most especially on the works of: Bourdieu 1991; Mehan 1996; and Silverstein 2004, 2005. See a more detailed discussion below, in the body of the chapter.

In what follows I trace out the processes of strategic textual transformation called case-finding, beginning in the first instance with the coughing patient and a suspicion of ill-health. I show how “representatives samples” of patients are produced in the neighborhood CS, and how, through the work performed by the diagnostics lab, these representative samples are transformed into designation-bearing texts. As I argue, the progressive construction of TB designation aims at much more than the creation of a new TB case, but is part and parcel of the broader metrological project of transforming key dimensions of the disorderly world “out there” into a referentially-transparent domain within which, over which, and through which a modicum of technoscientific control can be exercised—a world of epidemiological vigilance. This is not always successful, as we shall see, but it is nevertheless an ongoing project.

Before this, however, I need to introduce in a preliminary way that deceptively simple genre of biomedical text toward which all this institutional activity endeavors, as a meta-textual *telos* of sorts: TB lab results, or, as they are elliptically called in periurban Bolivia, by patients and healthcare professionals alike, the TB *laboratorio*. And in doing so, I also need to introduce the specific laboratory technique that, in its final stage, yields the very results that get inscribed upon the surface of this documentary genre. As we shall see, in conjunction with the TB *laboratorio*, sputum smear microscopy is far from being a laboratory internal technique. In fact, drawing on the work of Peter Keating and Alberto Cambrosio (2003), it is what might be called the *biomedical platform* around which all the discursive activities of TB case-finding are organized, inside and outside the lab.

*Sputum-Smear Microscopy and Lab  
Results on the TB Control Platform*

The TB *laboratorio* is, besides being a key genre of biomedical text, also an artifactualized form of that textual genre—a written text-artifact or document with its own characteristic denotational structure and its own domain-specific interactional normativities. When filled out and signed by the appropriate professional and placed in the respective patient’s file, the TB *laboratorio* serves as an epistemic warrant or “authoritative virtual model” (Agha 2007:73) that can be referenced, as it repeatedly is, in future communicative events as a means of authenticating that the event of official designation has, in fact, officially taken place. It is this crucial tie that links TB patients to medico-legal identities in Bolivia—that creates an actionable TB case. Should challenges arise regarding the status of a patient, recourse can always be made to the *laboratorio*.

The *laboratorio* reproduced in Fig. 25, for example, authenticates that the denoted individual, in this case Don Rogelio, has felicitously been designated a state-sponsored TB patient—a discursive fact in the field of official TB representation that can also be taken, as it certainly must, as a biological and pathological fact of the individual so designated.

A quick look at Don Rogelio’s TB *laboratorio* reveals that it is not only a genre of biomedical text, but also a genre of bureaucratic text, approximating, in fact, that most quintessential genre of bureaucratic activity: “filling-in-the-blanks,” or coding of information fields. By filling-in-the-blanks according to the outcomes of lab analysis, lab techs create a denotational text-in-context—“information”—that, when circulated to the CS, can easily be extracted and transferred by staff on other text occasions, as when filling out patient treatment cards, DOTS registry notebooks, and the numerous trimesterly reports due to PNCT headquarters


**Resultados de Laboratorio / Imagenología / Gabinete / Servicio de Sangre**  
**PARTE 2**


Orden N° 98 Fecha: 21/1/04 N° de Registro: [REDACTED]

LABORATORIO: <u>[REDACTED]</u>		MUNICIPIO: <u>El Apto</u>	
LOCALIDAD: <u>[REDACTED]</u>			
RED:	SUBSECTOR:	SEXO: <input checked="" type="radio"/> M <input type="radio"/> F	EDAD: <u>[REDACTED]</u>
NOMBRE DEL USUARIO: <u>[REDACTED]</u>			
ESTABLECIMIENTO Y MÉDICO SOLICITANTE: <u>[REDACTED]</u>			
RESULTADOS DEL EXAMEN DE: <u>* Bacterias Sevidas la Trepeta.</u> 1° Muestra Positivo (H): <u>de 10 a 99 Bact</u> <u>en 10 campos</u> 2° Muestra Positivo (H+): <u>más de 10 Bact</u> <u>por campo</u> 3° Muestra Positivo (H+): <u>de 1 a 10 Bact</u> <u>por campo</u> <u>Muestra Sanguínea; Juncurolenta</u>			
SERVICIO DE SANGRE / Brregada:		N° Bolsa: _____	
Grupo Sanguíneo: _____		Rh: _____	
Sangre Total: _____		Paquete Globular: _____	
Plasma fresco congelado: _____		Concentrado de Plaquetas: _____	
Otros especificar: _____			
Nombre del Médico o Personal de Salud Solicitante: _____			
Cargo del Médico o Personal de Salud Solicitante: _____			
Firma del Médico o Personal de Salud Solicitante: _____			

Form. 8.

Figure 25. Sample TB laboratorio

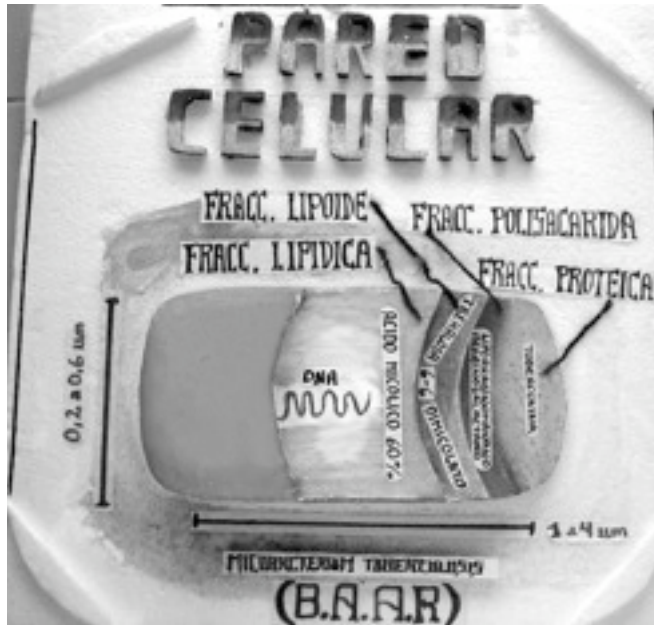
in La Paz, the ‘center of calculation’ for TB control in Bolivia. What makes the TB *laboratorio* distinct as an artifact of biomedical bureaucracy, then, has little to do with its internal textual organization—it is a typical bureaucratic text in this respect. Rather, the uniqueness of the *laboratorio* lies in the specific denotational content it carries, and more precisely, the characteristic way this entextualized denotational content is interdiscursively linked to other texts and the institutional sites of discursive practice that produce them, including, of course, the conditions of its own production: case-finding. In short, it is the interdiscursive organization of denotational text here—as output of a long process of entextualization, and input into a new cycle of textually-mediated activity (treatment)—that endows the *laboratorio* with its own distinctive normativity, construing it as genred communicative action.

A closer look at Don Rogelio’s *laboratorio*, however, reveals a curious fact. Nowhere is there explicit mention of designation, indeed nowhere is there mention of TB at all—at least to the untrained eye. To begin, besides the official stamp and standardized format of the inscription itself, we find the typical load of organizational and biographical detail: order numbers and registry codes; the names of the requesting health center and processing lab; the name, age, and sex of the patient; an official signature—the minimal information, in other words, necessary to locate lab results in social and institutional space. But when we look at the actual substance of Don Rogelio’s lab results (here the dense handwriting in the document’s centermost box) we find something much more cryptic. Glossed in English, the “results” found in Fig. 25 read:

1st sample - Positive (+): from 10 to 99 BAAR in 10 fields  
2nd sample - Positive (+++): more than 10 BAAR per field  
3rd sample - Positive (++) : from 1 to 10 BAAR per field

This is of course a report, in a rigid technical register, of the outcomes of tests performed on a battery of samples sent to the diagnostics lab. The name of the test is handwritten and underlined on the document itself, just above the report: *Baciloscopía seriada de esputo*, or Serial *baciloscopía* of sputum. Sputum, we learn, is the stuff analyzed in the lab. Inscribed on the *laboratorio* are the qualitative aspects of these sputum specimen, in this case, “bloody” (*sanguinoliento*) and “mucoïd purulent” (*mucopurulenta*).

The distinguishing lexical items in the report (BAAR, fields, and their counts: which I will explain in detail below) and the characteristic way of representing positivities (as degrees, represented by plus-signs) are the key parameters in the conceptual metalanguage of sputum smear microscopy, the primary lab technique, or criterial standard (“gold standard”), for state-sponsored TB designation in Bolivia. It is important to see that the positivities articulated here do not, at least not directly, refer to tuberculosis. They are BAAR-positivities. These are the positivities that will later be transferred to other key texts, like patient treatment cards, at the initiation of treatment. Professionalization in the field of TB control involves learning how to translate these quantitative laboratorological parameters pertaining to sputum into qualitative clinical terms—the terms of tuberculosis, the clinical manifestation—that can be extended more generally to the patient for whom the sputum specimen metonymically represents. At the CS, the highest degree of BAAR-positivity typically serves as the cover term for the patient. As his *laboratorio* shows, Don Rogelio would be called, as indeed he was, a *paciente de tres cruces*, a “patient of three crosses.” If in the laboratory this is only a difference of degree, from the clinical and epidemiological perspective the difference is vast: by inference, Don Rogelio is a patient with an advanced, and likely highly contagious, case of pulmonary tuberculosis.



**Figure 26**

**Representation of *Mycobacterium tb*, fashioned out of styrofoam and displayed on the wall of a neighborhood CS in El Alto**

But what precisely is sputum smear microscopy, and what do these BAAR-positivities actually refer to? Sputum smear microscopy is a bench technique that employs a combination of chemical exposures and dyes (the Ziehl-Neelsen staining method) to visualize *Mycobacterium tuberculosis*, the microbial agent responsible for TB, in sputum extracted from the patient’s lungs. This semiotic imaging of the bacillus is afforded by the specific properties of the TB microbe itself. The TB bacillus belongs to a special class of bacteria called “acid-fast bacteria”—in fact, BAAR stands for *bacilo ácido-alcohol resistente*, the Spanish equivalent for acid-fast bacteria. Unlike other bacteria, acid-fast bacteria or BAAR have cell walls that are impermeable to acids and alcohols, but in the presence of heat readily absorb certain dyes while repelling others.<sup>2</sup> When smeared on a slide, treated with acids, alcohols, dyes, and heat, and inspected

<sup>2</sup> The genus *Mycobacterium* is named after the high density of mycolic acids embedded in the bacterium’s cell wall. The differential performance of *Mycobacteria* in the laboratory is owing, in large part, to these mycolic acids, which also determine the special virulence of the organism in the human body. “Mycolic acids are strong hydrophobic molecules that form a lipid shell around the organism and affect permeability properties at the cell surface. Mycolic acids are thought to be a specific determinant of virulence in [*Mycobacterium tuberculosis*]” (<http://textbookofbacteriology.net/tuberculosis.html>).

under a microscope, acid-fast bacteria appear as countable rose-red rods in a background matrix of blue-tinted detritus. And in fact, it is by quantifying and averaging the count of BAAR across multiple “fields” (*campos*, or single viewings through the lens of the microscope) that laboratory results are produced.

Don Rogelio’s lab results exhibit the full range of BAAR-positivities possible for sputum smear microscopy. In the first sample, for example, less than 100 but more than 10 unique BAAR were observed in 10 fields “read” by the lab technician, yielding the result of “one cross,” or (+). In the second and third samples, more than 10 BAAR and between 1 and 10 BAAR were observed on average in 100 fields read, respectively, yielding the outcomes of (+++) and (++) “three crosses” and “two crosses.” In a non-trivial way then, the very working definition of tuberculosis in Bolivia, as in other countries adhering to DOTS, is determined by the particular microbiological criteria of sputum smear microscopy. As the schema reproduced below in Fig. 27 shows, taken from the WHO’s DOTS program manual, it is only when these microbiological criteria fail to yield conclusive results—as when only one of the three samples shows BAAR-positivity, or when sufficient clinical evidence exists to suggest pulmonary tuberculosis, despite a BAAR-negative *baciloscopia*, and despite repetitions of the test—that other diagnostic modalities are recognized as valid for creating a new TB case.

In this respect, sputum smear microscopy or *baciloscopia* is more than a laboratory internal “phenomenotechnique” (Latour & Woolgar 1986; Rheinberger 2005). It is a technical form that embodies an entire mode of sociotechnical and metadiscursive coordination, making it possible to constitute TB case-finding as its own distinct domain of institutional practice. All the preparatory work leading up to the laboratory—the work of patient recruitment, program



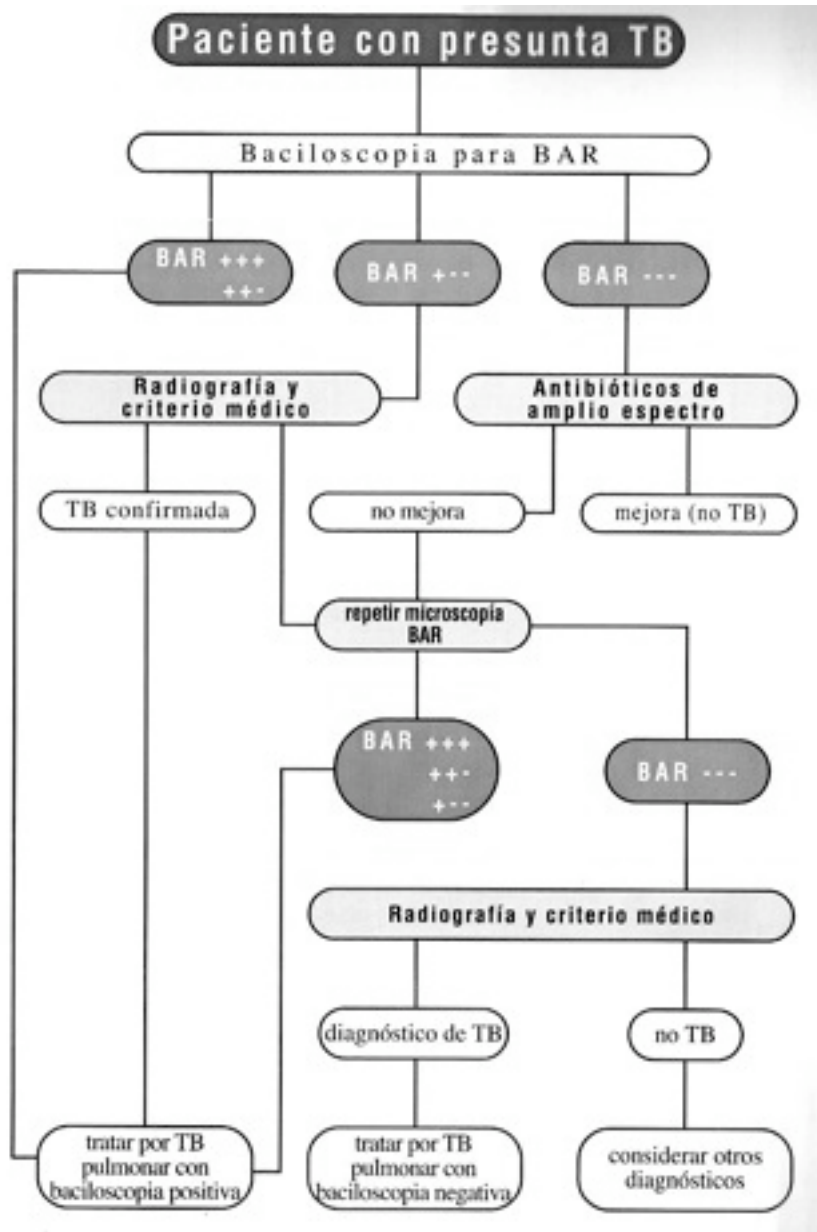


Figure 27. The official diagnostic protocol for TB case-detection under DOTS

planning, monitoring, and evaluation, campaigning, quality control, and so forth—is, ultimately, organized around and oriented toward the formal requirements of this particular laboratory technique. All the forms of textual production “out there” in the periurban neighborhood presuppose this technique and its ultimate textual embodiment—the *laboratorio*—as their endpoint: their metadiscursive telos.

To use Keating and Cambrosio’s useful concept, sputum smear microscopy is the ‘biomedical platform’ upon TB case-finding activities are elaborated and enacted in periurban Bolivia—the specific combination of “techniques, instruments, reagents, skills, constituent entities [...], spaces of representation, diagnostic, prognostic, and therapeutic indications, and related etiological accounts” that structure discursive interactions across disparate institutional sites in the broader TB control network (2003:4). These sites include health centers, clinics, hospitals, and diagnostic laboratories, but also other overlooked sites: the state bureaucracies that compile epidemiological data and the regulatory agencies that create, implement, and fund TB policy; the scientific and biomedical research centers that develop new techniques and manufacture the instruments, materials, and reagents required for sputum smear microscopy; the various centers of vocational training, professionalization, and quality control that educate, license, and supervise the personnel and technical apparatus that populate the network; and even the policies and practices that regulate and enact the storage and disposal of biohazard. Without this biomedical platform, the “war on the TB bacillus” would remain a broad strategic objective without a coherent set of tactics and evaluative criteria.

To be sure, this is not because sputum smear microscopy offers a privileged window into tuberculosis, the disease entity. As Keatng and Cambrosio are careful to point out, the

comparative advantage of a given biomedical platform lies not in any special correspondence or truth-relation between technique and target entity. Rather, the practical efficacy of a biomedical platform lies in its capacity to reconfigure, through common convention, a heterogeneous field of activities into an internally-consistent domain of representation and intervention. As I show in this chapter, the comparative advantage of sputum smear microscopy lies in the way that discursive practices *outside* the lab can more easily be coordinated with discursive practices *inside* the lab, creating a relatively smooth chain of progressive entextualization across different sites and even modalities of semiosis. Chest radiography, clinical examination, tuberculin skin testing, fluid and tissue culture, and now new molecular-based techniques are all valid potential candidates for TB case-finding, but what accounts for the privileging of sputum smear microscopy is the specific—and not to be overlooked, cost-effective—point of focus it affords. In short, one can start with a broadly contextualized cough “out there” in the neighborhood and end with a narrowly recontextualized, detachable BAAR inside the laboratory, one that takes its proper place in the coded informational fields of a singular documentary genre, the TB *laboratorio*.

Keating and Cambrosio introduced the concept of the biomedical platform not only as a way of addressing the interdependency of biomedical practices outside, inside, and between laboratories, but also as a way of understanding the specific kinds of “epistemic things” that make possible and facilitate these interdependencies. As opposed to more traditional (Western) medicine, they argue, the epistemic entities of contemporary biomedicine involve a novel cross-fertilization of medicine and the biological sciences, and as such, a novel reworking of the “normal” and the “pathological” that cannot be grasped by looking only at the laboratory. A

biomedical platform is more abstractly “the bench upon which conventions concerning the biological or normal are articulated with or connected to conventions concerning the medical or pathological” (2003:237). Their own work, for instance, focuses on the CD4 blood cells at the core of both HIV/AIDS research and therapy. As they show, CD4 cells are “normal” (vs. “pathological”) objects of scientific practice—a new mode of investigating the human body. But, through the quantification of CD4 cells in particular human bodies, they also act as powerful biological markers of “pathology.” What a CD4 cell is, then, makes little sense outside of this particular articulation of HIV/AIDS science and medicine, and more especially, the platform that brings together research and the study of general laws with medicine and the study of particular bodies.

While it is true that sputum smear microscopy is among the oldest bacteriological techniques, dating back to the time of Koch, the same can be for the “epistemic things” at its technical core—acid fast bacteria, or BAAR. Ontologically-speaking, acid-fast bacteria are not entities found in nature and only afterwards discovered by laboratories. Like CD4 cells, they are entities *produced* in TB laboratories, artifacts of a specialized laboratory process tailored to a particular diagnostic end. As is evident in the name itself, “acid-fast” or “acid-alcohol resistance” is little more than a profile of laboratory-induced behaviors. In effect, any bacteria that performs in the same way when exposed to heat, acid, alcohol, and different kinds of chemical dyes is characterized as acid-fast, as BAAR. And while the pool of candidates meeting this particular “epistemic profile” (Latour & Woolgar 1986) is small, it is not limited to *Mycobacterium tuberculosis*. In fact, any member of the genus *Mycobacterium* will perform this way, as will several other known (albeit less common) microbial agents. It takes the trained eye of the

microscopist to spot the difference. And while research on the specific properties of acid-fast bacteria has historically been limited to their use as diagnostic ends (that is, to perfecting their application as pathological markers, namely, by improving upon their visualization), with the emergence of drug-resistant strains of *Mycobacterium tb* this is quickly changing. New scientific research programs have taken upon the study of these entities in their own right, as objects of interest in the study of the “normal”—namely, as a means of investigating the productive interaction between bacteria and the drugs engineered to destroy them. The use of sputum-smear as a “control” mechanism for monitoring individual treatment regimens, aimed as much at ensuring against the broader creation of drug-resistances through patient noncompliance as it is at the ultimate well-being of the individual patient, is one example of the new roles acid-fast bacteria and their properties have been recruited to play in contemporary TB control systems.

My concern with TB platforms in this chapter is less with the normal, the pathological, and the intersection of science and medicine *per* Keating and Cambrosio, than with the coordinating functions of sputum-smear microscopy across institutional sites. I’ve already pointed to the ways that sputum-smear microscopy organizes discursive practices outside the laboratory, by constraining the production of texts in case-finding activities. Given what might be called the *semiotic underdeterminacy* of acid-fast bacteria, however, it is also important to see the ultimate semiotic contribution of case-finding activities to the interpretability of laboratory evidence. As any good lab tech will agree, the results of sputum microscopy are at best a probable inference that the patient has tuberculosis. In fact, it is only in the pragmatic surround of other co-occurring signs—the clinical, epidemiological, and biographical evidence that accumulates in a “case” in and through the activities of case-finding—that this probable

inference can be interpreted as a bona fide epistemic warrant for the presence of the disease in the patient's body. That is, it is ultimately the broader process of entextualization that *leads up to the lab, ensuring the "representativity" of the sputum specimen as well as the patient it stands for*, that collectively guarantees the validity of lab results.

In short, the validity of TB lab results, and thus the legitimacy of TB designation as an institutionally-consequential act, rests upon the production and progressive transformation of texts ancillary to the lab, as a means of interdiscursively *construing* the findings they report as authoritative signs or statuses that "count" not only in a specific laboratory setting, and with respect to particular samples, but to the patient at large and across the entire domain of TB medico-legal representation. This may seem an obvious theoretical point, but, as we shall see, the tremendous care that must be taken in delivering "representative" samples to the lab, despite the numerous opportunities for failure and error, reveals in *practice* the crucial role of the broader metrological network and the platform it runs on, so to speak, in creating the co-textual surround for the interpretability of lab results.

### *Case-Finding on the TB Platform*

According to Bolivia's TB control program, TB case-finding (*localización de casos*) is the "control measure aimed at early diagnosis of bacterial cases [of TB] through the identification and bacteriological examination of *Sintomáticos Respiratorios*" (PNCT 2003c). The "respiratory symptomatic" subject—or SR as it abbreviated—is the linchpin of TB case-finding in Bolivia, as in other countries adhering to DOTS. The aim is to detect new cases of pulmonary tuberculosis in a local population by systematically screening as many SRs as possible using sputum smear

microscopy. The neighborhood CS is the privileged locale for the initiation of the screening process, beginning in the first instance with the identification of SRs through community outreach. In this respect, the TB “decision tree” reproduced above (Fig. 24) might be reconceptualized not as a trunk with branching nodes, but as a series of successively more refined sieves or screens through which the local population “covered” by a neighborhood CS is—in theory at least—made to pass, yielding a set of potential TB candidates, a predictable few of whom will turn out to be TB-positive.

“Screening” (*tamizaje*) is the key term here. From a semiotic perspective, it is a suggestive metapragmatic metaphor for the pragmatic dimensions of case-finding on the sputum microscopy platform. Each successive screen can be seen as a distinct event of entextualization, interdiscursively linked to other events of entextualization through a sequential process of pragmatic translation, or transformative textual “transduction” (Silverstein 2003). In the screening process, the denotational text produced in one discursive event is strategically recontextualized or transduced into a more stringent array of pragmatic signs in a secondary discursive event, yielding a modulated denotational text-in-context which can then serve as the basis for further transductions in subsequent discursive events. Hugh Mehan, in his work on special education in the US, identifies a similar semiotic process in the system of referral by which students come to bear the designation “Learning Disability” (LD):

An important feature of this process is the transposition of entextualization from context to context. Discourse from one setting in the sequence of events in the referral process generates the given text[-artifact] used for discussion in the next session [...] Such artifactualized texts, generated from a particular event in the sequential process [...] become the basis of the discursive interaction in the next step in the sequence. (1996:258-9)

As texts move along the chain of referral, Mehan points out, they become increasingly de-voiced in their semiotic construal, decentered “from the interactional practices that generated them in the preceding events.” Each textual transposition, in other words, generates a by-degrees relatively more bounded—hence, more institutionally authoritative—text-in-context.

The same can be said of the texts transduced across the TB network. For example, interviews with neighbors in the area covered by the CS yield verbal texts which then serve as basis for clinical consultations at the CS. Neighbors identified as “respiratory symptomatics” (SRs) in these consultations are asked to submit sputum samples, which are sent to diagnostics lab along with the written lab order forms to which they are co-indexed. At the laboratory, sputum smear microscopy works to transform these samples into “readable” denotational texts, the results of which can be used to code the informational fields of the TB *laboratorio*. Once returned to the CS, the highly-decentered results of lab analysis can be extracted and transferred to other text-artifacts, now as de-voiced TB designations. As with the Mehan’s culminating LD designation, “[c]omplex, contextually nuanced discussions get summed up in (and, hence, are entextualized through) a single word” (1996:253)—in this case, “TB-positive.”

Unlike the LD referral process Mehan describes, however, where the transduction of texts proceeds across sites of entextualization exclusively defined by the production of linguistic signs (e.g., teacher evaluations of student verbal behavior in classroom settings, appraisal and recommendations meetings, and so on), the paramount sites of discursive transduction in TB screening are defined as much by nonverbal signs as verbal signs. This is because, as we have seen, the key actors in the TB screening process are not only humans. Besides doctors, nurses, and lab techs, TB screening takes into account another participant: the microbe. In fact, when



viewed from the perspective of the sputum microscopy platform, the entire screening process might be viewed as an elaborate ritual staged in order to “enrol” (Callon 1999) the mitigated participation of microbes in the designation process, enticing them to produce signs of themselves. In this respect, each step of entextualization is strategically designed to transduce the denotational product of the previous entextualization into a text-in-context increasingly regimented by the specific biomedical parameters, or metapragmatic indicators, that facilitate the ultimate disclosure of this quintessential participant in the form of laboratory-induced indexical- iconicities.

In a way peculiar to biomedicine, then, the recruitment of a new TB patient ultimately comes to rest upon the recruitment of microbes, as authorized “actants” in a fully multimodal event of laboratory communication. But, crucially, recruiting microbes in turn rests upon the prior recruitment of the right kind of person, namely, the patient who can, with some degree of predictability, produce samples in which those microbes can be “made to speak.”

The linchpin of TB case-finding is, as I just mentioned, the *sintomático respiratorio*, or SR. But SR is hardly a “diagnosis” in a clinical sense. One could not, for instance, be treated as a *sintomático respiratorio*—treated for what? SR is more accurately described as a public health category composed of the known risk-factors of pulmonary tuberculosis, namely, a cough of more than 14 days, or a “productive cough” (*tos productivo*), one that contains bloody sputum, for instance. But SR can include as well biographical, clinical, and demographic correlations like proximity or relation to a known tubercular, HIV/AIDS positivity, current and/or antecedent diagnosis with other respiratory illnesses like silicosis and pneumoconiosis, and even extreme poverty and chronic malnutrition. In a population in which everyone is presumed to have already

been exposed to the primary TB infection, SR merely maps the probability of a secondary re-infection or re-activation, leading to the clinical manifestation of the disease, pulmonary tuberculosis. SR is, in this regard, a *proleptic* category that implicates its bearer into a highly-prescribed course of future action—more testing. It is the most preliminary way of encoding basic presenting symptoms in the metrological order of state-sponsored TB control.

In the terms I have been developing here, the *sintomático respiratorio* is a perfect example of a platform-specific biomedical concept. Outside the platform it has little significance, but inside the platform, in relation to a network of other concepts, it plays a key role. As a kind of intermediate designation, SR is ultimately what entitles a patient to a state-subsidized sputum exam. It is in this respect a quasi-legal concept, akin to the concept of “legal standing.” A patient that has been “diagnosed” SR is a patient that has official legal standing in the official field of TB representation, a patient with a “case” deemed worthy of further investigation through laboratory analysis. By virtue of her husband’s TB-positivity, for instance, Don Rogelio’s wife was “diagnosed” by proxy as a *sintomático respiratorio* and given a free sputum exam, even though, as she insisted, she didn’t have a cough at the time nor could produce sputum (co-residence with a known tubercular was sufficient to establish her entitlement). Viewed differently, the SR diagnosis might be seen as the opening sequence in an abstract pair-part structure, in which every SR must, by state regulatory norms, be followed up by a specific TB designation, creating a circuit of biomedical communication. Apart from this abstract communicative circuit and the platform upon which it operates, the SR diagnosis is meaningless in itself. But how are *sintomáticos respiratorios* actually recruited to these test-worthy roles?

*Passive recruitment and the (un)recognizability of the cough*

The ideal, of course, is that potential *sintomáticos* “spontaneously” (*de voluntad*) present themselves to the CS when they first notice a cough. But this—the “passive recruitment” (*captación pasiva*) of patients—is only effective insofar as neighbors first recognize the cough as a symptom. Setting aside for the moment the problematic assumption that the CS is the place to which coughing neighbors might “spontaneously” gravitate, the very recognizability of the tubercular cough is itself controversial in periurban Bolivia. “Everyone has a cough!” I was often told by exasperated doctors and nurses. Acute respiratory infections are common in the inclement environs of El Alto, compounded by chronic malnutrition, crowded buses, and, according to many of my sources, the lack of hygienic habits among periurban dwellers. In short, I was told, people confuse the acute cough, the cough of the common cold, with the tubercular cough, reducing the latter to former and so to just another *molestia* or “annoyance” of everyday periurban living, one that might just as well be alleviated, if not cured, by an elaborate tradition of home remedies (*medicinas caseras*).

“The people (*la gente*) go to the *Centro de Salud* when their heads hurt, when their backs hurt, when their hands hurt, but they NEVER go for a cough,” a regional TB director told me one day. For this reason, she added, TB is a “silent disease” (*enfermedad silenciosa*) in Bolivia. Not only does it develop progressively, chronically, and often asymptotically—the classical characterization of TB’s “silence” in public health discourse. But, in Bolivia, TB is silent for the more local reason that “the people” (by which she meant people from places like El Alto) do not “comprehend” it as a symptom of serious illness. “They don’t have this culture [...]. They say, ‘This will pass, this will pass’. So it is a silent disease.” Chronic coughing is so commonplace,

she joked, that Bolivians are more likely to seek out biomedical attention when they *don't* have a cough than when they *do*.<sup>3</sup>

Like the regional director, most Bolivian TB authorities countenance the very real public health consequences posed by the unrecognizability of the tubercular cough. At one meeting I attended, an official of the national TB control program lamented that, owing to the cough's unrecognizability, there could be no such thing as early detection for TB in Bolivia—bucking the entire premise of the TB case-finding model:

Pitifully, for our people the cough for us isn't a signal of danger. We could be coughing for months, we could be coughing for a year, we don't worry. We only go [to the health center] when the cough comes along with phlegm, with blood, and only then do we become afraid, and say to ourselves, "Why am I coughing blood?" The cough should to be an alert signal.

Echoing these sentiments, 2003's landmark PNCT report singled out the unrecognizable cough as the single most important "barrier" to conducting TB control in Bolivia. In its "psychographic profile" (*perfil psicográfico*) of the typical Bolivian tubercular (see chapter five), it noted that not only is the tubercular cough construed as "normal in the community," but the symptoms of TB that are recognized by Bolivians are always those of advanced tuberculosis: bloody sputum, weight loss, and other indicators of "wasting."<sup>4</sup> The regional TB director I quoted above translated this trenchant "silence" of the cough into the language of lab results for me: "The patients that do go to the laboratory, they're all two crosses, three crosses! The disease has

---

<sup>3</sup> I reciprocated in kind with a story I was told by my undergraduate thesis advisor, about an elderly Mexican villager who mistook a solid stool for sign of serious illness. ("Congratulations," my advisor had told him, "you just had your first normal bowel movement!") The regional director wasn't as amused as I was with the story, but agreed that the normalness of the tubercular cough in El Alto might be compared to the normalness of diarrhea in the iconic Mexican village.

<sup>4</sup> In my own experience, I would reverse the causality here: the periurban TB-patients I spoke with tended to locate weight loss, wasting, and even bloody-sputum (i.e., as the disintegration of the body's fabric, beginning with the lungs) as the *cause* of tuberculosis, not its consequence.

advanced that far, including also having attacked other organs!” “Bolivia is characterized by what then?” she asked rhetorically, “we are characterized by a late diagnosis (*diagnóstico tardío*).” But late diagnosis is the very problem that the DOTS strategy, in its case-finding modalities, is intended to overcome.

Though public health authorities do not explicitly thematize it this way, the “silence” of TB in periurban communities is implicitly, or practically, conceived as a discursive silence, as a lack of a homegrown discourse that construes the cough as a symptom of serious illness, of an *enfermedad grave*, as for instance one finds with fever, pain in the kidneys and gallbladder, even swelling of the feet. “So what is it that we have to do?” the regional director asked me rhetorically (the rhetorical question is one of the hallmarks of this professional register), “We have TO TALK, TO SPEAK with patients, sensitize patients (*sensibilizarlos*) in the clinics, in the hospitals, in the health centers”—to promote, in other words, a new discourse about TB, if not from the bottom up then at least from the middle-down. I will return to the question of *sensibilización de la comunidad*, “sensibilization of the community,” or as it officially called, TB *conscientización* or “consciousness-raising,” in chapters five and six. Here I only want to point to some of the more obvious discursive modalities through which a new conceptualization of the tubercular cough is promoted in periurban Bolivia, in popular health communication, and as part of boosting passive SR recruitment.

In 2003, following the elevation of TB control to a national priority, large yellow billboards were raised throughout El Alto by the municipal government, seeking to “raise awareness” about the tubercular cough by placing it at the very epicenter of popular life: the



**Figure 28**

**TB Billboards in El Alto: “Let’s struggle against tuberculosis”**

*“If you cough for more than 2 weeks you could have tuberculosis. Seek consult in the Health Center closest to your domicile.*

- The consultation is... gratis*
- The detection is... gratis*
- The treatment is... gratis*

*If you have tuberculosis you have the obligation of curing yourself.*

*Attend the Health Center”*

city’s neighborhood plazas and along its most traveled boulevards (Fig. 28). No other disease process or public health concern attained to such public visage. “Let’s struggle against tuberculosis,” the signs read in a threatening print. “If you cough for more than 2 weeks, you could have tuberculosis.” An image of a transparent man with a diseased lung—“Juan” as he is called in municipal TB literature—is depicted communicating with an equally transparent, but healthy-lunged woman (“Maria”), a highly emblematic braid or *trenza* falling down her back. Juan communicates not speech but the disease itself, a cone of contamination extending from his mouth like buckshot. The billboards exhort coughing neighbors to seek consultation at the local CS: “If you have tuberculosis you have the obligation of curing yourself.”

The placement of these signs in neighborhood plazas is as revealing as the message they convey. Neighborhood plazas in El Alto are the domain of local neighborhood political organizations, the *juntas vecinales*, many of which, at least in 2003-4, voiced strong opposition to municipal and national authorities. Neighborhood meetings take place in these plazas, as do

the annual festivals that commemorate the neighborhood's foundation, usually through struggle. In a city where everybody is "from somewhere else," plazas are also the site for public works intended to keep the memory of migration, resettlement, and collective struggle alive. For instance, in one neighborhood, home to many "relocated" ex-mining families, the large yellow TB sign was erected contrapuntal to a statue depicting a coca-chewing miner hard at work in a mine-shaft, the charismatic face of *Tío*, the infamous devil of the mines, looking on, and on top of the shaft, a buff shirtless miner with a pith hat and a hand raised to the sky holding a cartridge of dynamite—the image of revolutionary struggle in Bolivia (see Fig. 7). In this spatial surround, the "Let's struggle against tuberculosis" of the TB signage is quite remarkable, shot through with tension-filled dialogical significance.

A second example is taken from the short radio *spots* or "spots" that were broadcast on El Alto's airwaves throughout 2003. Using the trope of 'constructed dialogue,' they embedded information about TB, the tubercular cough, and its state-subsidized diagnosis and treatment in friendly conversations (always in Spanish, to my knowledge) between social persona identifiable by their modes of address: two *vecinos*, a *compadre* and his *comadre*, a wife and her husband. I was not able to obtain the cough-specific *spot*, but was assured that it took the same general form as the "spot" promoting BCG vaccination (against meningeal tuberculosis) among newborns:

Juan: Hola María, ¿dónde estás yendo tan apurada?  
*Hi Maria, where are you going in such a hurry?*

Maria: Hola Juan, estoy llevando mi wawa al hospital.  
*Hi Juan, I'm taking my baby to the hospital.*

Juan: Al hospital, ¿está enfermita?  
*To the hospital, is she sick?*

Maria: No, no está enferma. La estoy llevando para que se reciba la vacuna BCG. Es sabido que esta vacuna deben recibir las wawas recién nacidas, para que no se enfermen de tuberculosis.

*No, she's not sick. I'm taking her so she can get the BCG vaccine. It's usual that newborn babies receive the vaccine so they don't become sick with tuberculosis.*

Juan: ¡Ah qué bien! Eso no sabía. Entonces ahora mismo yo también le llevaré a mi wawa al hospital, para que le vacunan contra esta enfermedad. Más bien me apuraré. ¡Ciao María!

*Ah, what a good idea! I didn't know that. Then I'll also take my baby to the hospital right away so they can vaccinate him against this disease. It's better I hurry. Ciao Maria!*

Maria: Sí, apúrate Juan. ¡Nos vemos otra día!

*Yes, hurry Juan. See you another day!*

The official in charge of these *espots* explained to me that the hope was that they would serve as a model for everyday conversations, or, as she put it (performing the very dialogue the spots were intended to promote), “So that people will say, ‘Ah! I’ve been coughing for two months, and I don’t have desires to eat. I must be sick!’” One could image a wife asking her husband about his cough, a father his daughter, a market vendor her customer—all culminating, of course, in the exhortation to spare no time in paying the CS a visit. My favorite example of this kind of public health communication is an experimental publicity campaign launched in El Alto in 2004 which aimed to distribute cassette tapes to minibus drivers for riders to listen to along their routes. The tapes contained music popular at the time, *cumbia* and *folklórico*, mostly, interspersed with TB and other health-related spots. I only rode once on a minibus with such a cassette tape playing and, predictably, the driver fast-forwarded through the *espots*!

In spite of such provocative public health messaging, TB authorities in El Alto are well aware that passive SR-recruitment falls far short as a case-finding activity. The reasons behind this failure are complex and requiring a broader ethnography of discourse reception that is



beyond the scope of this chapter—I will save my discussion of this for chapter six. The important point for now is that local healthworkers cannot and do not count on coughing neighbors presenting themselves “spontaneously” to the CS for consultation. As they realize, more proactive measures must be taken.

*Active recruitment and community-based interviewing*

In contrast to passive recruitment, “active recruitment” (*captación activa*) strategies focus on screening neighbors through “community-based interviewing” in key sites: neighborhood markets, schools, meetings of community organizations, the waiting room of the CS itself, and in the last instance, on the doorsteps of neighbors’ homes. This thankless task—*pescando pacientes*, “fishing for patients,” as it is often called in local CS discourse, as I noted at the outset of the dissertation—often falls to nursing students in residence and just as often to other public health surrogates like the neighborhood volunteers (e.g., the “community-based epidemiological vigilantes” I discuss in chapter six), or to hapless persons like myself who volunteer as local DOTS-promoters. The community-based interview, or *entrevista comunitaria*, is in fact the initial link in the long process of entextualizing TB-designations, laying the textual foundation for subsequent textual-transformations on the case-finding platform.

As a genre of discursive interaction, the TB community interview seldom occurs in isolation but is typically coupled with other public health activities like neighborhood vaccination campaigns and public health talks (*charlas*). As nursing students go block-by-block, door-to-door seeking out neighbors to vaccinate, for instance, they’ll inquire about the tubercular cough. Here, the “interview” is short and strategic, organized around two loosely-scripted

questions: First, *Do you have a cough, and if so, have you been coughing for more than 14 days?* and second, *Is anyone else in your residence coughing as well, and if so, for how long?* In this respect, these interviews rely upon and reinforce the messaging of popular health campaigns, only they recast the communication within a more hierarchical relation. It is no longer the friendly, solidaristic conversation between a Juan and a Maria, but a more bureaucratic exchange between a public health agent and a presumed “user” (*usuario*) of state-sponsored health services. If the solidaristic conversation, in its actual realization, might have taken place in Aymara, the *entrevista comunitaria* of active recruitment will undoubtedly take place in Spanish, the language of the state.

The local conceptualization of active SR-recruitment as “fishing for patients” is telling in its metapragmatic metaphorization of the interview. Interviewing is conceived in this ethnometapragmatics as an act of casting informational hooks into the community pool, hoping that neighbors, like unsuspecting fish, take the bait, revealing to healthcare workers what everyone recognizes as intimate details about personal health and the health of family members and neighbors. In the metaphor, the pragmatic “hook” is the opening up of a pair-part sequence in the form of the scripted lines of inquires. The objective of these short interviews—the “catch” in this pescicultural ethnometapragmatics—is to get neighbors to predicate in denotationally-explicit terms the state of their lungs over a specified duration of time, the 14 day minima. As in passive recruitment, the tubercular cough again occupies a central place as the key symptom, and here again CS staff bump up against the problem of the cough’s unrecognizability. Much as in ethnographic interviewing, then, conducting preliminary TB interviews involves first stabilizing a metadiscursive frame in interview realtime within which a new metapragmatic awareness can

arise with respect to what are otherwise seen as everyday bodily manifestations. The burden on the interviewer is to get the patient to create a relatively coherent verbal representation of their health from which a symptom can be isolated and extracted for further text occasions.

Like the SR “diagnosis” toward which it is oriented, the rubric of 14 days is less a biomedical measure than a situationally-appropriate discursive resource that emerges at the intersection of everyday awareness and the particular demands of the sputum microscopy platform. Fourteen days, or two weeks, transposes a cough into an everyday durational framework within which the “normal” cough of the common cold can be distinguished from the more perduring, “pathological” tubercular cough (*tos más amplio*), a cough “with an evolution” (*con evolución*) as it will later be described in the CS. As a diagnostic, however, an “evolving cough” is not a sign that can be instanced in the interview itself: all coughs are equal out in the neighborhood, without a stethoscope and other clinical technologies, including the well-trained ear. The key diagnostic indicator of the *entrevista comunitaria* is not the cough proper, then, but the *verbal representation of the cough’s duration*, reckoned in days and weeks counted backward from the here-and-now of the interview itself.

Needless to say, there is much discretion arrogated to the interviewer in “fixing” the final meaning of the denotational text produced in the interview. In fact, it is rare that a neighbor verbally articulates a cough within the specified durational framework. More often, neighbors report having had a cough “since forever” (*desde siempre*) or “for just some days” (*unos días nomás*), neither of which is sufficient to transform a verbal representation into a detachable symptom. In most cases, the interviewer has to invoke other means of determining the severity of the cough. Here the second line of inquiry comes in handy. By asking about the health states of

intimate others, especially co-residents, the respondent's cough can be located at the intersection of two axes, one biographical and durational, the other epidemiological and spatial. A coughing neighbor that lives in a household with other coughing neighbors raises a red flag.

At the same time, this kind of information is nearly impossible to elicit. Bolivians are *muy susceptibles*, I was often told, 'very suspicious.' "No one wants to tell you anything! They all hide when we come around," report nursing students conscripted to fish for patients. From the perspective of the local communicative habitus, telling a stranger about one's internal states and biographical being, much less the states of others, is a highly disparaged practice. Asking such questions opens up a communicative space in which the interview soon morphs into another kind of discursive interaction, as the following vignette illustrates.<sup>5</sup>

During one event of community outreach, conducted in the main plaza of a neighborhood in which I conducted fieldwork, an elderly woman approached the team of interviewers—besides myself, several nursing students and a community volunteer. As part of the community outreach, the plaza had been covered with handmade posters illustrating the basic symptoms of TB: nightsweats, weight-loss, loss of appetite and energy, and of course the perduring cough. After stopping to look at the posters, the elderly woman, a *señora de pollera*, approached the table where the team of interviewers were gathered. She explained that she had felt ill for awhile, had been losing weight and was without an appetite. The woman told us that her husband, an ex-miner, had died of an undiagnosed pulmonary condition, *mal de pulmón*. Could it have been "this disease," she asked? The community volunteer, a middle-aged man with no medical

---

<sup>5</sup> Further fieldwork, and a different IRB protocol, would be required to fully flesh out this aspect of case-finding. While I followed nurses and nursing students as they "fished for patients," it was highly inappropriate for me to record community interviews. For the time being, this vignette will have to serve as a placeholder for data to be collected in the future.



**Figure 29**

**TB community outreach in neighborhood plaza, El Alto**

training but much more sensitive to the needs of neighbors, asked the women if she had been coughing. She had had a cough, she reported, but was unable or unwilling to say for how long—for as long as she could remember. She seemed reluctant to talk in the plaza, however, so the volunteer asked if he could interview her in her home, later that afternoon. She agreed.

Later that afternoon, in her home, the interviewer attempted to follow up with the requisite questions: had she been coughing for more than two weeks? was anyone else in her residence coughing? Here she teared up. She'd been coughing since her husband died, several years prior. She'd been having troubles acquiring her pension (technically, his pension) ever since, and her children who all had their own families now had “abandoned” her completely. She was an old woman, living alone, without anybody to care for her. She asked if there was anything we could do for her—could we help her collect her pension? The community volunteer conducting the interview, it turned out, had once studied to become a lawyer. He had in fact

given several informal talks or *charlas* at the neighborhood CS about “rights.” What began as a interview about TB quickly morphed into a conversation about rights and pensions. A highly-stylized, monologic outpouring of despair and hopelessness—like the rituals of co-commiseration I discuss in chapter six—soon ensued, as the women performed her humble status before the agents of the local CS. After listening patiently, one of the nursing students who had accompanied us to the women’s home, attempted once again to extract the requisite verbal text. Had her cough changed at all recently, become worse? Aware of the local inappropriateness of this terse line of inquiry, the community volunteer made a decision to “fix” the text by fiat. She should go to the CS for further consultation he told her, and volunteered to walk her over. He also volunteered his services in helping her deal with her pension. The women thanked us, but said she didn’t have time at the moment, that she needed to go to the market. She would go tomorrow. But where was the CS, she wanted to know? Though the CS was within a block from her house (visible from from her doorway, in fact), she had never been, and on the surface of things, it appeared she had never noticed it either.

Vignettes like these illustrate the significant challenges of community-based interviewing, and most especially the kinds of “cross-talk” (cf. Bailey 1997) that can ensue as CS staff and neighbors communicate at cross-purposes, each with a divergent understandings of what is going on discursively. The interviewers were trying to elicit a straightforward answer to two rather abstract diagnostic questions, the verbal equivalent of the “fill-in-the-blanks” genre that defines much discursive activity in the CS, and indeed toward which, as they well-knew, this particular interaction was ultimately destined. The woman, by contrast, viewed the interaction in more local colloquial terms, as a moment of disburdening, and as a chance to petition a presumed

state authority about her pension. For the interviewers, the objective was to recontextualize the cough in a narrow, temporally-prescribed framework, from which a detachable text could be extracted and measured against a standardized diagnostic index. For the woman, however, talk about her cough provided an opening to tell the story of her struggle for livelihood after her husband's death. Rather than a detachable text, she recontextualized her cough within a broader biography, seamlessly moving from the cough to her pension—much to the consternation of the interviewing team. In my experience this is the typical, if more elaborate, form that the community interview takes.

The next day I checked to see if the women had come by the CS for a consultation. Indeed she had, but the attending physician felt that she had not met the clinical criteria for the SR-diagnosis. Still, he had extended the diagnosis to her (I think out of deference to me) and authorized a sputum exam. When I checked back a few days later, she had failed to return to the CS with her sputum samples. When the community volunteer and I paid a visit to her house, we were told by a neighbor that she had traveled back to her *pueblo*.

#### *Clinical consultation and the neighborhood CS*

Like the TB billboards and other mediums of public messaging, the *entrevista comunitaria* ends with an exhortation to visit the neighborhood CS for further examination. These referrals are often verbal texts with no follow-up documentation, and they seek the compliance of the neighbor by appealing to the health of the community at large, or, just as often, to the health of the neighbor's family. In this, it is important that the community interviewer explain to the neighbor that both diagnosis and treatment are subsidized by the state—*gratis*, a public gift that

entails a moral obligation to comply with the protocol as a counter-gift of sorts. Sometimes, as in the above vignette, a sympathetic staff member or community volunteer may offer to accompany the neighbor to the local health center for a consultation. Other methods of “obliging” (*obligar*) neighbor include distributing tickets or *fichas* to the neighbor that make explicit his or her entitlement to a free consultation. These tickets, of course, are less part of the TB control network proper than an instrument of public persuasion. In fact any neighbor who seeks out a TB consultation at the neighborhood CS will receive one, free-of-charge. The trick, however, to return to the fishing metaphor, is to fully land the neighbor, to reel them in so to speak. Without the consultation, case-finding is at a dead end.

As this suggests, getting neighbors to the CS is a challenge in its own right. This is the second controversial assumption of SR recruitment in either modality, active or passive. Why should this be?

Many periurban Bolivians perceive biomedicine as a measure of last resort, consulting traditional healers, herbal specialists, pharmacists, and even private medical practitioners before (if ever) presenting themselves at the CS. For instance, I met a woman who had come to El Alto in the mid-1990s with a small herd of black burros. She set up a stand along one of El Alto’s main boulevards—in fact, adjacent to one of the yellow TB billboards—vending glassfuls of steaming burro milk. The fresh milk of a black burro is viewed as especially salutary for the lungs, warding off *mal de pulmón*, or lung disease, broadly conceived. She reported that her business had grown briskly since her arrival, that she had sent for more burros and her husband. Her husband had entrusted his rural landholdings to relatives and now sold burro milk door-to-





**Figure 30.** A smaller, older neighborhood *Centro de Salud* in El Alto

door in El Alto and La Paz. After spending an afternoon with the women, I was able to ascertain that a fair portion of her clientele were persons that either were currently enrolled in DOTS or had been referred to the CS in one form or another for a consultation. In fact, the local competition in health services is so tight that El Alto’s municipal TB control program produced a booklet to educate CS staff on how to promote pluralistic TB control. The milk of a black burro was to be promoted as part of a larger strategy that included diagnosis and treatment at the CS. The vender of burro milk told me that she had been approached by staff from a nearby CS, who hoped that she would collaborate with them by sending coughing customers their way.

While “cultural” and “psychological” barriers—the unrecognizability of the cough as symptom, preference for “traditional medicine” over “occidental medicine”—are often listed as reasons for the difficulty in getting neighbors with perduring coughs to the CS for a TB consultation, just as important is the gendering of community-based health practices. In short, the

CS is a feminine space in local cultural conceptualization. CS staff and neighbors alike often say that men refuse to come to health centers owing to an entrenched belief, summarized in the saying, *El hombre tiene que aguantar*, “The man has to persevere.” As a local *licenciada* pointed out to me, this is an ideology that has been shaped by 20 years of public health policy focusing almost exclusively on what in development discourse is called the mother-infant binomial (*binomio materno-infantil*). “Unfortunately, in our country,” she told me, “health policy is directed toward the mother and the child, as if men don’t have a right to be ill.” This kind of health policy only exacerbates local conceptions of masculinity, and makes TB case-finding among men especially difficult. “‘You have to persevere it,’ [his friends] say to him, ‘You’re a *machito* (sissy)!’”

My own conversations with neighborhood men—many patients enrolled in DOTS—confirmed this gendered view of the CS. At the same time, it uncovered a related set of associations in which not only the CS is viewed as gendered, but as public charity. Many men reminisced about the old days of the corporatist state, often coinciding with their time in the state-owned mines, when access to major state hospitals was viewed as a right that had been “conquered” (*conquistado*) through organized struggle, and as such as a hardwon sign of their participation in and contribution to Bolivian modernity. In the neoliberal age, by contrast, where access to the centralized hospitals has been highly curtailed and union power has been dismantled, many neighborhood men viewed the CS as part and parcel of a broader disenfranchisement—a sign of their own subjection.

As TB disproportionately affects males in periurban Bolivia, this is a serious problem.

The *licenciada* I mentioned above enacted for me a particularly biting, if hilarious pantomime of the way men approach the CS for TB consultations:

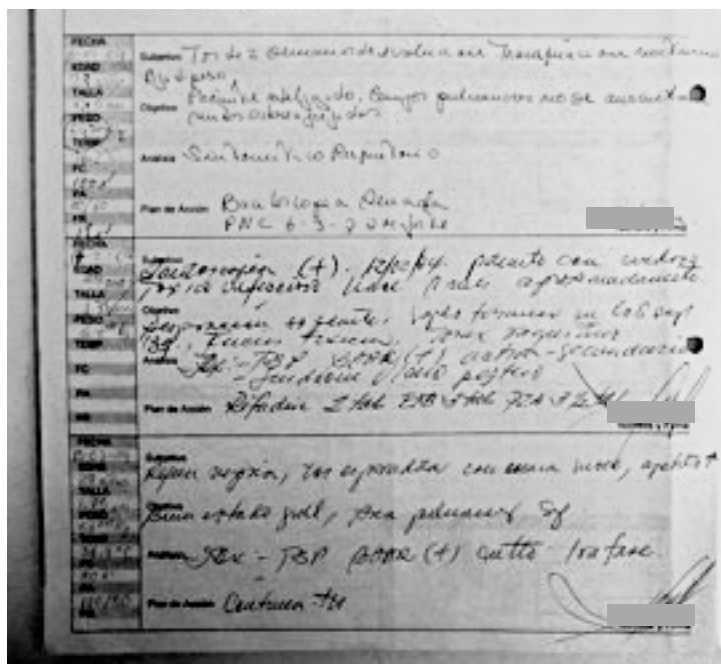
When they come to the center, some men- first they look from the door, then they pace back and forth [...] They come, pace back forth, LOOKING, like they're reading something. They don't instigate [interaction], they're afraid. So we have go outside or send someone to ask, "What do you need?" And only then, "Of course, yes!"

In this respect one of the most overlooked employees at the CS, precisely on these grounds, is the *portero/a*, or doorman. In addition to his—but typically her—everyday janitorial duties, the doorman will spend much of the day in the doorway of the CS, ushering reluctant men into the health center, helping them get signed in, sometimes even bumping them to the top of the waiting list to spare them the “embarrassment” of being seen in the waiting room, surrounded by women and children. So goes the stereotype.

What happens once the neighbor is lured inside the CS? This—the clinical exam or *consulta externa*—is a crucial step in TB's metrological chain. Generally, the clinical examination of the patient aims to translate the perduring or evolving cough into a *productive cough*, a *tos productiva*. Unlike the perduring cough of the community interview, the productive cough is a kind of text that cannot be produced through verbal representation alone, but relies upon clinical technologies like the stethoscope, the thermometer, the sphygmomanometer (or blood pressure meter), and even the standard scale and meter for measuring weight and height. It also relies upon the mediation of standardized text-artifacts like the clinical history, or *historia clínica*—the “individual case” that Foucault (1973) described as so important to the emergence of Western medical perception.

Through these means, the verbal text produced by the community-based interview is pragmatically translated, or transduced, into a new indexical order in which the broader biographical surround of a patient is rendered into stringent clinical indicators anchored more particularly to the biological being of the patient—from *biography* to *biology*. In this, patient discourse becomes less relevant as the focus is turned to the body itself, as a kind of text to be read, and at the same time, is displaced by the emergence of a new voice—that of the microbe suspected to be active in the body—as the attending physician quite literally puts his ear to the patient’s chest, searching for signs of the microbe vis-a-vis disturbances of the normal respiratory process.

The clinical examination begins at the nurses station. The name, age, height, and weight of the patient are measured, along with the four key vitals (body temperature, respiratory rate, blood pressure, and heart rate), and duly noted into the patient’s clinical history. The patient is then led to the examining room, which at most CSs is also, at the same time, the doctor’s office, complete with a desk, chairs, and filing cabinet. In periurban Bolivia, a typical CS is comprised of, besides a licensed nurse (*licenciada*) and an auxiliary nurse, two doctors who work in shifts. The examining room is then shared, and therefore something less than a personal space. In the examining room, the doctor will evaluate the vitals in the clinical history, looking for signs of change if, in fact, there is a documentary “history” of bodily measurements, and if not, looking for abnormalities measured against the range of the normal. This is followed by a clinical exam, consisting of an interview aimed at eliciting biographical details about the evolution of the cough, fluctuations in weight as well as eating and sleeping habits, and the most important diagnostic, chest auscultation with a stethoscope. The objective is to create a *cuadro clínica*, or



**Figure 31**

**A sample clinical history, with the “diagnosis” *sintomático respiratorio***

Each compartment of the document represents a different consultation, creating a clinical picture of the patient’s health over time

“clinical picture” of the patient, which can be entered by hand into the *historia clínica*. Though there is much variance here, depending upon the predilection of the doctor for thoroughness and technical specificity, a typical entry looks something like this:

Motive of consultation: Cough and expectoration of 3 weeks evolution, mucoid purulent, accompanied by nocturnal diaphoresis, progressive loss of weight

Clinical exam: Profile of 3 weeks productive cough (*tos productiva*) with phlegm, patient feverish, adynamia, anorexia, hyporexia, rachitic thorax, pulmonary field in auscultation adventitious sounds

The key indicator, as I already mentioned, is the “productive cough.” From the clinical perspective, a productive cough is a cough with a temporal evolution that is accompanied by the expectoration of phlegm (sputum), and in severe cases, blood. The aspectual qualities of sputum are an important part of clinical diagnosis. The term “mucoid purulent” (*mucopurulenta*) in the above example refers to a green or yellow phlegm with the stringy viscosity of mucus. This is the kind of phlegm likely to be produced by bacilli in the lungs, and at the same time, likely to

produce results when sent to the laboratory. A cough without phlegm, by contrast, is for all intensive purposes illegible to laboratory techniques. At the same time, neither the analysis of a cough's evolution or the aspectual properties of phlegm are sufficient to differentiate the "productive cough" of TB from the common cough of other acute respiratory infections. Here, it is necessary to co-reference the clinical signs discerned by the physician with the vital indicators measured by the nursing staff. As one doctor explained to me, TB progresses slowly and so the body has time to adjust. While thoracic auscultation may reveal abnormal or "adventitious" sounds (*ruidos sobreagregados*), many of the key "vitals" like respiratory rate (the rate of breathing) will otherwise be normal. A patient with an acute respiratory infection, by contrast, would register "adventitious" sounds upon auscultation but with an abnormal respiratory rate (e.g., shortness of breath), as the body has not had time to adjust. The diagnosis *sintomático respiratorio*, then, is a differential diagnosis, located at the intersection of normal and abnormal respiratory function, the aspectual and evolutionary nature of the cough, and certain relevant biographical features. Once identified, it is entered by the physician first into the clinical history along with a proposed course of action, and second, once the sputum samples have been collected, into the formal solicitation for laboratory services (the course of action realized):

Diagnosis: *Sintomático respiratorio*  
Plan of Action: *Baciloscopia seriada*.

All the other clinical indicators—fever, night sweats, weight loss, loss of appetite and energy, a palid complexion, and so forth—are important in the long run. Should the lab diagnose the patient with TB, these other indicators will form the baseline from which a patient's clinical progress during the treatment course can be measured, serving in some sense as the first frame in a moving picture of the patient's health through time. But for the SR diagnosis, only the

productive cough counts. At the same time, should the physician determine that the patient does not, in fact, meet the criteria for the SR intermediate designation, the case-finding process is still seen as having a silver lining: the creation of a new clinical history, and so a new *usuario* or ‘client’ for the CS, or the supplement of an already existing clinical history—important for boosting general CS coverages in the eyes of network managers.

By DOTS norms, only a doctor is licensed to produce this diagnosis, and indeed, reviewing the technical medical register of clinical exams—where, e.g., ‘loss of appetite’ becomes ‘hyporexia’—only a trained doctor would be capable of producing such a diagnosis. That said, in many cases *licenciadas* are conscripted into bestowing the requisite diagnosis, especially during TB campaigns where the volume of patients is dramatically increased. I will turn to the question of campaigns below. First, however, we need to see how the SR designation resulting from the *consulta* is itself put into action, beginning, of course, by authorizing the creation of the “representative sample”

#### *Creating the representative sample*

The SR “diagnosis” licenses a sputum exam, but a sputum exam first requires a sputum specimen. And not any sputum specimen will do. As I mentioned in chapter two, under the new “network” model of state health care (*redes de salud*), the CS is no longer conceptualized as a “community health clinic” or “sanitary post” but, among other things, as the privileged site for community health control and patient referral—for recruiting patients that fall within targeted “at risk” populations and managing their movements, often in the form of samples and texts, throughout the network’s secondary and tertiary levels: laboratories, regional clinics, and

specialized hospitals. In terms of the TB case-finding platform, and as the SR designation shows, the CS is conceived as a primary site for creating and circulating patient texts and samples, ensuring their validity, or “representativity,” which includes as well their trackability.

These ‘supervisory’ and ‘gatekeeping’ functions cannot be overlooked. In the past, before the adoption of DOTS and its documentary order, “losing” patients was a common occurrence. “Before, we sent the patient in whatever form to the hospital with his sample,” a local CS doctor explained to me. “He had to go, the patient, from his home to the house. But we don’t know with certainty that he went.” Communication between the neighborhood health center and the diagnostic lab was *ad hoc* at best. Case-finding as an institutional process had no specified locale. Patients would be responsible for producing their own samples, taking them to the lab, and retrieving and returning lab results to the CS. “Now what happens,” the doctor continued, “is that they have to bring their samples here, and from here WE send them to the laboratory, so here they retrieve their results. If the patient is positive, then here we do treatment.” Patient recruitment, the production and collection of samples, the aggregation of lab results, DOTS registration and patient orientation, the solicitation of medication, and the initiation of treatment all coincide at the same point of passage: the CS. In this way, “we can be sure that the patient doesn’t get lost.”

While staff at the CS tend to evaluate the benefits of the new model in terms of patient supervision and surveillance, as part and parcel of a therapy-centric view of ‘directly-observed therapy’, program administrators, epidemiologists, and especially lab technicians tend to focus on the gatekeeping functions—on the samples and texts rather than the patient they stand in for. A common complaint about the old model (the route, in fact, that Don Rogelio took) was that it



undermined the integrity of patient samples and the integrity of epidemiological data. On the one hand, since patients were responsible for handling their own samples, they often took them to the laboratories at the better known, centralized hospitals in La Paz (like the INT) for analysis. In doing so, the ability of municipal epidemiologists to create an accurate “epidemiological picture” of the TB situation in El Alto was seriously hampered. The data was always incomplete, making it difficult to plan, monitor, and evaluate program interventions. On the other hand, the quality of the samples delivered to the laboratories was substandard. Lab techs complained of spending precious time and laboratory resources on samples they knew in advance would not yield trustworthy outcomes, positive or negative. By constituting the CS as the primary point of patient contact in the new network model, however, the creation and circulation of patient samples and texts has been rationalized. Both patients and samples are vetted before they reach the lab bench, and the specific lab bench they do reach is specified in advance: each CS sends its samples to a designated reference lab in its own network. This affords the collection of municipal and even network-specific epidemiological data, saves labor and resources in the laboratory, and, as lab techs like to unofficially point out, it means they no longer have to deal directly with patients.

In short, the key function of the CS with respect to the broader sputum smear platform is not only to recruit new SR candidates, but to ensure that sputum samples collected from these candidates are themselves “representative.” But how is a sample representative?

Representativity, of course, refers to the semiotic capacity of one thing to stand in for another, to represent it, prototypically in a part-whole relation, where the part can be taken as either semiotic delegate or surrogate for the whole. The samples extracted from a patient must be representative of the patient, a small specimen of sputum taken to metonymically represent the

presumptively homogeneous contents of the patient's lung. But "representativity" has two more specific meanings here as well, both of which have to do with the relation of the sample to the biomedical platform.

First, to be representative, a sample must be capable of being recognized by the techniques of sputum smear microscopy. It is not sufficient that a sample merely come from a patient's lungs; it must both come from a patient's lungs and be of certain renderable properties. Samples that are mostly salival, for instance, are not representative in this respect, nor are samples that have "lost" their representativity by any number of means, from spoilage to contamination. Only properly handled samples containing sputum recently extracted from a patient's lungs are renderable as trustworthy producers of laboratory-induced indexical- iconicities—"testable" specimens, in other words. Representativity in this first more specific sense, then, pertains to the durational, aspectual, and extractual properties that make samples renderable on the platform and by virtue of this, make the results produced from lab analysis comparable to one another in further textual transformations. Each of the three samples sent to the diagnostics lab in the patient's stead, for example, must be equally representative, since, as we shall see below, it is their ultimate aggregation into a probabilistic composite that grounds their authority in the bestowal of TB designations.

This is what motivates the care that must be taken in extracting samples (*toma de muestra*) at the CS. Sputum (*esputo*) is not an entity of everyday discourse in periurban Bolivia, and SR patients must first be *taught* to distinguish sputum from more everyday respiratory secretions. Again, teaching this distinction rests upon the creation and stabilization of a new metapragmatic discourse in which everyday terms like 'saliva' (*saliva*) and 'phlegm' (*flema*) are

given new pragmatic meanings as embodied pathological signs when rendered in realtime texts. While a fairly elaborate everyday discourse about the quality and quantity of phlegm found in saliva exists in periurban Bolivia, there is no sense, in this discourse, in which phlegm is viewed as qualitatively different from saliva, as a foreign substance *found in* saliva, like blood in a stool—or blood in phlegm for that matter. In everyday discourse, clear, liquid saliva and opaque viscous phlegm are merely two poles on a continuum of the same substance produced by the body. It is the burden of the nurse at the CS, then, to break apart this continuum by introducing the patient to a third term, the biomedical conception of “sputum,” typically by distinguishing it as phlegm (*flemitas*) produced “deep in the lungs.”

This requires, at the same time, the more practical task of teaching patients how to physically produce this new biomedical substance, sputum, and moreover, to produce three subsequent samples of it. The requirement of three samples serves several functions here. On the one hand, delivering three samples to the laboratory increases the statistical validity of the results of lab analysis, as I shall discuss below. On the other hand, as the official schema reproduced in Fig. 27 shows, it increases the probability that at least two of the three samples will contain testworthy specimens of sputum. At the CS this translates into a set of techniques that nurses must teach patients as a means of maximizing the sputum content of their samples. In short, SR patients must be instructed to spit properly, to *botar flemas*.

The first sample is collected at the CS, the same day the patient is diagnosed as SR. Typically, the patient is directed to go outside the CS and, before depositing the sample in a plastic container, to breath and cough vigorously until the sputum in the lungs is loosened up. The second and third samples are more problematic. They have to be produced the next day, in

the patient's home, and therefore outside the supervision of CS staff. Entrusting patient's to the production of samples in their own homes, then, requires instructing them first in the protocols that must be followed—the extraction of samples at precise times of the day according to two preferred techniques. Because sputum accumulates in the lungs at night, patients are instructed to produce the first sample early in the morning, between waking up and taking breakfast. The patient should go out into the brisk morning air, and as at the CS, breath and cough vigorously, calisthenically raising the arms above the head before producing the sample. The third sample should be produced in the afternoon. The patient is instructed to lie face-down down on the corner of a bed with one arm hanging off the bed's edge; a family member should forcefully slap the patient's back, just below the shoulders, while the patient coughs gently to bring up the coveted specimen. With these three temporally-prescribed techniques, a more representative set of samples can, it is hoped, be produced for the laboratory.

Patients must also be instructed in the proper handling of specimen before they return them to the CS. The plastic containers or *vasitos* contain screw-top lids, which should be fastened as tightly as possible, any residual sputum wiped from the outside. They cannot be exposed to extreme temperatures, and because the TB bacillus is sensitive to light, patients are instructed to store and transport them in something opaque, preferably a black plastic bag. And they need to be returned to the CS as soon as possible, ideally the day of their production. Given the fragile nature of samples, there is an intense anxiety in the CS surrounding this rather bizarre step in the case-finding process. While doctors, nurses, and other healthcare workers understand the technical rationale that motivates the care that must be accorded to samples—the



**Figure 32**

**Labeled *vasito*, or sputum specimen container**

hyperprecision required by the laboratory—this dimension of TB diagnosis is perhaps the least understood by patients. Insofar as the system of specimen production is entrusted to patients themselves, everyday notions of care and purity become constituted as potential problem sites, where samples can quickly lose their representativity. For example, the conceptualization of the sputum container as a maximally sterile environment which must be protected at all costs from even the most looked after household environment, only makes sense when viewed from the perspective of future transformations of the container's contents in the laboratory. This, of course, requires not only a basic germ theory, but also a more specific understanding of what a laboratory is and does. Again, this kind of pedagogical practice falls under the rubric of patient *conscientización*—the theme of chapter five, so a brief example will suffice here. Here a TB official explains to a group of patients what samples need to be like, and how they will be used in the lab:

Once the doctor has asked for the samples, what we do is receive what you-all have collected in your containers. Now, what we often see is that you-all bring saliva, and as such we are not going to be able to find anything. So we tell patients to bring purulent samples, that is, the *flemitas*, the green phlegm that one spits up. Because if it is saliva we aren't going to find anything. It's only this part of the saliva, right? So what we want is a sample that comes from the lungs, right? [...] Now what do we do we once we've received the sample? We process it. This bacillus is, as the doctor said, very special. It is an alcohol-acid resistant bacillus. It's not like the others that we produce, let's say, with a cold. It's very special, so that this characteristic is taken into account. And what we do is a smear with *flemitas* that you-all have coughed up, and put them onto a slide. And we dye it and take it to the microscope, right? And once we have it under the microscope we look for the bacilli—they are colored rosy red in a blue background [...]


In my experience, these kinds of explanations make little sense to neighbors and patients, other than to reinforce the routinized authority behind case-finding itself.

Once the samples have been returned to the CS they must be cross-referenced to the patient's file, and importantly, to the solicitation of laboratory services, an example of which is shown in Fig. 33. The solicitation of laboratory services, or lab order, is in fact the first textual partial to which the text containing TB lab results (Fig. 25) serves as a second. In this respect, what I above introduced as the TB *laboratorio* should more accurately be described as the norms-of-usage that metadiscursively regiment these two textual partials to one another, into an intertextual series, a fact which is made clear by the documents' respective headings, glossed in English:

Laboratory Order / Medical Imaging / Specialized Exam / Blood Tests  
PART 1

Laboratory Results / Medical Imaging / Specialized Exam / Blood Tests  
PART 2

If the SR diagnosis at the CS is seen as the opening sequence in a communicative dyad for which the BAAR/TB diagnosis produced in the laboratory is its completion, then these textual partials


**Orden de Laboratorio / Imagenología / Gabinete / Servicio de Sangre**  
**PARTE 1**

MINISTERIO DE SALUD Y DEPORTES

Orden N° \_\_\_\_\_ Fecha: 27.03.04 N° de Registro: \_\_\_\_\_

ESTABLECIMIENTO DE SALUD <u>Cosmos 79</u>		MUNICIPIO <u>Co. Apto.</u>	
RED <u>Villa Adela</u>		LOCALIDAD	
NOMBRE DEL USUARIO <u>[Redacted]</u>		SUBSECTOR	
DIAGNOSTICO <u>Sindromático Respiratorio</u>	SEXO <u>M</u>	EDAD <u>[Redacted]</u>	
SIRVASE REALIZAR:			
<input type="checkbox"/> Grupo Sanguíneo y Rh. <input checked="" type="checkbox"/> Hemograma Completo <input checked="" type="checkbox"/> Examen General de Orina <input checked="" type="checkbox"/> Baciloscopia <u>1</u> <input checked="" type="checkbox"/> Glicemia <u>2</u> <input checked="" type="checkbox"/> Creatinina <u>3 muestra</u> <input type="checkbox"/> Bilirubina <input type="checkbox"/> Transaminasas <input type="checkbox"/> Cultivo de _____		<input type="checkbox"/> Coproparasitológico <input type="checkbox"/> Proteínuria <input type="checkbox"/> Gota Gruesa (Malaria) <input type="checkbox"/> RPR (Sífilis) <input type="checkbox"/> PAP <input type="checkbox"/> Estudio Histopatológico <input type="checkbox"/> Ecografía <input type="checkbox"/> Rayos X	
OTROS:		INDICACIONES: <u>24 de Diciembre</u> <u>q/ Santana</u>	
SERVICIO DE SANGRE / Sirvase otorgar:			
Grupo Sanguíneo: _____ Rh: _____		Paquete Globular: _____	
Sangre Total: _____		Concentrado de Plaquetas: _____	
Plasma fresco congelado: _____		Otros especificar: _____	
Nombre del Médico o Personal de Salud Solicitante: _____		Dr. <u>[Redacted]</u>	
Cargo del Médico o Personal de Salud Solicitante: _____		M.P.P. N.º 1 CENTRO DE SALUD COSMOS 79	
Firma del Médico o Personal de Salud Solicitante: _____		T. de Salud. Datos	

Nota: Llenar con letra de imprenta Form. 8.

Figure 33. Sample solicitation form for TB services

give specific discursive form and locale to this communication, as a pair-part sequence enacted across institutional sites: sending the laboratory order to the lab (PART 1), receiving the lab results at the CS (PART 2).

Creating the representative sample then entails locating it institutionally with respect to the intertextual order that links the CS to its respective reference laboratory. Ideally, the labeling of samples occurs as soon as they are collected at the CS, and coincides, or rather sets in motion, the inscription of the lab order. To begin, the information inscribed on the labels of the *vasitos* is replicated from the information inscribed in what might be called the document's registry, located underneath the heading, just above the largest textual border (see Fig. 33). If the heading itself identifies the document as an entextualization type, the burden of the registry is to locate the document as a specific token of textual instantiation of that type, namely, by giving a date of birth and a local address in institutional space-time, creating, in effect, a specific biomedical "case". The code to the left of the date, the "Order Number," cross-references this particular case with parallel cases created by the same diagnostics lab; as such, it is left blank at the CS, to be filled in at the lab. The code to the right of the date, the "Registry Number," is however entered at the CS. It cross-references the case with the specific patient's file held at the CS. By cross-referencing the samples to the registry of the lab order, a horizon of administrative accountability is opened up, making the samples (and by extension the patient) easier to find and harder to lose.

But besides the document's registry, the staff at the CS must give a minimal accounting of the solicitation's "who, what, when, and where"—the indexical structure that anchors the laboratory order into an empirically-verifiable world of institutional action and actors. On the one hand, details about the participant structure of the solicitation must be inscribed in the



appropriate blanks: the name, location, and network affiliation of the soliciting health establishment; the name and network affiliation of the diagnostics lab whose services are solicited; and the name, sex, and age of the patient on who's behalf the services are solicited. On the other hand, information about the solicited laboratory service must be inscribed on the form, in this case by checking the appropriate box among a paradigm of services. As the document shows, sputum microscopy (*baciloscopia*) is in fact part of a broader taxonomy of state-sponsored laboratory services covered under this form; others include blood-typing, blood-count, urine exam, PAP smear, thick film (for malaria), and so forth. Finally, to authorize the solicitation, the intermediate diagnosis *sintomático respiratorio* must be written in the appropriate box, and the form must be signed and/or stamped by the director of the soliciting health establishment.

Only now, with all of these prerequisites to laboratory analysis complete, are the three samples sent to the laboratory considered “representative” on the TB case-finding platform. Not only are the samples themselves testworthy, but they can stand in for a patient, the producer of the samples, who is by virtue of the solicitation, considered “testworthy.”

### *Transporting samples*

But here again we encounter a major problem, a crucial step that by most official reckoning is the least rationalized in terms of bureaucratic process: transporting samples and lab orders from the CS to the laboratory in a timely manner. While each CS now has a designated lab to send samples, there is no protocol prescribing how those samples should be delivered to the lab, and as such, no formal mechanism to allocate monies for transport—health centers do not

have their own vehicles. When DOTS was first introduced in El Alto, a small stipend was disbursed to *licenciada* of each CS to pay for added expenses like busfare for transporting samples, but the stipend soon created squabbles over turf and was quickly discontinued. At the time I conducted my fieldwork, the mode of transport was more rustic: an auxiliary nurse or a nursing student was conscripted to take the samples weekly to the lab, usually by foot, unless of course they wanted to spend their own salaries.

In fact, this ineluctable task was soon allotted to me in the CS where I volunteered as a DOTS promoter, and so I soon found myself in charge of handling samples and laboratory orders. I saw firsthand how improvised this step in the chain can be. Patient samples are often leaky, and surgical gloves are difficult to come by. I took to purchasing my own supply. The specialized metal carrying case reserved for transporting samples was often missing, or not large enough to contain all the samples. With the help of a nurse, I would devise a traveling cases out of old medical supply boxes. I'd then spend my own money on busfare, placing the box of samples in my lap, as other riders squeezed in. I did this once a week, until mid-2004, when (thankfully) the newly-appointed director of El Alto's TB control program received two automobiles from the mayor's office that he had purchased as part of his re-election bid. The director would spend several days of her work-week going from CS to CS picking up samples and dropping off lab results. (This program was launched in the midst of a heated political campaign, and I suspect that, with the termination of the campaign, this particular quick-fix terminated too.)



**Figure 34**

**The makeshift modes of transporting sputum samples**

The problem of transport extends to retrieving results. Because the person who drops off samples also picks up results, and this is performed on a weekly basis, the cycle of diagnosis can sometimes extend beyond two weeks from the time the patient is first seen at the CS. From the perspective of public health, this creates a lengthy temporal gap within which a potentially contagious patient is not only at large in the community, but also more likely to “go missing,” failing to return to the CS to learn the outcomes of their analysis. As one *licenciada* explained to me,

We don't have a laboratory, so the problem begin here. Because the following day we have to know if [the patient] has it or not, tuberculosis. But no, [the patients] come and tomorrow they're lost. They bring the first sample today [Friday], then the second and third—but when are we going to take the samples to the lab? Thursday? Only once a week! Because we don't have a budget for that [...] So only once a week the samples go to the laboratory. And the [local reference lab] has a LOT of work to do, because they receive samples from everywhere. So they delay another week. So look, in this it's failing, DOTS, in that the diagnostic isn't rapid enough.

A system of local citizen's band (CB) radio set up for emergencies, was, at the time of my research, pressed into the service of transmitting TB-positive diagnoses from the lab back to the CS. But this system itself soon failed at many CSs, as the radio equipment, like the proverbial patient, itself "went missing." At one CS the CB had been stolen weeks after it was delivered and never replaced. At another CS it had never been delivered, but because its delivery was officially recorded there was no way to request a new one, since, of course, they already had one.

### *Programming and campaigning*

There is a final, irreducible function of SR that I have not yet mentioned. SR is the linchpin to screening potential TB candidates, but it is also the key to monitoring and evaluating the case-finding activities of a local CS, and when need be, to planning specific interventions, like community outreach campaigns. All this falls under the institutional rubric of *programmación*, or TB "programming," a practice that occurs monthly at each *Centro de Salud*, trimesterly at the level of the local network, and annually at higher up levels. TB program monitoring charts, or *hojas de monitorio* like the one reproduced in Fig. 35, below, are found in the DOTS room of every local CS. They aid local health centers in setting annual case-finding goals (*metas anuales*) and tracking their progress toward meeting those goals over the course of the administrative calendar.

Setting goals begins by establishing the total population covered by the CS. The chart shown in Fig. 35 shows that in 2004, the CS will service an estimated population of 33,716 persons. Given that the incidence of pulmonary TB in El Alto in 2003 was estimated at 100 cases

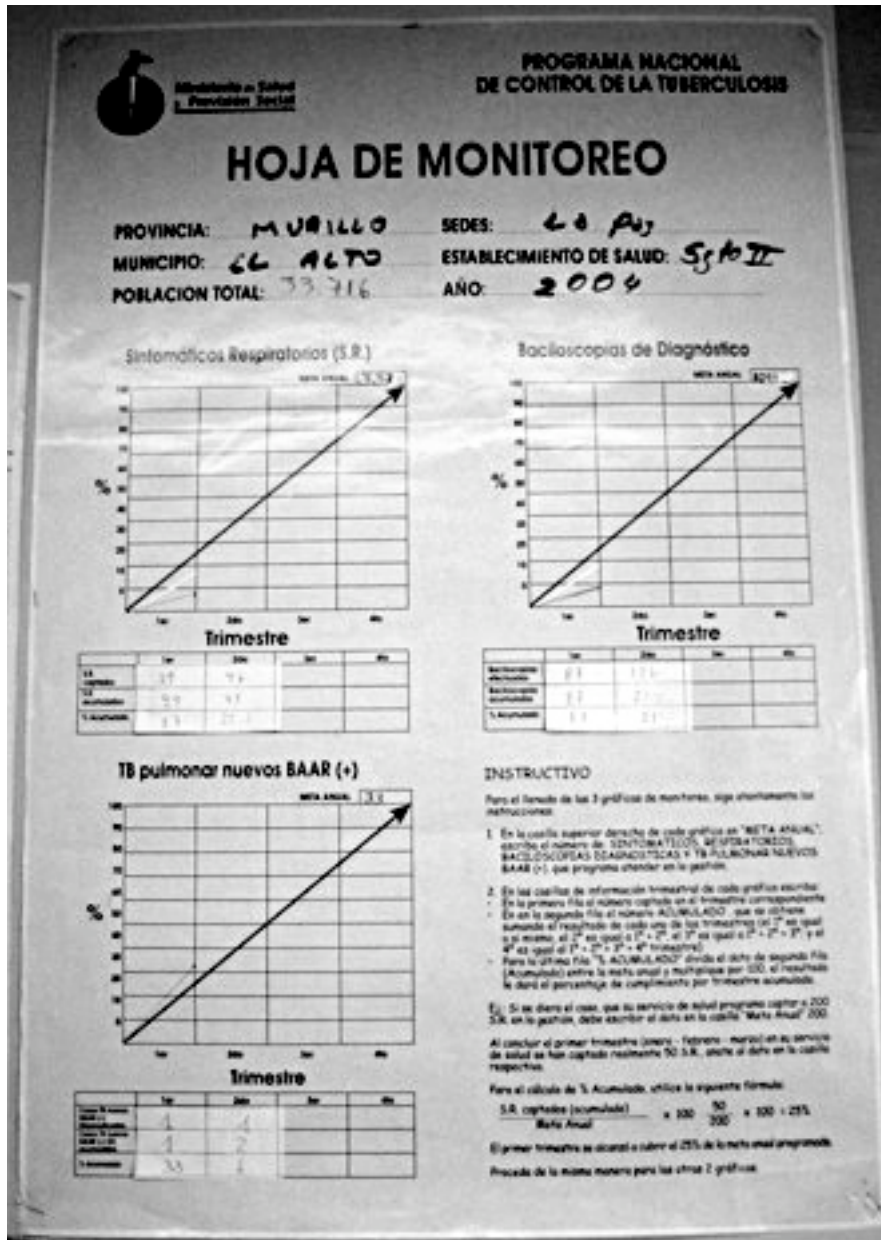


Figure 35. TB hoja de monitoreo, monitoring chart

per 100,000 inhabitants, the number of BAAR-positive cases the CS would need to detect in 2004 could be calculated: 33.6 (rounded off to 33) new cases. The relationship between SR-recruitment and TB (or BAAR) case-detection is given by an epidemiological constant determined by the World Health Organization. According to the constant, 10% of all SR-designated persons ought to be BAAR-positive. By reasoning deductively, then, this meant that minimally 337 *sintomáticos respiratorios* had to be captured if this goal was to be met. Furthermore, if each SR is required to send three unique sputum samples to the diagnostics lab, this meant that within the year 1,348 samples had to be sent, and so the results of 1,348 exams accounted for at the CS.

By breaking down the data collected from actual case-finding activities into trimesters, and graphing it against predetermined annual goals as percentages achieved over time, local progress can be visualized and evaluated. At the end of April, in 2004, for instance, the staff at the CS where I worked as a DOTS-promoter gathered in the center's cold, concrete meeting room to review the monthly activities. It was the start of the second trimester of the new administrative year, and the CS's TB coverages, among other coverages, had fallen below their programmed levels. The head doctor and *licenciada* of the CS had taken heat for the low coverages at the recently trimesterly meeting of the network. It was an election year in El Alto, and the incumbent mayor had touted improved health care as a special priority and achievement of his administration. The performance of the local network manager had evidently been called into question by the mayor, and the network manager had in turn demanded improvement at the CS. As if this weren't enough, outside accreditors would be inspecting the CS at the beginning of



**Figure 36**

**“Programming” at the monthly staff meetings at the CS**

May. Everything had to be in order, including the worrisome TB stats, if the CS was to pass its inspection.

With the help of an auxiliary nurse, the *licensiada* worked her way through the monthly statistics, graphed in marker by hand onto poster paper. Besides myself, the auxiliary nurse, and the *licensiada*, the two doctors that worked at the center, as well as an orthodontist, a nursing student, and several representatives from various community organizations were present. Two programs were especially “at risk” the *licensiada* told the audience: infant vaccination and TB. BCG vaccination, which falls under both categories, had for instance only reached 4.3% of the goal programmed for the new administrative year—it should have reached 25%. This was a problem indeed, but one out of their hands at least: the supply of BCG vaccine for the new administrative year had failed to arrive, owing to problems at the municipal headquarters. It was due in the next week, however, and the staff would have to work especially hard to meet the quota. TB case-detection was another matter. Since the start of 2004 (as Fig. 35 shows) only one

BAAR-positive neighbor had been “captured.” Since the programmed goal for the year was 33, the *licensiada* explained, this meant that the CS was already 7 cases short in the first trimester. This was not starting off on a good foot. Pointing to the graph, she noted that the problem was that the CS had recruited only 29 SRs, well-below the trimesterly goal of 84. To meet the annual TB case-detection goals, SR-recruitment would need to more than double in the upcoming trimester. More worrisome was that only 87 sputum samples had been sent to the diagnostics lab, well below the 337 samples that should have been sent—indicating a substantial loss of fidelity in case-finding activities.

After some consideration, it was decided that TB would be prioritized throughout the month of May. The two DOTS-promoters, myself and a female volunteer from the community, would give weekly informal talks (*charlas*) on TB in the waiting room of the CS. The nursing students in rotation at the CS would step up active-recruitment in the neighborhood by mounting a door-to-door community-interviewing campaign. The head doctor would petition municipal health authorities for funds to erect a new billboard in the neighborhood’s central plaza, with explicit directions on how to find the CS (most health centers are located in a neighborhood’s central plaza, but in this case the CS is tucked away in a minor plaza, several blocks away, on a street where no transportation passes). Everyone agreed that a health fair, held in the main plaza, with a vaccination tent and a special TB table with a team of community-interviewers, would be a good idea. This is in fact the same team of interviewers I mentioned above.

Community outreach campaigns above and beyond normal active-case recruitment is a highly fraught enterprise, however. As an example, consider the major case-finding campaign launched



in El Alto and La Paz in mid-2003, following upon the Ministry of Health's "declaration of the war on the TB bacillus" earlier that year. The campaign was widely recognized as a failure by TB program officials, and the identified failings of the campaign highlight the challenges of TB case-finding in general, and more particularly, the problematic nature of employing SR as the key intermediate diagnostic in the TB screening process. As a major state-sponsored event, moreover, the shortcomings of the 2003 campaign also point to way that politics enters quite explicitly into TB case-finding activities, in this case for the worse. In short, as the least prescribed biomedical category in TB control's metrological network, the SR diagnosis is the most politically sensitive: as the most malleable step on the platform, it is most easily manipulated for the ends of a campaign.

Each regional TB control program is headed by a single epidemiologist, whose job it is to analyze data and report to the Ministry of Health. This is, by all accounts, a political appointment. Given the current structure of global TB governance, and the demands on the Health Ministries of "stake-holder" countries, regional directors are under constant pressure to deliver "improvement" in its statistical form to the offices that oversee their work. According to the director of the Department of La Paz's TB control program, representatives from the Health Ministry show up in the director's offices at the end of each administrative year demanding evidence of progress. "When there aren't results that can be shown to the press, to the Ministry, they say, 'Well, nothing has improved, let's change him.'" As he explained:

[T]he vision of program management from superior levels is distinct. They don't perceive what happens at the level of communities [...] The national program gives us directions for the management of the Department, and they are aware, but it is there [at the superior levels] that practically all decisions are made—when or what persons will work, how many persons. The major problem here in the Department of La Paz is the CONSTANT change of the *responsables* of the program. And epidemiologically speaking, tuberculosis

can't be dealt with in a year. No, it's impossible. The cycle in tuberculosis is different than other diseases, owing to characteristics proper to the disease. So, even though we may have good management of the program, it's going to take at least—to achieve minimally satisfactory results—four or five years.

As a direct consequence of this constant pressure, he continued, regional directors think and plan only in the short-run. In practice this means delivering “improvement” by manipulating the only thing their offices have immediate control over: boosting coverages of SR recruitment.

This is, in effect, what happened in 2003, as the regional director of the TB quality control laboratory explained to me. “So when we analyzed all of our coverages from the year before, we realized our coverages were low. So what did SEDES [Departmental Epidemiological Unit] do? They launched a campaign of *sintomáticos respiratorios* [...]. What we did before was active recruitment at [the point] of external consult. But they sent around a circular that said we had to do recruitment of ALL *sintomáticos respiratorios*.” That is, in addition to meeting the annual recruitment goals set by “programming,” and enacted through standard case-finding protocols—community-based interviewing, and consultation in the CS—the health centers in the regional TB networks were instructed to mobilize their staff to go out into the communities and diagnose SR cases more directly in order to boost coverages. In practice, this meant that doctors and licensed nurses (*licenciadas*) were no longer the one's designating *sintomáticos*, but auxiliary nurses, nursing students, and even community health volunteers.

The problem with this, according to most TB officials I spoke with, is that there is little understanding among health care workers about what constitutes a “respiratory symptomatic” person, a problem only exacerbated in times of campaign. “One of the biggest problems,” the director of the regional TB program told me,

is that they [healthcare workers] don't have clear concepts about what are *sintomáticos respiratorios*. And this is the heart of the matter (*la punta del ovilla*)—symptomatics are the heart of the matter. If you don't recruit *sintomáticos*, it's difficult to detect TB in an early form. There aren't clear concepts, and the strategies that are in the norms aren't applied. The norms are unknown by many, and often ignored. It's one thing not to know them, it's another to ignore them.

The immediate consequence of the lax diagnosis of SRs is the inundation of local laboratories with sputum samples that are far from representative. The director of El Alto's municipal TB quality control lab put this in especially graphic terms: "It's that [SR] lacks criteria. Imagine doing a pregnancy test on a young man! You can't, right! It doesn't make sense. So in the case of *baciloscofia*, when coverages are down, *ooh!* they send EVERYTHING!" According to the director, this is less the fault of the CS staff than the demands of the campaign itself. "You know where the problem comes from? From human resources. The nurse, the poor woman has to do EVERYTHING. She has to fill out forms, manage injections, go to PAI [meetings about vaccinations], do the vaccinations, tuberculosis. So [during campaigns] they don't have time, they don't have time to explain to the patient. Only, 'Spit out your phlegm!' and then they hand them the cups. Indeed they know how it has to be, but..."

She recounted the headaches that were created in the local laboratories by the flood of non-representative samples generated by the 2003 campaign. The majority of samples were salival, but still had to be processed despite the predictable outcome. Many times, samples sent to the labs were compromised in various ways: the lids weren't fastened properly and the samples were leaky; the necessary labeling and the paperwork was missing or confused; samples arrived putrid, some even with fungus growing on them. A number of sputum containers arrived properly labeled and with the requisite paperwork, but when the lab tech went to open them up found nothing inside—they were completely empty. "When I was in the laboratory," the director

recalled affecting outrage, “I remember one *cholita* came in. ‘You have to bring me another sample, this one is saliva,’ I said to her, as a recommendation. And she said, ‘It’s that I don’t HAVE a cough!’ I don’t understand why the doctor sent her as a *sintomático respiratorio* if she doesn’t even have a cough! And so the majority of samples were salival.”

The 2003 campaign, then, was a failure. As the director of the departmental quality control unit I quoted above explained to me, for all the work, the campaign yielded few new TB cases, no more in fact than normal case-finding. Her laboratory was in charge of inspecting the sputum samples worked up for the campaign by the regional reference laboratories. When they compared the quality of these samples to the overall data from the campaign, it became obvious that the shortcoming had been the diagnosis of SRs by the local health centers:

Of course we had our coverages, but we didn’t capture BK positive patients (*pacientes beca positiva*, i.e., BAAR/TB-positive patients). Our *baciloscopías* came back negative [...]. Analyzing our data, [we realized] there wasn’t recruitment of TB-positive respiratory symptomatic patients. So what did we conclude? That we didn’t do a good selection of *respiratorio sintomáticos*.

The epidemiological constant of 1 TB-positive patient detected for every 10 SRs “captured” hadn’t held in the campaign. In short, as she lamented, the 2003 campaign “didn’t serve for anything! We made, as they say, a *chunch’ullu*.” *Chunch’ullu* is an Aymara word for a serious fuck-up. I took her code-switch into Aymara, of which she wasn’t a speaker, as an indication of the seriousness of this serious fuck-up.

Unfortunately for the director, she spent the early months of 2004 justifying the precise nature of this *chunch’ullu* to representatives of the Ministry of Health. The TB bacillus had won this particular round, it would seem.

*Making Sputum Speak: Inside  
the Public Diagnostics Lab*

What happens once sputum samples reach the lab bench? Municipal diagnostics labs in Bolivia are small-scale operations equipped to perform routine diagnostics exams. They are usually part of level two health institutions, meaning regional health clinics that perform basic medical procedures. While a neighborhood CS would be equipped to deal with, say, a minor abrasion, a patient with something more serious like a broken leg would be referred to a network's reference clinic, or "hospital," for bone-setting. But these secondary-level hospitals do not perform more specialized procedures. If a TB patient needed to consult a pulmonologist, for instance, she would be referred from the CS overseeing her treatment to a specialized hospital in La Paz, a tertiary-institution like the INT. The same schema of organization obtains for state laboratories. While secondary-level diagnostics labs are equipped to perform sputum smear microscopy, more specialized TB diagnostics like sputum or tissue cultures require the laboratories associated with tertiary institutions. For this reason, cases of nonpulmonary tuberculosis and cases of multi-drug resistance tuberculosis are not part of the primary TB control infrastructure, but *de facto* tertiary level issues, as only these laboratories, and the specialists that staff them, are trained to perform the analysis of drug sensitivities and tissue cultures. At the time I conducted my fieldwork, no CS in El Alto had its own TB diagnostics labs, and while an experimental project was underway to build and equip a model lab at one of the local CSs, this fell outside the scope of the network's normal operations as the CS in question relied upon external funding from the German development corporation, GTZ.



**Figure 37**

**Map of TB diagnostic laboratories in the Department of La Paz**

In general, then, each administrative department in Bolivia contains a network of reference laboratories that begin with the secondary level, moves through the tertiary level, and ends with the departmental quality control laboratories. Finally, top and center is the national TB reference laboratory located in La Paz at INLASA (*Instituto Nacional de Laboratorios de Salud*). INLASA, in turn, reports to the World Health Organization's global TB reference lab, located in Geneva.

The difference between secondary- and tertiary-level laboratories also maps a distinction in technical training. While lab technicians at the tertiary-level institutions like the INT or INLASA have advanced training, typically masters degrees and occasionally medical degrees obtained outside Bolivia, the lab techs that staff the secondary-level institutions typically have bachelor's degrees in fields like biochemistry, qualifying them as *licenciadas*. An increasing proportion of lab techs at the secondary-level, however, are trained as *biotecnólogos*,

“biotechnologists,” a vocational degree that earns them the rank of *técnico superior*. In El Alto it is not uncommon to find lab techs who have no formal institutional training whatsoever apart from years of experience. In any event, sputum smear microscopy is a fairly straightforward laboratory technique in which skill and experience form the backbone of expertise as much as formal training. A major project at the time of my fieldwork was to train career-level military personnel, most with no formal secondary-level education, to do sputum smear microscopy as a means of promoting TB case-finding in rural areas and among military recruits.

Level two diagnostics laboratories differ in scale and size, but all are outfitted with the basic equipment of sputum smear microscopy: a lab bench with one or two microscopes, a ventilated laboratory hood, a bunsen burner, sinks allocated to different chemical processes, electronic heating elements, various trays and conveyance devices, biohazard disposal bins, and of course the various materials consumed in the process itself—slides, chemical reagents, wooden applicators, bleach solution, cotton swabs, and immersion oils. The staff that interact with the equipment wear white lab coats, rubber gloves, hair nets, and basic respirator masks (when they are available, that is). Few labs have computers, but all have typewriters upon which lab results and other reports can be typed up, though as we’ll see later, handwriting is usually preferred for TB lab results. In short, these are “lo-tech” places. Sputum smear microscopy and the Zeihl-Neelson staining method date back to the beginnings of bacteriology at the end of the 19th century, and most of the equipment used in the procedure remains unchanged. In periurban laboratories this can be quite literal: many of the microscopes date back a half-century, hand-me-downs from the more high-tech specialized laboratories in La Paz.



Figure 38. Poster depicting the steps of sputum smear microscopy, or *baciloscoPIa*

Sputum smear microscopy, or *baciloscoPIa*, is a highly routinized procedure, then, that lab techs learn as part of their training. The poster reproduced in Fig. 38, a copy of which is mounted on the walls of all TB diagnostics labs in Bolivia, shows the sequential steps in the process. But, like any standardized laboratory technique, there are countless micropractices—and micro-problems—not described by the standardized protocols which any good lab techs comes to master through routine practice, as an embodied, practical knowledge.

Little research in science studies has been devoted to routine diagnostics labs as opposed to the larger research laboratories that investigate and produce “novel epistemic things.” But for the most part diagnostics labs work in the same way, and toward similar ends. According to Bruno Latour and his colleagues (1987; Latour & Woolgar 1986:51), laboratories are assemblages of inscription devices engineered to progressively transform material substances and events normally unobservable with the naked eye into forms of authoritative textual



evidence (“figures”) which can be mobilized as arguments on further textual occasions, for instance, as the “data” of scientific articles, or, in the case of diagnostics labs, as the “results” used to bestow new statuses and entitlements on patients. As Joseph Rouse (1987a) argues, the power of laboratories to construct this kind of evidence resides in how they systematically recontextualize complex everyday phenomena into artificially-constructed pragmatic contexts, or “phenomenal microworlds,” in which they can be induced to produce stable, isolable, and reproducible signs of themselves, like the bubble patterns in a bubble chamber, or, in this case, the microscopic rosey-red rods the stand out against a blue-background of cellular detritus. In this respect, laboratories—whether research or diagnostic—are distinct from other kinds of practice in that their design is oriented toward the systematic tuning in of the forces of the material and nonhuman world, and in this way, to the derivation of specific epistemic effects.

The case-finding activities discussed so far have all, of course, been oriented to the ultimate derivation of epistemic effects, and they have all likewise involved a systematic, progressive tuning in of particular kinds of forces—the “adventitious” sounds produced by the auscultated chest, for instance. But like the auscultated chest, they have all taken the patient as a biographical and biological totality as the main agent of their focus. In the TB laboratory, by contrast, the patient is conspicuously absent, as it is tuning into the biological aspects of the microbe that counts. The TB bacillus, not the SR patient, is the ‘relevant-epistemic agent’ in this step of the process. In this respect, TB diagnostics labs approximate what Karen Knorr Cetina (1999) describes as an ‘internal processing environment’. As opposed to other kinds of laboratories, the internal processing environment relies up a “technology of treatment and intervention” in which epistemic effects are derived from objects by “process[ing] partial

versions” of them through stepwise transformations in which the integrity of the object is itself consumed—in the case, the sputum that is made to represent the patient. The main equipment in these kinds of labs are processing devices, the progressive application of which becomes part of the overall laboratory protocol, as for instance, shown in the poster of Fig. 38. At the same time, in these processing-style labs, lab technicians themselves become part of the processing apparatus, as “epistemically-relevant agents” in their own right. In TB diagnostics labs, for instance, the trained (and strained) eyes of the microscopist are an irreducible piece of the processing technology that must be cared for and looked after—even calibrated—like any other piece of equipment. As we shall see, there is even a discourse in TB laboratories about who does and doesn’t “have the eyes.”

### *Preparing slides*

New samples are dropped at the reception window, if there is one, and if not by knocking on a door and handing the samples with their requisite lab order to the lab tech on rotation. Since many labs are chronically under-resourced, I was encouraged to bring along a “gift” of sort each time I dropped off a new samples, a roll of cotton swath or a bottle of ethanol alcohol. Upon “reception” of the new samples, the lab tech first gives each lab order a distinct code: this is the “Order Number” that must be entered in what I earlier refered to as the document’s registry. Labs often have cheat sheets of ordinal sequences printed up and posted in the reception area, with already used codes crossed out by pen. The lab tech simply finds the next available sequence and enters the code into the lab order form. In black marker, this code is then transferred to the

sides of the order's three sputum specimen containers, along with a roman numeral identifying each particular sample, or order partial. This yields a two-slot code for each unique samples, e.g.,

1404 I  
1404 II  
1404 III

These codes become the principle for keeping track of the samples as they are progressively transformed through laboratory process. At the same time, the receiving lab tech will note down on the lab results portion of the TB *laboratorio* (Fig. 25) each sample's aspectual qualities (*calidad de la muestra*), using some combination of the following abbreviations:

P: *purulente*, "purulent"  
MP: *mucopurulente*, "mucoïd-purulente"  
Sg: *sangriente*, "bloody"  
S: *salivial*, "salival"

Here the (gifted) cotton swaths and bottles of ethanol alcohol come in handy. Before unscrewing the lid of a sample, the lab tech will usually wipe the *vasito* clean. Having the standardized *vasitos* as sputum containers—which in the lab are now referred to by the more official-sounding term, *fresco* (wet mount), marking a slight register shift—is a serious improvement over the old model. Back when patients were required to collect and deposit their samples at the lab, they would arrive in all sort of containers, like old glass food containers, and even plastic baggies. In addition to inspecting the quality of the samples, the lab tech would have to transfer them to other containers. Once properly re-labeled, the samples are set on a special tray lined with paper and a thin layer of bleach solution—a docket of sorts for the laboratory trials the samples are about to endure.



**Figure 39**

**Re-labeled TB *frescos*, on the docket**

In the diagnostics lab, specimen containers are no longer called *vasitos*, but *frescos*, “wet mounts”

Before the samples can be worked up, however, the glass slides (*laminas*) upon which they are to be mounted need to be prepared. With a small rock brought in from the outside, the end of the slide that will bear labeling is carefully scratched to create a writeable surface, upon which the unique two-slot code of the respective *fresco* is inscribed in pencil. When I volunteered in a diagnostics lab, my own attempts to perform this rather simple task were met with constant scrutiny, as my scratchings were seldom sufficient to carry the pencil marks through the chemical processes to which the slide were subsequently subjected—rendering them useless in the end. Once the slides are properly labeled they are lined up in order on a device called a *portalaminas*, a wood block with angled slots in rows of three—a row for each the set of samples referring to a patient. As samples move through the laboratory the *portalaminas* becomes their designated storage space when their not being worked on.

Processing of the samples begins at the hood. Let's follow Yuly, a respected lab tech in her mid-20s as she transforms sputum samples into a readable text. Seated on a stool, with a white labcoat, hairnet, respiratory mask, rubber gloves and forearm protectors, her hands pass under the glass window into the sterile environment of the hood. To her left is the wooden *portalaminas* containing the prepared slides; between her forearms is the bunsen burner, and behind that the docketing tray holding the day's sputum samples. To her right is a stock of cotton swabs and wooden applicators that will be used to create the smear, and next to that a beaker containing bleach solution into which the used wooden applicators will be discarded, once they've served their purpose.

Yuly begins by doublechecking that the slides on the *portalaminas* accurately refer to the labeled *frescos* in the docket. She then selects the slide pertaining to the first sample she will prepare. The first step is to run the slide over the flame from the bunsen burner (*mechero*) in order to "degrease" it (*desengrasar*). This is especially important, she explains, if the sample in question is mucoid—mucoid samples take longer to dry when they are smeared on the slide, and a warm slide will hasten the process. Once degreased, she leans the slide against the bunsen burner, marked side down, taking care that the middle of the slide is suspended. Then she picks up the respective *fresco* and quickly runs the closed lid over the flame (*llama*) to kill any bacteria that might still lurk on the container's outside surface. Biosecurity 101. With her left hand she unscrews the container's lid and stores it in the crook of her left hand, while locating a wooden applicator with her right hand. She then uses the wooden applicator to extract a swath of sputum for the smear.



**Figure 40**

**Creating the sputum smear in the hood**

The wooden applicators are really tongue depressors that have been broken in half. Learning to break the tongue depressors in half is an art in its own right. If properly broken, an angled end with a rough splintery surface will be created, just right for scooping out and mounting sputum to the slide. A good smear (*frotis*), Yuly explains, involves first selecting the best part of the sample. Mucoid-purulent samples are the best for sputum smear microscopy, purulente samples are okay; salival samples are the worst, and contrary to commonsense, bloody samples aren't much better. What you need to do, she explains, is use the applicator to create a swirling motion inside the *fresco*, looking for the most viscous parts, and avoiding frothy bubbles, a sign of saliva. The viscous parts are phlegm, sputum proper, the sought after substance. And not much phlegm is required; even in the salival samples one can usually locate a sufficient quantity of phlegm. In fact, loading up the slide with too much phlegm can create thick

(*grueso*), unreadable smears, leading to false negatives. Yuly shows me how to use the splintery tip of the applicator to “cut” stringy phlegm down to more workable chunks.

After locating a sufficient swath of phlegm in the sample, she extracts it with the wooden applicator. Using her left hand she adeptly fastens the lid on the *fresco* and returns it to the tray. With the same hand she retrieves the respective slide and holding it at a 20-degree angle, uses the applicator to “paint” (*pintar*) the phlegm onto the slide in circular motions, beginning in the center and moving outward progressively. It is helpful to hold the slide near the flame to initiate the drying process, she explains, and sometimes a new applicator helps to break up viscous pockets of phlegm. The objective is to create a thin homogeneous surface on the slide. In quality control labs, lab techs are evaluated for their “paintings” or *extendidas* (extensions), as they are technically called.

Once the *extendida* is ready, she disposes of the wooden applicator and passes the slide over the burner three quick times before placing it on the electric heating element (*secador*). Many periurban labs do not have the fancy heating element, in which case the slide must be left to air-dry. It is impossible to overdry, or overheat slides at this step, so time is not of the essence. She repeats the process on the remaining samples in her docket. Today there are 21 samples that need to be processed, a typical load. It takes her about 30 minutes to finish off the *extendidas*.

With the *extendidas* complete and fully-dried, Yuly transfers them back to the *portalaminas* and relocates to the sink. At the sink the slides will be stained using the Zeihl-Neelson staining method. First she creates a “barbecue” (*parillada*), as she jokingly calls it, lining up the slides on a wire grill that sits across the top of the sink. She pours a solution of phenicol-fuchsin (*fuscina fenical*) over the slides, a chemical stain that bonds to the cell wall of



**Figure 41**

**Staining slides using the Ziehl-Neelsen method**

TB bacillus, giving it coloration under the lens of the microscope. She lets the slides sit for five minutes in the solution, then subjects them to heat in the form of a flaming cotton swab soaked in alcohol at the end of a spit. By passing the flaming spit consecutively over the surface of the slides, a series of slightly-visible vapors (minimally three) are released, a key part of the chemical transformation. Then the slides are allowed to cool. They are ready when the dark burgandy of the phenicol-fuchsin gleams with a yellowish-gold surface, almost like irridescent film.

The phenicol-fuchsin is then washed off the surface of the slides with distilled water, and the slides are inundated with a prepared solution of ethanol alcohol and hydrochloric acid, and let stand for three minutes. In this period, the ethanol should absorb any excess phenicol-fuchsin, producing a rose-colored liquid surface on the slide. When washed again with distilled water, the





**Figure 42. Stained slides**

The stained smear on the right is characteristic of a salival sample, while the smear on the left is characteristic of a sample containing sputum. Both have good “extensions.” It will be difficult for the microscopist to work with the sample on the right.

slides should appear essentially colorless. At this point any TB bacilli on the slide should bear a discernible stain. The next step is to create a contrasting background within which the stained bacillus can be made maximally visible under the microscope. Here the slides are subjected to a solution of methylene blue dye and let to stand for 3 minutes. Only the cell walls of the TB bacillus will repel this stain, but all other microscopic detritus—human leukocytes, other bacterial cells, and so forth—will readily absorb it. After carefully removing excess dye from the slides, they are placed back on the heating element and left to dry for around 6 minutes.

When they are sufficiently dry they are placed back on the *portalaminas*, in the proper order. At this point the “extension” has been “fixed” (*fijado*) and “stained” (*tintado*), creating a slide with a sputum smear that is ready to be “read” by the microscopist. At this point the slide can sit for as long as need be. At the same time, it is possible to examine the slide for its potential

“readability” under the microscope. Here, the difference between the aspectual quality of samples becomes evident in their coloration: a salival sample will have little bluish coloration to it, while a sample containing sufficient phlegm will appear decidedly blue. Likewise, the quality of the lab techs “extension” becomes evident. A good extension is deemed *bonita*, “beautiful,” while a poor extension is said to be *fea*, “ugly.”

### *Reading slides*

The *lectura*, or “reading” of slides is the final, and most important step of sputum smear microscopy. The conceptualization of examining slides under microscope as a form of reading is non-trivial. Like written text, microscopists quite literally scan slides in a linear fashion, from right to left, returning to the rightmost side of the slide once the leftmost portion has been reached. A single *lectura* consists of examining a minimum of 300 fields (*campos*) on the slide at a magnitude of 100x objective, which amounts to reading three rows across the smear lengthwise, in its most concentrated regions. Most labs have microscopes with built in backlighting and a set of filters to aid in visualizing the field, but some labs still use old microscopes that project light through the slide through the manipulation of mirrors. In periurban labs that employ one or two employees, the same lab techs that prepare the slides will likewise read them. A typical day is organized around collecting samples and filing paperwork in the morning, and preparing and reading slides in the afternoon.

Though a complete *lectura* requires the examination of 300 fields, in fact lab techs will read more than 300 fields. This is because not all fields are equal. As one expert microscopist explained to me, slides contain almost as many *campos inútiles*, or “useless fields,” as *campos*

*útiles*, “useful fields,” on the order of a 1:3 ratio on a well-extended smear. A key part of reading slides involves learning to distinguish the former from the latter. As the microscopist explained, a *campo útil* is a field that contains leukocytes (white blood cells), while a *campo inútil* will contain no leukocytes but only epithelial cells (cells from living tissue). A field rife with leukocytes suggests phlegm from the innermost recesses of the lungs, hence a field with a better chance of containing the TB bacillus. A field rife with epithelial cells, on the other hand, suggests a field comprised of mostly saliva, with little probability of discerning the bacillus. Both will appear as blue-tinted under the microscope, so to distinguish useful and useless fields the microscopist has to examine the morphology of the blue-stained detritus: leukocytes are round with nucleated centers, much larger than the TB bacillus when viewed under the lens, while epithelial cells are rectangular and nucleated, and much larger than the TB bacillus. This distinction between useful and useless fields is the microscopist’s perspective, as it were, on the “representativity” of the sample.

When viewed under the microscope, a “healthy” TB bacillus appears as a long, thin, rose-colored rod, with a slight curvature, that stands out against the blue-stained background composed of other substances like white blood cells and tissue cells. Under the microscope, it is also possible to distinguish bacilli from patients that have undergone treatment: they appear fatter and doubled over (*doblado*), sometimes broken in half. Likewise, drug-resistant bacteria will sometimes (though this is not a conclusive test) appear extremely fat, with much thicker cells walls. While these dimensions of *baciloscopia* are relatively unimportant from the perspective TB case-finding, they become useful as a means of monitoring patient progress through DOTS



**Figure 43**  
“Reading” slides

treatment. As we’ll see in chapter five, DOTS patients are required to submit monthly “control” samples to the lab. Once, I heard a lab tech upbraiding a patient who doctors and nurses suspected had not been following his treatment regimen, secretly spitting out the pills. *¡No vas a mentir porque dice la verdad siempre el microscopio!* she scolded him, “You’re not going to lie because the microscope always tells the truth!”

When Yuly first started on the microscope, she explained to me, it would take her upwards of 30 minutes to read each slide. Now, however, she advances through the slides in a matter of minutes. The trick is to not actually count the 300 hundred fields, but to estimate that each row contains around 100 fields, and then, in order to mitigate the problem of “useless” fields, to read another row as well. Reading slides then becomes an embodied practice, as lab techs soon learn to coordinate the microfocus, the set of filters, and the horizontal movement of

the slide as a total extension of their own body. Hands and eyes learn to work together in a new way, mediated by the apparatus of the microscope, with the mind focused on looking at the quality of the background, and scanning for rosey-red rod. This takes lots of practice, however. In my own training on the microscope I found that I could soon discern rosey-red rods in slides that had already been diagnosed as BAAR(+++), *tres cruces*, ones that contained an average of more than 10 TB bacilli per field. But slides that had been diagnosed as BAAR(+), that is, containing between 1 and 10 bacilli in at least 10 fields of the 300 fields, presented another problem. One afternoon I spent a half-hour looking at BAAR(+) slide without turning up a single rosey-red rod. I began suspecting that the slide had been misdiagnosed, and took it over to one of lab techs working at another microscope. Within seconds she located a bacillus, and handed the slide back to me. “Keep looking,” she said told me. When I spent another 30 minutes on the microscope without turning up anything, it became a running joke in the lab to ask me if I’d found “my bacillus” yet. At the end of the day, with my eyes exhausted, one of the other lab techs came over to offer me a hand, our more particular, an eye. Looking through the lens he quickly located the renegade bacillus, and announced loudly, “I’ve found a BIG bacillus... It’s Esteban!”

Joking aside, the wear and tear on the microscopists eyes is a serious matter. Yulia reported that after working in the lab some years, the prescription on her eyeglasses had deteriorated rapidly. The problem is not merely the time spent peering through the lens of the microscope, but the steadily growing quantity of slides that have to be read, especially following the national prioritization of TB case-finding. The problem is that while the quantity of slides has increased, funding for hiring lab techs has not. Laboratories quite literally do not “have the eyes”

to do all this work. And as the municipal director of laboratories in El Alto explained to me, this increases the chances of mistakes:

[T]he [reference laboratories] receive from all of the network. And it's a LOT of work for them. So for this they can give incorrect results, because the quantity is so high and they don't have the eyes. They sometimes see false positives, false negatives, no? The ideal is that a person views eighteen slides in six hours, right? But in the laboratories, they don't view eighteen, they view twenty-eight. So it's a LOT!

If trained eyes are meant to view 18 slides in six hours, that translates into 5,400 total fields read, or 900 fields per hour, counting only "useful" fields here. Instead, however, these eyes are reading upwards of 1,400 fields per hour.

*Having the eyes, but also the heart... to solve controversies*

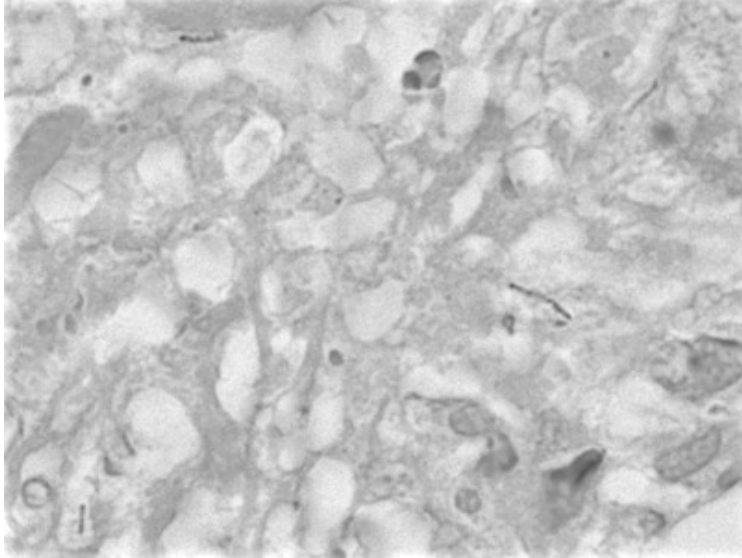
One day a *laboratorista* from Achacachi, a *pueblo* on Lake Titica, appeared in the regional reference lab for El Alto. She was accompanied by an older man, an *abuelito* ('grandfather', in the diminutive) as she identified him, who had with him a set of already prepared slides that, the *laboratorista* explained, were from his daughter. The *abuelito* didn't believe his daughter had TB, despite the lab's findings. He didn't speak Spanish, and the lab tech doing reception that day didn't speak Aymara (something which, she later told me, "makes her beat her head against the wall"), so they called over Yuly. Yuly speaks a "beautiful" Aymara, I'm told, full of *cariño* (care, or heart). Her Aymara is prized in the laboratory for its "soft and kind tone," inspires *confianza*, trust or confidence. Accordingly, she is the one recruited to handle disbelievers like this man.

The slides the man had brought with him were, in fact, from the perspective of DOTS protocol, inconclusive: one was diagnosed BAAR(+++), another BAAR(+), and four more

BAAR(-). The lab tech doing reception had Yuly translate. “We can’t do re-readings here,” she told the *abuelito*, “that’s the job of quality control. The only thing we can do is prepare another slide with your daughter’s sputum.” But there was no specimen, and the man had come all the way from Achacachi, the *laboratorista* protested. After some discussion, the sympathetic Yuly decided to take a look at the slides.

Yuly inspected the quality of the smear, holding them up to the light. Three looked mucoid-purulent (MP) and the other two were clearly salival (S). The suspicious thing here was that the three MP slides were the BAAR(-) slides, while the two salival samples were the BAAR(+++) and BAAR(+) slides. She decided to tackle the most difficult one first, the salival BAAR(+). Placing a drop of immersion oil on the slide she mounted it to the microscope and found the correct magnitude. Quickly passing over the slide she located what appeared to be three bacilli in one field, but they were very difficult to see. Manipulating the microfocus, they appeared as three long, slender, rosey-red rods. She called the other lab tech over to take a look. Were these TB bacilli? The other lab tech thought they were, but Yuly wasn’t convinced. She thought they were *espejismos*, “mirages.”

As she later explained to me, fencol-fuchsin, if heated to a boil during the preparation of slides, will form slender crystals in the smear. When viewed under the microscope, these crystals will appear rosey-red on the blue background, like the TB bacillus itself, long and slender and about the same size. They are hard to distinguish from the real thing, but with experience, a good microscopist learns to tell the difference. When viewed statically they look just like BAAR, but when you adjust the microfocus ever so slightly in and out, fuchsin crystals will exhibit a mirroring effect, refracting light differently, morphing from a rosey-red into a silvery-white. The



**Figure 44**

**BAAR under the microscope**

(SOURCE: <http://commons.wikimedia.org>)

BAAR appear as rosey-red rods in a blue background when viewed under the microscope

real TB bacillus, on the other hand, will maintain its color in and out of microfocus. After viewing a few more fields, and taking a pass through the BAAR(+++) slide, Yuly concluded that the presumed BAARs were actually imposters, crystallized phenicol-fuchsin: the sputum had not been mounted on the slides properly. The *laboratorista* who had accompanied the man was slightly embarrassed.

According to Yuly, had she read the BAAR(+++) slide first she might have been misled by the crystals, and this could have biased her reading of the BAAR(+) slide. But by taking the difficult BAAR(+) slide first, she was able to spot the crystalline perturbations. Slides with fewer BAAR are always more suspect, thus more scrutinized. At the same time, the fact that the two mucoid-purulent slides—the most readable slides—were unequivocally BAAR(-), while the salival smears—the least readable—were diagnosed with BAAR-positivities suggested that something was askew. Yuly didn't think the man's daughter had TB. She explained to the thankful man that her re-reading wouldn't be official, that his daughter should submit another sputum sample for review. But at least they had had another set of eyes on the slides.



As the above example illustrates, any given slide affords multiple interpretations, multiple *lecturas*. The quality of the specimen itself, the skill of the lab tech at finding the best parts in the sputum and fixing it to the slide through extension and chemical exposures, and the experience and endurance of the microscopist in reading the fields of the smear, alongside hundreds of other fields in the same day, all determine the specific outcomes.

### *Quality control*

As a further supplement to the metrological network of TB control, ensuring the overall integrity of the “platform,” is the work performed in municipal, departmental, and national quality control labs. *Control de calidad* is performed on a regular schedule and according to a protocol. Once slides are read at the reference laboratories, they are sent to the quality control reference lab. If a laboratory sends 20 slides, they all have to be reviewed by the quality control lab; if a lab sends between 20 and 50, then 50% of the BAAR-positive slides and 75% of the BAAR-negative slides have to be reviewed; if the lab sends more than 50 slides, then only 10% of the positives and 15% of the negatives must be reviewed. Most labs send around two hundred slides on a weekly basis. The assumption here is that the labs that do more work reviewing slides are staffed by lab techs with more experience, if simply owing to the volume.

In contrast to the primary diagnostics labs, the lab techs in the quality control labs must read all of the slide, which amounts to between 5 to 7 rows, somewhere between 500 to 700 fields. There are a number of criteria for evaluating the slides, but the two most important ones are the quality of the extension (*calidad de extendida*) and quality of the staining (*calidad de tinción*). A standardized set of codes applies to each of these dimensions, and though it is



**Figure 45**

**The quality control lab for the Department of La Paz, located at the *Instituto Nacional de Tórax***

understood that a given slide may actually contain combinations of qualities, the quality control lab tech has to select only “the most salient,” as a regional lab tech explained to me:

Calidad de extendida

NH, *no homogenia*, ‘not homogeneous’

DE, *demaciado extendida*, ‘little extension’

D, *delgado*, ‘thin’

NIC, *número insuficiente de campos*, ‘insufficient number of fields’

B, *bueno*, ‘good’

G, *grueso*, ‘thick’

Calidad de tinción

PF, *precipitados de fucsina*, ‘fuchsin precipitates’

ECF, *exceso de colorante de fondo*, ‘excessive background color’

EF, *exceso de fucsina*, ‘excessive fuchsin’

B, *bueno*, ‘good’

And of course the lab tech has to review the slide for BAAR-positivities. This is done “blindly,” meaning that the quality control tech will review the slide without having looked at the results produced by the primary lab. These results are then recorded on a list, alongside the code given to the each slide at the primary diagnostics lab. For example:

254 III - NIC - PF - (-)

Here, slide 245 III was found, upon review, to have insufficient (useful) fields, to contain precipitates of fuchsin (the crystals discussed above), and to be BAAR-negative.

Once the requisite proportions of slides for a given laboratory have been reviewed, they are checked individually against the results of the primary lab. Major discordancies (*descordancias mayores*) are distinguished from minor discordancies (*descordancias menores*). The former are cases of false negative and false positives, the later cases in which discrepancies exist in the degree of positivity, as, e.g., when the secondary lab determines a slide to be BAAR(+++) while the primary lab originally read a BAAR(++). The former are, needless to say, much more serious than the latter. The tech at the quality control lab will then compile a statistical report containing the above information, as well as remarks on the cleanliness of the slides, the legibility and orderliness of a lab’s labeling of slides, and even the proper wrapping of the slides before they are sent to the quality control labs. The reports are duplicated, one copy sent back to the primary lab, the other to the regional TB control office. Slides that contain *descordancias* are sent to the departmental quality control lab for further review, and in turn, to the national quality control lab at INLASA. Finally, a portion of these will be sent to a lab in Geneva, for review by global health officials.

*Conclusion:*  
*Designation, At Last*

As microscopists read fields they keep track of their findings. The consummate microscopist will draw a 10 x 10 matrix of circles on a notepad kept next to the microscope, each circle representing one of the hundred fields that go into averaging observations into BAAR-positivities. As they encounter bacilli they will mark down the number observed in each field. While regulations specify the *lectura* as minimally 300 fields, in practice, however, a lab tech may stop after a 100 fields if all, or most of them contain bacilli, enough to calculate the average. Calculating averages, then, constitutes the penultimate step in designation on the laboratory's end. By summing the bacilli counts in each circle and dividing by the total number of *campos útiles* read, these findings can then be compared to the standardized set of BAAR threshold categories I noted at the outset of the chapter. To recall:

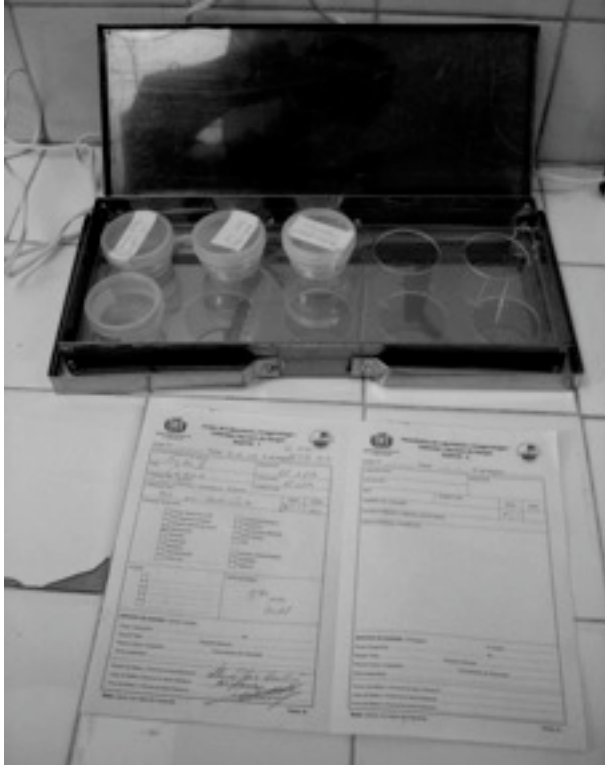
- BAAR (-), no bacilli
- BAAR (+), between 10 to 99 bacilli in at least 10 fields
- BAAR (++) , between 1 and 10 bacilli per field
- BAAR (+++) , more than 10 bacilli per field

It should be obvious that there is a gap here in the definition of BAAR-negative: slides that contain only a few bacilli will not be considered BAAR-positive. This is not because such slides are necessarily presumed aberrations—non-representative, poorly prepared, and so forth, though they may be—but for the more pragmatic reason that the presence of a few BAAR in a sputum sample is deemed insufficient to constitute a problem from the clinical perspective. Even a healthy, non-infected lung can contain small amounts of invasive bacilli. The analysis of multiple samples, and multiple slides, is designed to mitigate the risks posed by this gap.



**Figure 46**  
**Typing up lab results**

When the final results are tabulated they are entered into the main box of the patient's TB lab results form (see Fig. 25). While all laboratories have typewriters, unless there is a designated secretary for the lab, as at the major tertiary-level labs in La Paz, the lab tech will typically fill out the form in handwriting. Handwriting has the added benefit of enabling paratextual diacritics like a large circled astericks, the word *ojo* ("note") inscribed at an oblique angle to the document or, more often, a change in ink color to draw attention attention to noteworthy results. In the network in which I conducted my fieldwork, it was common convention for lab techs to write out BAAR-positivities in a red ink, reserving the usual black ink for BAAR-negative results. The lab tech must also fill the blanks of the rest of the form. Most of the information—patient name, age, sex, case numbers, and so forth—is merely transferred over from the solicitation for lab services form. Once complete, all the lab result forms for a specific CS will be collected together, with



**Figure 47**

**The pair-part structure of TB designation**

The laboratory order form is on the right, the laboratory results form on the left.

the BAAR-positives placed on top. In my participant-observation as the *burro* of the CS, bringing new samples and lab orders while retrieving lab results, a lab tech will make a point of calling attention to the BAAR-positive cases. In those CS's that still have functioning CB radios, the names of BAAR-positive patients will be broadcast in the late-afternoon, as the CSs take turns at reporting their daily activities.

Designation, then, is little more than the act of filling out the requisite blanks of the TB *laboratorio* with the respective series of BAAR-positivities and sending the form back to the CS. On closer inspection, however, there is in fact a kind of subtle ritual textuality to this final step, but one achieved through the bureaucratic circulation of the document itself. The pair-part structure of soliciting orders for lab analysis on the basis of the SR-diagnosis, and returning lab results with BAAR-positivities (presuming the positive case here), is itself a kind of dynamically-

figured ritual of biomedical designation. This kind of intertextually-achieved semiosis is in fact built into the larger textual genre of the TB *laboratorio* itself. The document partials of the lab order and the lab results are in the initial phases of case-finding really one larger document, with two ready-made scripts divided by a perforated crease: the blank lab order on the left, the blank lab results on the right, establishing a kind of co-textual sequence. These preprinted form are distributed to the health centers on a regular basis, along with the general supplies necessary to operate and administer a local DOTS program. Besides the perforated crease, they contain that other quintessential ingredient of bureaucratic documentary genres: a second-order of artifactualization in the form of color-coded carbon copies (originals in white, copies in pink). This makes available a secondary circuit of textual circulation which is absolutely crucial for the subtle performance of this genre.

Here's how it works, beginning with the CS. Once a patient has been diagnosed as a *sintomatico respiratorio*, the solicitude for laboratory services is filled out by a nurse, and signed and/or stamped by a doctor. The pink carbon copy of the lab order is detached from the larger form and stored in a book of laboratory orders. The still intact white originals of the order and results forms, as well as the pink carbon copy of the results, are sent to the lab, along with the three sputum specimen. Once the samples have been processed and the results and other requisite information entered into the lab results form, and the form stamped and/or signed by the head lab tech, the white originals are detached from one another along the perforated crease. The pink carbon-copy of the lab results form is likewise detached from its original. The diagnostics lab will keep both white originals, storing them in their own files. The sputum samples will be disposed of as biohazard (they no longer serve a purpose), while the processed slides will be

wrapped in paper and stored until they are sent to the quality control lab. The pink carbon copy of the lab results will then be sent back to the CS along the original circuit. Here things get interesting, relatively speaking. At the CS there is a most anticipated homecoming as the pink carbon copy returns to its source, to be reunited with the pink carbon copy of the original solicitude, in a parallel book of laboratory results. If the diagnosis is positive, the respective patient's file is pulled and relocated among the set of TB-positive patient files kept in the specialized DOTS room that most CS's now have. At the same time, the name of the new patient is entered into the official TB ledger for the CS, the *Libro de Registro de Pacientes*, "Patient Registration Book."

And indeed it is a most anticipated homecoming: this, and only this, is the moment of designation. Does the patient have tuberculosis? Will she or he become a state-sponsored TB patient? These questions now have authoritative answers, and these answers an authoritative institutional locale.

In the case of the BAAR-positive patient, staff at the CS will wait a day or so for the patient to return to the CS to find out the results of the tests. If the patient "fails" to show up—"goes missing" (*se pierde*)—as often happens, someone from the CS will have to go out into the community and look for the patient, opening up a new cycle of *pescando pacientes*, only now one that is much more targeted. When the patient is located and notified of the new status, the final step in designation, which is the first step in patient treatment, begins: the highest BAAR-positivity from the TB *laboratorio* is transferred over to a new document, the *ficha de tratamiento*, the patient treatment card. At the top right of the document is a box. "Type of tuberculosis," it reads. With a simple check mark on the appropriate line, "pulmonary," a new,



and hopefully treatable case of infecto-contagious has been created. Like the TB *laboratorio*, the *ficha de tratamiento* is the key documentary genre regulating a patient's movement through the world of Directly Observed Therapy—the topic of chapter five.

*“El Abandono”*

*[the weakest link]*

Don Angel sat with sleeves rolled up in the *sala de DOTS*, at the neighborhood CS, mid-2004. As he gulped down pills the nurse prepped a swath of his exposed bicep. “Are the injections still making your feet swell Don Angel?” she asked, the needle skillfully clenched between her teeth. “No, my feet are fine *señora*,” he replied, “but my ears have been ringing again.” Don Angel didn’t wince as the needle penetrated his skin, but I did, noticeably so, enough to invite a joke. The real problem with *retratamiento*—with TB re-treatment, the daily routines of which Don Angel was engaging in as we spoke—“the problem isn’t the injections,” he said with a wink aimed at me, “but that you have to wear shirts with sleeves that easily roll up... and no sweaters!” “*Ay! Don Angel!*” responded the nurse, a young woman in her late-twenties, one of the *auxiliarias* in the afternoon rotation. A short, mustachioed man in his early-50s, Don Angel was always making joking like this.

We all laugh, but then Don Angel grew serious. When he first started TB treatment, he recalled, turning to me, he didn’t know what the disease was, had never been to the neighborhood CS, didn’t even know there was one in the neighborhood. And he certainly didn’t know what to expect from DOTS—*TOPS* as he calls it. His urine turned bright orange, his ears rang incessantly. He was afraid of the treatment as much as the disease, afraid mostly for his family. At home he had scrupulously isolated himself in a tiny room. He slept, ate, even cooked alone,

bought his own bedding, plates, and cutlery. He strictly forbade his children, wife, and mother-in-law to kiss him, hug him, or even enter his tiny room. “This disease,” after all, was “very dangerous.” Nevertheless, a few months into treatment, as he recounted, he started to feel better, recuperated some weight and shed his cough. That’s when he “abandoned” treatment, as he put it, adopting the quasi-technical term of the TB control network itself.

“I used to be fat (*gordito*)!” he joked, “isn’t that so *señora*? I can show you pictures.”

Don Angel was an ex-miner, a *relocalizado*, and when I first met him, almost two decades after his move to El Alto, he was a *recaído*, a relapsed TB patient. His first round of therapy had ended poorly. Don Angel says he “abandoned” treatment, but this is a technical category, a convenient fiction, one he’d learned to identify with through time and circumstance. In fact he took his pills *al pie de la letra*, “from A to Z,” as he put it, everyday without fail, 8 months. “Isn’t that so *señora*?” he asked the nurse as we spoke. She nodded and pushed his treatment card my way, his *ficha de tratamiento*: corroborating evidence. I already knew what it said, but took a look at it anyway, pretending to be surprised as a display of sympathy. It showed that, indeed, Don Angel had “completed” with his antitubercular drug regimen, *al pie de la letra*: almost all of the boxes indicating daily doses were appropriately dated and initialed, 8 months. But, as I already knew as well, the card bore the official treatment designation, *fracaso terapéutico*, “therapeutic failure,” right below the space where the more desirable treatment designation, *curado*, “cured,” had been written in. In fact, Don Angel had been officially-cured before he was officially-relapsed. Now, in mid-2004, he had been re-enrolled in the local DOTS program, only in *Esquema II*, patient re-treatment: six months daily injections streptomycin in addition to the standard pills, the former at the patient’s expense.

I also already knew the reason why, despite his strict “compliance” to DOTS, Don Angel was a self-identified *abandono*. I’d heard him recount the story numerous times at the monthly meetings that TB patients are encouraged to attend—the *reuniones de pacientes* that we will explore in chapter five. Just the same, he narrated it again for me. He had been first diagnosed at a regional Catholic-run hospital in El Alto, where he was being treated for diabetes. When they found the TB, they initiated TB treatment immediately. At the hospital, as he recalled, the staff had been “too busy” to explain things properly to him—how the disease and its treatment worked. They only told him he was contagious and could infect his family. They had DOTS but “in name only,” as he put it, now, almost a year later, speaking as an adept in the world of ‘directly observed therapy, short course’. Soon he was transferred to the neighborhood CS to complete his treatment. Things went fine, but when he began to feel better, recuperate weight, shake his cough and so forth, he resumed his Sunday habits of drinking with friends in the neighborhood *cancha* (field) while watching the weekly soccer matches, a quintessential mode of masculine neighborliness in periurban Bolivia. Only he never realized that alcohol could neutralize the effects of the drugs. No one had ever told him this, not until it was too late.

It was surprise, then, when, a few months after terminating treatment, the disease returned: when he started to cough again, to loose weight, and another round of lab exams revealed infection, much abated but active nevertheless—a “single cross,” BAAR (+). For Don Angel, the problem had been one of patient information and, ultimately, “awareness” (*consciencia*).

As he explained that day in the *sala de DOTS*:

Lamentably, I didn’t have down-to-earth information (*información sensata*) about this disease. I didn’t BECOME AWARE (*TOMA CONSCIENCIA*). Because I didn’t have information. So, me, when I more or less improved a bit, I thought I was healthy and abandoned treatment. But on the contrary I worsened [...] When I became ill I didn’t

know anything. I had a cough, I felt bad, but didn't know anything. I went to the doctor and the doctor told me to do the analysis. Then, *Tuberculosis!* Then the doctor, *Ta-ta-ta!* This kind of information was lacking. The doctor told my wife and I only crudely how it was. The first thing to do is put a thunderbolt in the family, I tell you!

One day, also in mid-2004, Dr. C, the afternoon doctor at the same neighborhood CS, called me into the *sala de DOTS*. There I found him, in labcoat, standing over a young woman in sweatpants and an older man in a trucker's hat, both seated. "This is a very special patient *Esteban*," he told me, pointing to the old man, "a case of drug-resistant tuberculosis." He forced something into my hands: a counter-referral form and a treatment *ficha*. "This patient has already been in treatment... but it FAILED, the patient ABANDONED." I glanced down at the *ficha*: the man had missed a few days here and there, a week, then what looked like a month; his 8th month sputum control, the last one, had failed to negativize. Dr. C had referred the man to the *Toráx*, in La Paz, for further testing, he explained. There, a chest x-ray revealed an unabated infection and his sputum culture an infection with significant drug resistances. "What are we going to do about that?" Dr. C said affably, rubbing his hands together furtively, as he always does when he's in a pedagogical mood. "Today will be our patient's first day in *Esquema II*." He wanted to know if I could "conscientize" the man and his daughter, "raise their awareness" about TB, about DOTS, and most of all, impress upon the patient "that he can't miss a single day of treatment, not even one!" When the nurse had finished administering the first streptomycin injection of the returning patient's new treatment regimen, he sent her out to retrieve some pedagogical materials he thought I could use.



Figure 48

Front cover of TB flipchart, *El Abandono*

She came back with something that looked like an oversized book, with a rather frightful cover and the curious title, *El Abandono*, “The abandoner” (Fig. 48). I wasn’t familiar with this particular pedagogical flipchart—a *rotafolio*, as it is called—but had some experience with health educational materials like these from my volunteer work as a community-DOTS promoter. Unlike the standard PNCT flipchart I regularly used to give talks (*charlas*) about TB, this one was tailored more particularly to patients in treatment, and obviously, patients presumed to be at risk for “abandoning” treatment. According to the flipchart’s introductory notes, addressed to the health promoter, “treatment abandonment” is so common in Bolivia that its causes and consequences “must be known as much by the patient as by his relatives and obviously by health workers.” The flipchart’s aim was to present the “sequence of the HEALTH-DISEASE process” leading up to and consequent upon abandoning treatment using the pedagogical techniques of “popular education.” One of the main causes of treatment abandonment in Bolivia was the “low

*confianza* (confidence, trust) of the patient in health personnel,” it noted. And so, the flipchart also aimed, through its communicative use, to “modif[y] our behavior (*conducta*) in order to earn the *confianza* of patients and to achieve with them the true practice of Health Education.” On the front side of the flipchart’s pages were wordless illustrations, and on the backside written text, which, as the introductory notes explained, were intended to serve as a “memory aid” for the health promoter, listing the main “messages” to be communicated by each illustration. The introduction suggested that text “be modified according to the language of the patient, with the recommendation of preserving the essential message of the text.”

Reading through the flipchart with the old man and his daughter, performing it, as it were, is what Dr. C had in mind for me. Let’s open up *El Abandono*, then, and see what we have. The story is itself presented as a kind of animated cartoon, and in that spirit, I’ve rendered our shift into the text in that form as well. Though unconventional in ethnography, perhaps, our brief excursion into the world of cartoonic realism is justified, I think, as it provides a condensed window into the sorts of problems which confront local healthworkers in treating TB in periurban Bolivia, including, importantly, how they are ideologically constructed in the TB control network itself. As we shall see in chapter five, these types of pedagogical devices are at the communicative core of TB *conscientización* more generally, patient “awareness-raising,” which finds its key institutional locus in the monthly TB patient meetings explored in the chapter. Here I’ll reproduce the images and the meta-textual “memory aids” printed on the *rotafolio*’s backside, appropriately transformed, however, and as recommended, for the audience to which it communicates—rupturing the original interaction of its eventhood, unfortunately, but so be it (Figs. 49 and 50).



Figure 49. TB flipchart, El Abandono, re-presented, part 1



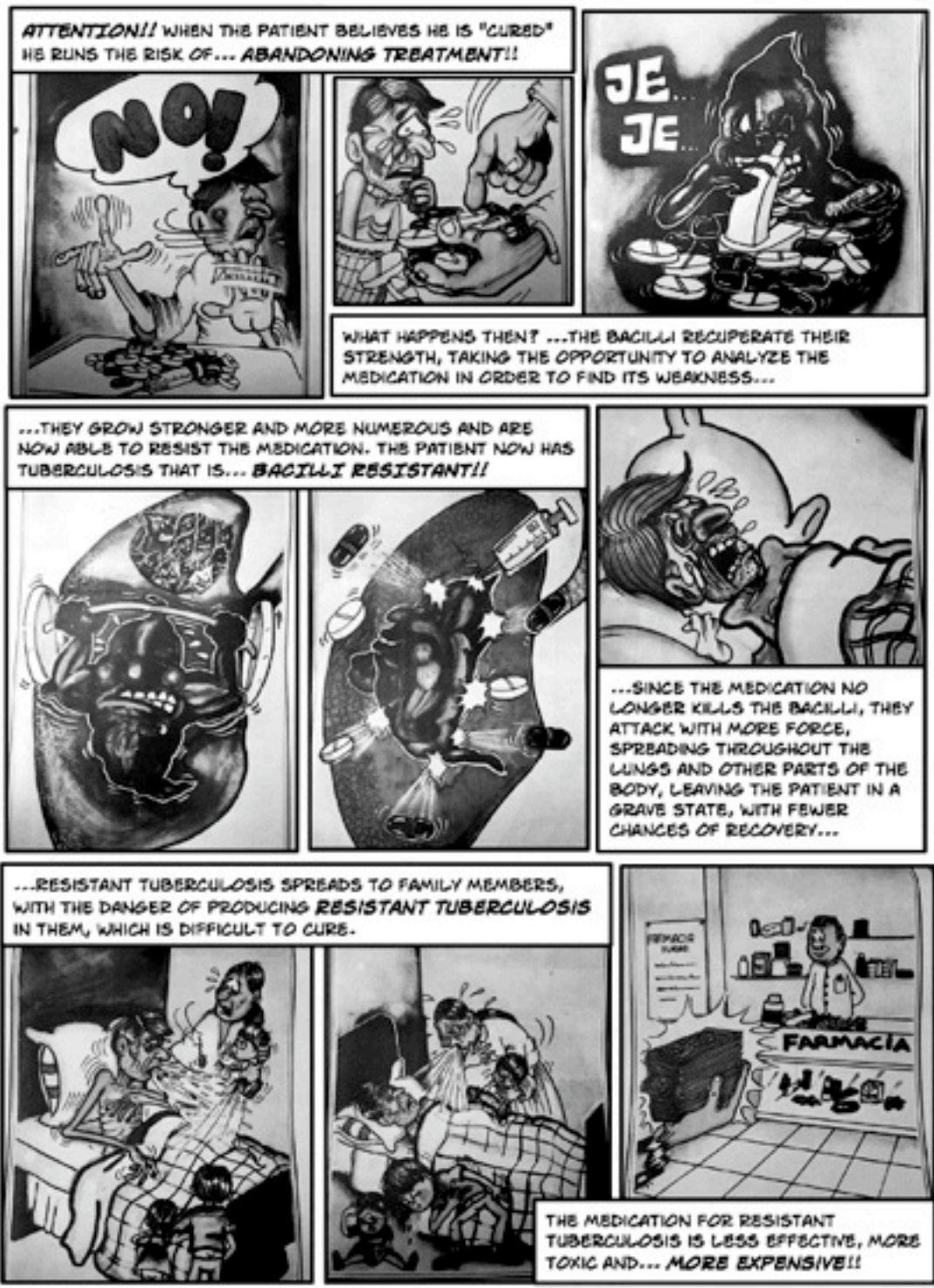


Figure 50. TB flipchart, *El Abandono*, re-presented, part 2

According to the last page of *El Abandono*, the “big lesson” for the health promoter to impress upon the patient is to “to faithfully and strictly comply with treatment for the [eight]<sup>1</sup> months in order to avoid the grave consequences of Resistant Tuberculosis.” Beneath this is a highly stylized motto of sorts, translated here as:

TO AVOID ABANDONMENT MEANS...  
MORE HEALTH ... MORE LIFE  
AND ... LESS DISEASE!!

As with Don Angel, things with this old man—Don Emeterio, as we shall call him—were more complex than imagined by the flipchart, *El Abandono*. There was, of course, no single moment in which Don Emeterio, shaking his finger and turning his head, said “NO!” to treatment: no single (anti-)authoritative moment of treatment abandonment.

Like Don Angel, Don Emeterio was a *relocalizado*. He had been recruited to the mines when he was sixteen, from an Aymara-speaking village on the *altiplano*, according to Don Emeterio, owing foremost to his athletic abilities: he was a regionally-reknowned soccer player, and the miners wanted him for their team, so offered him work. After working his way through various jobs, he spent the next 31 years of his life deep in the mine’s shaft, drilling holes and laying dynamite as a *perforista*, the most difficult and dangerous of all mining jobs. Now in his 60s, “relocated” to El Alto, he travels sporadically back to the mines to work in the small-scale, low-tech, and ill-paying mining cooperatives that have sprung up across Bolivia following

---

<sup>1</sup> The standard duration of Scheme I TB treatments in Bolivia was eight months when I conducted my fieldwork, in 2003-04. Before, presumably at the time this flipchart was developed, it was seven months. After 2006, it was changed again, to 6 months. Treatment durations depend upon the kind and combination of anti-tubercular drugs that are prescribed by national treatment norms.

COMIBOL's privatization, to take advantage of abandoned mines and the mining tailings that the larger, private, mostly foreign owned and operated mining companies deem no longer profitable.

Unlike Don Angel, Don Emeterio was much more reserved. He only reluctantly agreed to let me interview him in his home. As we sat on a bed in a room plastered with countless memorabilia (*recuerditos*) of his time in the mines—photos of him and his crew, pendants and certificates from his chapter of the mining syndicate, trophies he'd won playing *fútbol*—he told me how he'd become completely deaf in one ear. In an attempt to minimize the damage inflicted on the lungs of *perforistas* by toxic mineral fines, COMIBOL had introduced mechanical drills that pulled down the dust by spraying water vapor. The tremendous heat and humidity produced by the new drills, however, made it impossible for *perforistas* to wear the accompanying safety equipment, including the thick headphones meant to protect them against the constant, ear-splitting screech of the drilling, and so many miners simply discarded them, suffering the long-term consequences. Don Emeterio explained to me that he had brought his daughter along with him to the CS that day so she could listen and explain things to him later, what he couldn't hear.

According to Don Emeterio, the hardest part about “this disease”—*este enfermedad*, as he put it, not once uttering the word *tuberculosis*—is that his relatives refuse to see the merit in treatment. Many believe he has something else, but not tuberculosis. Others simply “don't believe in this disease”: in his village, on the *altiplano*, “people don't know this disease.” “*You have nothing more than a resfrio (the common cold), they tell me. You should work to support your family.*” As Don Emeterio explained to me, as we sat there on his bed, these pressures were hard to ignore. Without his income, his family was suffering, and indeed, after the first months of treatment, he did feel better, strong enough to work. Taking advantage of a favor extended to him

by a friend, then, he went to work for a mining cooperative in the provinces of La Paz Department. This is when he “left” (*dejar*) treatment—like the word *tuberculosis*, the word *abandono* is also not in his vocabulary. But after two months in the mine, he began to lose weight again, down to less than 45 kilos (100 lbs), and his cough returned. Skeletal, coughing, and too weak to work, he returned to El Alto and to treatment, which is around the time Dr. C asked me to “conscientize” him and his daughter with *El Abandono*. Don Emeterio:

I could no longer work. No, I was saying, “There aren’t anymore resources, we’ve totally exhausted them. What are we going to do? You know me señor” [xx xx] [referring to the friend that got him the job]. “Yes,” he said. “What can I do?” I said to him. «What can I do?»<sup>2</sup> “If you want to work with me.” “What are we going to do about food? There’s no way to save.” Me, sometimes, I just go to sleep so that my family- my children can eat because there isn’t any food. I prefer to be like this. Now there isn’t money either. «What can I do?»... “Work with me,” he was saying like that, for our benefit. I continued like that [in treatment]. Weight, I was gaining a little. Then I went to the mine to work. This month I failed [treatment] because I didn’t have money. “What is my family going to eat?” Sometimes I go to sleep without eating for the children. And at that same moment, I feel capable of going back [to the mines]. Me, just sitting around like this, I don’t earn anything. There’s nothing, not even to eat.

The tragic irony is that the mining cooperative in which Don Emeterio went to work, the Chima mine, collapsed soon after he returned to El Alto and to treatment, burying more than 400 houses in the base camp, killing dozens. Tuberculosis, in some respects, saved his life.

---

<sup>2</sup> Double-angled brackets here indicates inspired speech—speaking on the intake of a breath—a highly-marked and especially emblematic speech style in periurban Bolivia. As I show in chapter six, inspired speech is used to mark a complex footing, or role-alignment across participant frameworks, in which the speaker tropically externalizes an internal dialogue for communicative effect. It is not surprising to find inspired speech at this point in Don Emeterio’s narrative: he is pragmatically revealing to me his intense internal struggle between sticking with treatment and going to work in the mines, knowing very well the consequences of each action.

## CHAPTER FIVE

### CONSCIENTIZATION: ARTICULATING TB PATIENTHOOD IN DIRECTLY OBSERVED THERAPY

In chapter four we saw how the public diagnostics laboratory performatively bestows new medico-legal statuses on periurban Bolivians suffering from tuberculosis. The lab, it was shown, stands at the authorizing center of a vast metrological network charged with extending the domain of TB control by recruiting sick persons to role-designation of official and—one hopes—therapeutic consequence, launching them into the world of state-sponsored TB treatment. This chapter continues our journey through Bolivia's TB control network by following patients like Don Angel and Don Emeterio as they enter the cascade of institutional processes brought to bear upon their diseased bodies. With this, then, we turn from the laboratory to the neighborhood CS, the primary institutional locale for treating tuberculosis in periurban Bolivia, and more precisely, to the question of how periurban patients come to inhabit the institutional role-designations to which they are recruited.

As the prologue to this chapter suggests, there is nothing self-evident about being a state-sponsored TB patient in periurban Bolivia: treating tuberculosis is a lengthy and laborious process, one that unfolds over eight-long months, and requires a form of patienthood that most periurban patients have little or no experience with before starting treatment. In this respect,

treating tuberculosis in periurban Bolivia involves as much teaching patients *how* to be treated—and entreating them *to be* treated—as it does treating them in the more usual biomedical sense. As Don Angel observed, one has to first of all “become aware,” *toma consciencia*, if one is to successfully navigate the challenging world of directly-observed therapy.

This chapter is divided into two parts. The first part explores the process of treating tuberculosis in the modality of ‘directly-observed therapy’, at its main site of institutional enactment, the *sala de DOTS*, or DOTS room, of the neighborhood CS. As I argue, directly-observed therapy requires a very special mode of patienthood for its effective performance, one that takes shape as a kind of treatment career, network-specific configuration of space, time, and therapeutic action. Crucially, it is within this treatment career that the diseased body of the patient can be effectively articulated to the institutional network in which TB treatments flow. But aligning the embodied selves of patient to this treatment career constitutes a serious institutional dilemma.

The second part of the chapter, then, turns to consider the communicative strategy of TB *conscientización* as it is called upon address this problem of aligning patients to the forms career-like patienthood required of them for treatment. The main institutional site for TB *conscientización* is the monthly TB patients meeting, as it carried out in the CS’s *sala de reuniones*. Thus, we will move in this chapter from the *sala de DOTS* to the *sala de reuniones*, from treating tuberculosis to talking about it, seeing how this movement is itself increasingly countenanced as necessary for the broader aims of the global DOTS strategy.

Ministerio de Salud y Protección Social  
 Dirección Nacional de Control y Promoción de Enfermedades  
 Programa Nacional de Control de la Tuberculosis

**Ficha de tratamiento**

UBES CA PAZ UDSEA  
 Distrito: BARRIO PAZ Servicio de salud: C.S. DEURMA 79  
 Nombre y Apellidos: JOSE ZUSSI COQUE ARCAÑO  
 Edad: 19 años Sexo: (M) (F)  
 Domicilio permanente: CAJICRI (SANTA-CRISTINA)  
 Domicilio temporal: BARRIO - DEURMA  
 Fecha de inicio de tratamiento: 27-01-07

**Esquema de tratamiento**

Acortado (2HRZE/4E)  
 Padecido (2HRZE/4E)  
 Tratamiento (2HRZE/4E) - (2HRZE/4E)  
 (Otro: \_\_\_\_\_)  
 1ª fase: 2-4-6-8-10-12-14-16-18-20-22-24  
 2ª fase: 26-28-30-32-34-36-38-40-42-44-46-48-50-52

**Croquis**

Mes	Fecha	Obs. Actual	Próx. (D)	Fecha correcta
1	27-01-07	OK	03-02-07	03-02-07
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				
31				
32				
33				
34				
35				
36				
37				
38				
39				
40				
41				
42				
43				
44				
45				
46				
47				
48				
49				
50				
51				
52				

En cada cuadro registre con la sigla, con la sigla del número y apellido de la persona que observa el tratamiento y con ( ) cuando no se observó.

Figure 51. Sample DOTS *ficha de tratamiento*

*Treating Tuberculosis in the Sala de DOTS*

As we saw in chapter five, the entire process of recruiting a new TB patient is organized around, and ultimately culminates in, the production of a single but indispensable institutional text: the TB *laboratorio*, or lab result, with its peculiar entextualization of TB-positivity. With this text, a TB sufferer becomes an officially-designated TB patient, bearing legal entitlement to state-subsidized TB treatments in the modality of DOTS and carried out at the level of the neighborhood CS. At the CS, as we also saw, the TB *laboratorio* serves as the foundation for the creation of a new type of text, the *ficha de tratamiento*, or patient’s treatment card (Fig. 51), the key discursive genre that will guide the patient through the “short course” of the eight long months of anti-tubercular drug therapy. In many respects, the patient *ficha* is to treatments what the *laboratorio* is to diagnosis. If the TB *laboratorio* serves as the primary metadiscursive means

for coordinating the discursive practices through which the diseased body becomes recognizable in the network of legal entitlements, the patient *ficha* is the primary metadiscursive means for coordinating the discursive practices that render the patient's body treatable in the network of biomedical efficacies. As we shall see, it is with the *ficha* that the biographical self of the patient comes to be articulated to the spatiotemporal regime through which TB patienthood is enacted to maximum effect.

This is where we left off in chapter four, back at the CS, with the creation of the patient *ficha*, on the cusp of therapy. But what happens next? How do patients enter and move through this network of treatments? How is space, time, and therapeutic action structured in the treatment network? What kinds of demands does treatment require of patients, of their bodies and of their lives? How do TB treatments proceed and progress, and crucially, conclude? What kinds of treatment conclusions are possible, and what kinds of institutional concerns and consequences issue from these various, possible treatment outcomes? In short, what *is* TB patienthood in directly-observed therapy?

#### *TB patienthood and the 'career timetables' of directly-observed therapy*

Once created, the patient's *ficha*, along with his file, is transferred from the CS's general filing system, located at the nurses' station, to a special filing bin located in a special room, the *sala de DOTS*, or DOTS room. In this special room one finds all the institutional paraphernalia required for treating tuberculosis in the modality of directly-observed therapy. Besides the patient's files, one finds the general documents and their duplicates that CS staff are required to





**Figure 52. Inside the sala de DOTS**

fill out and send to the regional PNCT office trimestrly: the patient registry, the cohort reports, order forms for more drugs. One finds the plastic *vasitos* used to collect samples of patient sputum for the periodic laboratory controls necessary to evaluate treatment progress. There are chairs and small tables and the walls of the room are covered with DOTS-related posters as well as the large epidemiological tables, or *hojas de monitoreo*, used to visualize and evaluate the overall function of the CS's DOTS program. And there are, most importantly, the first-line anti-tubercular drugs: ethambutol, pyrazinamide, rifampicin, isoniazid. They are stored in bulk in a special medicine cabinet and, ideally, when the PNCT's supply-chain holds, replenished trimestrly. They are also readied in the form of individual doses on a large wooden board resembling an oversized, vertically-hung pill-box, the TB *tableto*, or "table." Once a week, CS staff recombine the drugs in the medicine cabinet into the daily drug cocktails prescribed for

each patient, according to their respective treatment regimen. The daily drug cocktails—or *tratamientos*, treatments, as they simply called—are neatly packaged into paper sleeves fashioned from old lab results and hung from pegs on the *tablero*. Each patient enrolled in DOTS is accorded a unique row of pegs on this organizational table, a peg for each day of the week. Next to the *tablero* is a pitcher of distilled water and a stack of paper cups, used for taking treatments, and next to that a trash-can labeled “biohazard.”

It is here, in the *sala de DOTS*, that TB patienthood is enacted—that directly-observed therapy is done. Directly-observed therapy is, in the most immediate sense, the daily routine that brings TB patients, anti-tubercular drugs, and the CS staff that administer them together in this room for ten minutes or so each morning or afternoon. And the singularity of this daily routine is so simple, so standardized, that it can be visually represented on the walls of the DOTS room itself (Fig. 53). There is just one task, one script: receive the patient, ask how he’s doing, locate his daily treatment on the TB *tablero*, fill a glass of water and carefully observe as he swallows the pills, then date and initial the respective box on his *ficha de tratamiento*. The process is so routinized, in fact, that patients often form bonds of friendship with staff, planning their daily visits to the CS to coincide the shift of a favorite nurse.

If all goes well, if this routine is faithfully executed over the course of eight months, the patient will be restored to health—or at least rid of tuberculosis, bacteriologically-speaking. The designation *curado*, cured, will be inscribed on the patient’s *ficha*, the *ficha* placed back in the patient’s file, the file returned to the general filing cabinet at the nurses station. The patient’s name will be removed from the TB *tablero* and the patient dispatched back into the world outside the CS with a clean bill of health.



**Figure 53**

**Directly-observed therapy, in ideal form**

Enacting this daily routine, then, is the very substance of treating tuberculosis at the neighborhood health center. Crucially, it is through this daily routine that TB patienthood takes shape as a highly-specific configuration of space, time, and therapeutic action, what, borrowing a term from the medical sociologist Julius Roth, might be described as a *treatment career*—“a series of related and definable stages or phases of a given sphere of activity that a group of people goes through in a progressive fashion [...] in a given direction or on the way to a more or less definite and recognizable end-point or goal or series of goals” (1963:94). According to Roth, a treatment career constitutes a distinct kind of patienthood owing not only to its relative durational and developmental dimensions, but also because a patient’s emplotment into a career is objectively structured through the semiotic means of what he calls a ‘timetable’, a kind of institutionalized schedule of production composed of reference points or benchmarks that “serve as signposts for progress in a given direction” (ibid.:99). With a timetable, individual treatment careers can be evaluated and compared with one another, and institutional expectations about

career progress rendered explicit and consistent. The patient's engagement with the spatiotemporalities of treatments can be given a stable and predictable contour, one that is graspable and gradable through the semiotic mediation of texts.

Interestingly, Roth developed his analysis of career timetables in a comparative study of TB sanatoria in which he himself was an inpatient. In his study, he found that the institutional timetables of most TB sanatoria were chronically fuzzy, ill-defined and imprecise. This accounted for what he described as the profound sense of timelessness and lost-ness among residents (see Bowker & Star 1999:179). No one could answer—or get answered—fundamental questions like, *How am I progressing?* or *How long will I be here?*, a space of uncertainty which led many patients to view their time at the sanatorium as a kind of indefinite incarceration. “The TB patient,” Roth wrote, “conceives of his treatment largely in terms of putting in time rather than in terms of the changes that occur in his lungs” (1963:xv). Given this lack of rigidly-defined institutional timetables, many sanatorium patients developed their own homegrown timetables, a development that, according to Roth, resulted in constant conflict between patients and healthworkers over the meaning and evaluation of treatment progress.

In contrast to the ill-defined timetables of the TB sanatorium, ‘directly-observed therapy short-course’ is perhaps best characterized by its rigidly-defined timetables, and in the respect, by the attempt to minimize conflict between patients and healthworkers. At the heart of DOTS—in its basic design (see introduction and chapter one)—are institutional timetables that have, so to speak, been turned on the patient, wed to a sociomoral technology for “securing compliance” by semiotically projecting patients into careers and ensuring that they rigorously “adhere” to the temporalities in which they unfold. On this all else is staked, and it is precisely this which makes

contemporary TB patienthood so distinct from other modes of patienthood found in the CS and elsewhere: being treated for tuberculosis entails a routinized, repetitive engagement with biomedical institutions that takes the organizational form of a rigorously-delimited career within which one can succeed or fail.

Back in the *sala de DOTS*, the career timetables of directly-observed therapy pervade the daily routines of TB patients. Patients are categorized into treatment schemes, and each scheme into phases, each phase with its own prescribed drug regimen, tweaked to the patient's weight, sex, and other biographical factors. New patients are placed in *Esquema I*, the standard 8-month short-course therapy. "Relapsed" patients are placed in *Esquema II*, "re-treatment," defined by extended treatment time and the addition of daily streptomycin injections to the standard regimen. *Esquema III* is for infants and persons in prophylactic treatment: typically, a family member or close contact viewed as at risk for contracting the infection from the primary patient. Each treatment scheme is divided into an initial "intensive" phase, lasting three months, and a less intense "intermittent" phase for the remaining five months. In the intermittent phase, patients are typically (but not always) entrusted to take their medications at home, visiting the CS once a week to check-in and retrieve more drugs. The passage from one phase of treatment to another is determined by periodic laboratory sputum controls. A trend toward bacteriological negativization is expected in the 1st month, a BAAR (+++) patient should become (++) or (+), a BAAR (++) patient (+) or (-), and so forth; controls in the 3rd, 5th, and 8th months should all be (-).

All this is reckoned through and recorded on the patient's *ficha de tratamiento*. In conjunction with the TB *tablero*, the *ficha* serves to enact the primary institutional timetables of



Figure 54. Backside of a patient's *ficha de tratamiento*

directly-observed therapy. Recto and verso the *ficha* is a treatment schedule (see Fig. 54). Each day of the eight month treatment is accorded a unique box, each row of boxes representing a month of treatment. Plotting the patient into the individual spacetime of the therapeutic course is achieved at a glance, daily upon reception, by locating the schedule's growth edge—the unmarked box at this edge represents *today's* treatment. The treatment that corresponds to this box, then, is found hanging from its respective peg on the TB *tablero*. In contrast to the *ficha*, the *tablero* locates the daily treatment in a different kind of calendrical structure, defined not by the individual therapeutic course, but by the treatment cohort, the group of individuals who have initiated treatment at roughly the same time. On the TB *tablero*, patient treatments are grouped by schemes, and within schemes, by phases, in weekly increments. The dates of upcoming sputum controls are posted on the board, creating benchmarks, goals to work toward.

Together, the *ficha* and the *tablero* constitute a powerful semiotic technology without which ‘direct-observation’ would be institutionally meaningless. Together, they make it possible to translate the situated event of consuming drugs into the more perduring order of signs, here at the intersection of two spatiotemporal orders: as a point advancing along a linear sequence through the various phases of treatment (the private spacetime of the therapeutic course); and as an individual fact within an aggregate of comparable such facts (the public spacetime of the therapeutic cohort). At the same time, they constitute a powerful sociomoral technology, organizing the institutional ethos of patient surveillance into a routine discursive practice. Missed treatments are registered on the patient’s *ficha*, inscribed in institutional memory, and the treatments themselves continue to hang from the *tablero* for all to see, sticking out like a sore thumb. The relative progress of patients can be publicly visualized and compared: as patients move through the various phases of treatment, their respective positions on the *tablero* change accordingly, like pieces on a board-game. It becomes possible to see who is and isn’t “keeping up” with their career cohort—who is succeeding and who is failing in treatment.

*The weakest link: the limits of the directly-observed therapy*

Making sure that patients keep up with their careers—*seguimiento de pacientes*, patient tracking or monitoring, as it is called in the DOTS room—is the prime directive of the CS, the main demand placed on TB patients and on CS staff. But as CS staff well know, and as the experiences of Don Angel and Don Emeterio discussed in this chapter’s prologue illustrate, keeping up with one’s prescribed career is a difficult path for periurban patients to follow, full of



Figure 55

DOTS poster: “Tuberculosis, you can beat it!”

twists and turns and potential dead-ends. As a poster found on the walls of many CSs instructs, by “strictly following the road” the patient can win at the game of tuberculosis—“you can beat it!” the poster enthusiastically proclaims (Fig. 55). But as it also dramatizes, the path to recovery is anything but self-evident. Even with the rigid timetables of DOTS, even with the constant surveillance, patients often take wrong turns, plummeting off cliffs to their detriment and even death.

Being a TB patient is hard. Urine turns a frightful orange, feet swell and ache interminably, ears ring for days on end as a consequence of the drugs—patients become so nauseated it is a challenge to acquire sufficient nutrition to fight the infection. Life-threatening allergic reactions to the drugs are possible, even common. Conforming to the daily routines of DOTS constitutes a daily chore that disrupts the rhythms of everyday life. Some patients walk for miles to get to the CS, others spend scarce resources on bus-fare. Some quit their jobs, if they



have one, to make the daily trek; others get fired or are placed on unpaid leave. Those that perform demanding manual labor—the majority of periurban TB patients—are often encouraged by CS staff to quit their jobs, if they are not already too weak to work. Periodic visits to rural villages for planting, harvesting, and tending to family and community matters have to be postponed or cancelled. A patient is discouraged from partaking in the frequent, cyclical neighborhood and community festivals that figure so prominently in the basic modes of periurban sociability (and political-economy). Household economies dwindle for lack of income, rural safety nets contract, and patients quickly find themselves isolated from family, friends, and neighborhoods, or isolate themselves out of fear and shame. The rigors of treating tuberculosis can come to seem a bigger burden than living with the disease, and indeed many patients take this view—some, like Don Emeterio, even act on it, at least until it catches up with them.

And even in treatment nothing is certain. Coughs clear up then suddenly return; weight is gained then lost; sputum controls negativize, then, months later, convert to positive unexpectedly. A recovering patient experiences a relapse and eight months of treatment are extended another six, only now in *Esquema II*, with painful daily injections, and now only partially subsidized by the state. A basic activity like carousing with neighbors on the weekend unwittingly constitutes, as in the case of Don Angel, the wrong turn that wrecks an otherwise perfect treatment career, earning for the patient the undesirable designation, *abandono de tratamiento*, a “treatment abandoner.” Indeed, faithfully executing the daily routines of DOTS is rarely as straightforward, rarely as simple and seamless as the ideal models suggest, the one represented on the walls of the CS. Success in therapy comes in absolutes and has its primary locus in the *sala de DOTS*. But

therapeutic failures, by contrast, come in countless degrees of subtly, and extend far beyond the CS to encompass and transform the everyday lifeways of patients.

Getting patients to stick to the right road, then, to avoid wrong turns in their allotted careers, so to speak, is a constant concern of local health workers, and a key institutional anxiety of the TB control network more generally. The *sala de DOTS* is nervous node for all: as much for policymakers, program administrators, and local health workers, as TB patients. In 2003, when I was conducting fieldwork for this research, it was estimated that 38% of patients enrolled in DOTS programs in Bolivia “failed” to complete their prescribed treatment regimen (Greene 2004). The numbers were even higher in periurban Bolivia, in the marginal neighborhoods of La Paz, El Alto, Cochabamba, and Santa Cruz. A study commissioned by Bolivia’s health ministry (MSPS 2001) and summarized in their 2003 annual report attempted to identify the key difficulties, or “barriers,” to successfully treating tuberculosis in Bolivia. The study developed a “psychographic profile” (*perfil psicográfica*) of the typical Bolivian TB sufferer, the key lineaments of which will be familiar from previous chapters:

- The person with tuberculosis is generally someone who tries to hide his illness owing to a series of social prejudices regarding [the disease], feeling isolated, little understood and supported by his family and his community
- The cough is not conceptualized as a symptom, “it is normal in the community.”
- There is no knowledge of the disease, not even its basic elements (origin, form of infection, prevention, cure, etc.)
- Many persons believe that tuberculosis is a disease exclusively of miners
- Many persons believe that tuberculosis is a disease exclusively of the elderly, especially [elderly] from the *campo*
- The population knows little about the services included in the *Seguro Básico de Salud* [Basic Health Insurance]
- There exists a traditional conviction that traditional medicine has the capacity to cure tuberculosis through the use of *matés* [herbal infusions] and other procedures [...]
- A large part of the population doesn’t know that untreated tuberculosis can cause death, nor do they know that it has a definitive cure [...]

- The cure has little credibility. “Tuberculosis can’t be stopped, or at least it can’t be cured by either *naturistas* or *médicos*.” [...]
- The population in treatment for tuberculosis feels discriminated against by health personnel [...] (PNCT 2003:131-2)

The “abandonment” of treatment by patients—its identified root causes—was given a more precise analysis:

- Factors for the abandonment of treatment: a) It’s impossible to come everyday at the same hour to the *centro de salud*, b) the medications produce too many disruptions (*trastornos*) in the body, making the cure is worse than the disease, c) limited access to health services, d) [beliefs in] the cost of medications, e) [beliefs in] the costs of consultations, f) ignorance of the program, g) the prolonged duration of the treatment, h) because in the first months [patients] begin to feel better, i) community festivals, j) lack of support by health personnel, k) pregnancy, l) changes in the treatment scheme, m) inability to endure the injections of *esquema II*, n) lack of family support, ñ) health personnel don’t sufficiently privilege the continuity and monitoring of treatment, o) unfair competition with the private sector. (ibid.:132)

If the PNCT’s evaluation of the problem tends toward the presumed psychological and socioeconomic dimensions of treatment failure, often drawing upon (sometimes even plagiarizing) the large body of literature on patient “noncompliance” produced and circulated by global TB institutions (as we shall see below), regional health officials and local healthworkers tend to evaluate the problem from the perspective of a more situated, local knowledge, one shaped by the acute institutional frustrations of their professional positions within the TB network control. In interviews I conducted with regional health officials and local healthworkers in El Alto, these “barriers” to treatment were sketched in more culturalist terms, along the lines of what Charles Briggs (2003), elaborating on the work of Paul Farmer and Etienne Balibar, calls ‘cultural reasoning’, the reduction and rationalization of complex individual behaviors through readily-available stereotypes of presumed local cultural difference.

“Take into account that the city of El Alto is first a migrant population,” the municipal director of El Alto’s TB control program explained to me when I asked her why so many *alteños* “abandoned” their treatments:

It’s a population that comes and goes, to and from the *yungas*, let’s say, no? We have various cases that come and go. They go to harvest, they finish up and return here. They have small [rural] installations there, let’s say, no? Likewise they come from the rural Andean part, from the *altiplano*, no? So it’s a people- including people from Oruro, from there, people that have made there home-base here. And they constantly come and go. Second, the population here is principally of the type- I don’t know how to say it- from the *altiplano*, that is, an Andean population. The culture these people have is... *cerrado* [closed].

The cultural stereotype of the *aymara cerrado*, the close-minded, monolingual Aymara migrant—distrustful of all dealings with the “outside” world, especially the *criollo* world of elite Bolivia—is a common stereotype haunting the discourse of treatment abandonment in Bolivia’s TB control network, just as it haunts public narratives of TB’s epidemic resurgence in Bolivia more generally (see chapter two).<sup>1</sup> It invests the more abstract discursive figure of the *abandono*—the hapless TB patient that contemptuously abandons treatment, so often featured in program literature like the TB flipchart *El Abandono*, introduced in this chapter’s prologue—with ready-made, locally-recognizable cultural values. Here the stereotyped persona of the *aymara cerrado* is more particularly marshaled to rationalize, as self-evident fact, the perceived failures of periurban patients to successfully inhabit the exacting spatiotemporal horizons of TB treatments.

---

<sup>1</sup> The cultural stereotype of the *aymara cerrado* has a long and storied history, one in which anthropologists have played no small role. Westen LaBarre, for instance, wrote that the Aymara “are truculent, hostile, silent, and unsmiling in all their dealings with whites” (1948). According to Forbes, the Aymara are “sad and serious, reflective, silent, and uncommunicative, intensely suspicious and distrustful, never forming attachments until after long acquaintance.” As if taking a page from Alcides Arguedas’ *Pueblo Enfermo*, LaBarre further disparaged the Bolivian cholo: “As for unattractive traits of temperament [...] not even the Aymara, is any kind of match for the Bolivian cholo, who unites in himself the treachery, stupidity, cupidity, morbid distrust, hostility, and fatalistic brutality of both his ancestries” (LaBarre 1948:39-40).

At the same time, if this kind of culturalist discourse appears highly-derisive, if it seems to shift the blame for poor treatment outcomes onto periurban patients themselves, it also expresses the intense anxieties that local health officials and healthworkers have towards the very challenges of conducting TB work in periurban Bolivia, including, importantly, the intense institutional pressures that are laid at their feet. When I asked the municipal director to clarify what she meant by *cerrado*, for instance, she appeared flustered, perhaps aware of the highly negative connotations of the term she had just used (and in conversation with an anthropologist no less):

In the sense that... *let's say*, we go more toward traditions, and not toward the scientific part of disease, no? So it's Aymara culture, *as they say* [...] In El Alto there are very clear characteristics. Those populating El Alto are migrants from all over the department, from all over the country, and this creates a... *diversity of behavior*. (emphasis mine)

The subtle pronominal shift performed by the municipal director here (*we go more toward traditions*); her rhetorical attempt to hedge ready-made evaluations by modalizing them as supposition (*let's say*) and hearsay (*as they say*); her swift switch, after a long pause, into a more multiculturalist, expert register (*... diversity of behavior*)—all suggest at once her awareness of the impropriety of such explanations, of the easy-shortcuts and over-simplifications they affect, and of course, of the very frustration of things beyond her control.

When I posed the same set of questions to the departmental director of La Paz's TB control unit, the underlying institutional anxieties—and his ineluctable location within them, top-and-center—seemed to bubble right out. “DOTS, to say it directly, doesn't apply to them!” he responded in unequivocal terms, referring to periurban patients in particular. “It doesn't apply to them- it doesn't function, DEFINITELY!” The picture he then sketched for me was of a population of local patients in constant movement, movement that undermined the strict

spatiotemporal order of directly-observed therapy. “The *paceño* has to progress, has to progress and improve economically daily,” he explained to me. “And this has deepened the problem, through rural-urban migrations.” According to the director, one strategy the department TB unit was in developing in 2004 to deal with this precise problem was to create a large network of tiny, single-use DOTS centers throughout the department. Modeled on the ubiquitous *Punto-Entel* call centers found in Bolivia’s rural communities and periurban neighborhoods, the DOTS center—called *Punto-DOTS*, felicitously—would allow TB patients to receive their daily treatments wherever they were, simply by bringing in their treatment *fichas*. Unfortunately, as the director confided to me in the same interview, he himself likely wouldn’t be around to see the program come to fruition, since, given his inability to demonstrate operational improvements in departmental TB unit under his brief tenure, he expected to be replaced and demoted. The biographical shortcomings of patients, it would seem, are equally matched by the spatiotemporal discontinuities in program management.

TB patienthood is, I am suggesting, the weakest link in the TB control network. When I say that TB patienthood is the “weakest link,” however, I do not mean to suggest, as local health officials and healthworkers sometimes do, that the patient is a weak link. Rather, following Latour, and the general argument of this dissertation, I would argue that weakness, like strength, is an attribute of a network, not a person, and when failures in treatment occur, it is to the TB control network, not to the patient, that one must turn—to the failure of the network to adequately extend itself by pragmatically translating or *transducing* the patient, as complex biographical person, into the network-specific modalities of a new patienthood: the quintessential node in any

therapeutic network.<sup>2</sup> By “TB patienthood,” then, I do mean the TB patient as identified in therapy—not just patienthood as a therapeutic identity. But more broadly, the framework of institutional processes that semiotically articulate patients and their diseased bodies to the rigid ‘timetables’ required for the effective enactment of anti-tubercular drug therapy, a configuration of space, time, and therapeutic action that also takes into account, as we often forget, the very particular spatiotemporalities of the disease entity itself (cf. Bowker & Star 1999:166-194). TB patienthood is, in this respect, an inherently relational and by-degrees achievable articulation that encompasses at once the biographical self of the patient, the disease entity in the patient’s body, the technical means that target and counteract that disease entity, the healthworkers that administer and manage these technical means, and the ‘timetables’ that assemble all these these actors, entities, and means together, daily, in the *sala de DOTS*, for the singular act of *doing* TB treatments (cf. Mol 2002). If TB patienthood is such a weak link in periurban Bolivia, it is because the work of translation required to achieve this critical articulation—to incorporate the patient as a stable and predictable node in the network—itsself remains relatively weak.

A brief example from the literature may be helpful to flesh out this last, perhaps difficult point, and motivate our turn, in the second half of this chapter, to the processes of patient education and TB *conscientización*: our move from the *sala de DOTS* to the *sala de reuniones*.

In a fascinating study of childbirth in European hospitals, Madeleine Akrich and Bernike Pasveer (2004) point to the multiple ways that the embodied self of the parturient woman comes to be articulated to what they call the ‘body-in-labor’, the body as it is conceptualized by biomedicine and made visible and manipulable through the standardized techniques of the

---

<sup>2</sup> Latour: “[E]very time you hear about a successful application of a science, look for the progressive extension of a network. Every time you hear about a failure of science, look for what part of which network has been punctured” (1987:249).

hospital delivery room. As they show, the body-in-labor is constituted foremost by an obstetrical expertise that reduces the act of childbirth to the uterus—that constitutes the uterus as a kind of objectified entity or ‘actant’ that the woman in labor must relate to by providing feedback on, by working with and against, or, in the event of an epidural, by turning over to medical expertise altogether. Giving birth in a hospital is distinct from giving birth elsewhere, in this respect, in that the delivery room presupposes, in its basic ‘set-up’, a network-specific set of semiotic alignments between the embodied self of the woman and the standardized body of obstetrical practice—a kind or *re-embodiment* that makes hospitalized childbirth stable and predictable for all parties involved. In this way, they highlight the work of translation that must be performed “to achieve that superimposition of the two bodies or, more precisely, to bring about the articulation between the body of the ‘person’ and that of the patient as defined by medicine” (ibid.:64).

The *sala de DOTS* is no different than the delivery room in this regard. As one CS doctor likes to tell patients, only half-jokingly, directly-observed therapy is treatment *en boca*, “in the mouth” or “at the opening of a tunnel.” The disease is in the body, but the only way to get to it is *through* the patient—the sentient, biographically-rich, embodied self of the patient whose mouth can be pressed into the daily service of swallowing drugs according to a strict timetable. Counteracting tuberculosis from this perspective requires achieving a set of semiotic alignments between the embodied, biographical self of the patient and the biomedically-constituted ‘body-in-treatment’ (to borrow Akrich and Pasveer’s terms), the body as it is made graspable and treatable by the network-specific modalities of directly-observed therapy, each day for eight months, as a kind of career. In this respect, the tragic figure of the *abandono* serves as a kind of semiotic negative of the potential consequences of failing to faithfully align oneself with the



prescribed treatment career and the standardized ‘body-in-treatment’ its makes routinely available.

As Akrich and Pasveer point out, the European woman rarely encounters the standardized body-in-labor for the first time in the hospital’s delivery room, without prior experience and expectations and, quite often, simulated enactment. Far from it, hospitalized childbirth is a constant topic of everyday talk, an ever-present subject of public discourse, something that many of their well-off research consultants learned about, prepared for, and even practiced in advance, namely, by engaging in the enormous culture industry dedicated to teaching pregnant women about their bodies, their pregnancy, and how to form “healthy” (and often “proactive”) alignments to the medical practice of the delivery room. In short, in their research setting, the abstract body-in-labor, as a cultural form, is part of a broader obstetrical discourse that circulates far beyond the narrow confines of the delivery room. As such, the work of pragmatically translating the more embodied modes of being pregnant into the framework of hospital-specific alignments required of parturient patienthood often begins long before the onset of labor, many times before pregnancy itself.

In periurban Bolivia, by contrast, the treatable body of anti-tubercular drug therapy is much more limited in its representational life. There is little or no everyday discourse about TB patienthood outside the neighborhood CS; no general culture industry dedicated to teaching Bolivians how to be TB patients; no space of prior experience, expectation, or simulated enactment. In fact, as we’ve already seen, for many periurban TB sufferers directly-observed therapy will constitute their first encounter with biomedical institutions and its distinct forms of patienthood more generally—a very strange introduction. In this respect, the work of calibrating

TB sufferers to the institutional timetables of TB patienthood will have to be performed concurrent to treatment itself, as part of treatment. Periurban patients will have to be taught *in treatment* how to align or articulate themselves to the standardized biomedical body required *for treatment*.

*Teaching Tuberculosis in the Sala de Reuniones*

The *sala de DOTS* is where TB patienthood is performed, where directly-observed therapy is enacted, and where, if all goes well, tuberculosis is successfully treated. But it is in another room of the neighborhood CS, the *sala de reuniones*, that TB patienthood is taught, that the abstract ‘body-in-treatment’ is given full representational form, topicalized in explicit discourse more than anywhere else in periurban Bolivia. It is here that the monthly TB patient meeting takes place, typically scheduled for the last Friday of the month, usually in the late afternoon, when the majority of patients visit the CS for their daily treatments. Attendance at the monthly patient meeting is not required, but it is highly encouraged, especially for patients at the initial stages of treatment and patients that, for various reasons, have been identified by local health personnel as potential problems, most especially, those that have “abandoned” treatment at one point or another. In such cases, an incentive structure is often in effect: advancing to the next stage of treatment is made contingent upon attendance.

The *sala de reuniones* is, in most respects, entirely unlike the *sala de DOTS*. To begin, the ‘community hall’—which might be a more accurate translation than ‘meeting room’—belongs fully to the neighborhood CS, functionally and spatially, and in some respects, it really belongs to the neighborhood itself. In many CSs the *sala de reuniones* is not inside the health

center, but attached to it, with a separate entrance and schedule negotiated willy-nilly by neighborhood organizations and CS staff. All kinds of activities take place in this room, many unrelated to “health” in the narrow sense: literacy classes, talks on human rights, meetings of neighborhood youth groups, vocational training sessions—in short, all the activities that fall under the rubric of *capacitaciones*, “skills-trainings,” and *conscientizaciones*, “awareness-raising”—two of the key activity genres by which periurban Bolivians engage in national and international institutions. Unlike the *sala de DOTS*, then, the community hall is multi-purpose, oriented to community-based knowledge and training, and directed by no single, over-arching authority. It is a noisy, boisterous place, full of rickety chairs and squeaky chalkboards; a space through which people constantly come and go, popping in to see what’s going on, sneaking out when they please. The doors to the room are always open, and during the TB patient meetings I attended, it was not uncommon for a hungry dog or two to make a pass through the room in search of the errant crumb. Just outside, there is a courtyard, and it is not uncommon to find the CS’s laundry hanging from clothes lines. Across the courtyard is a nursery, and the sounds of playing children constantly fill the room. In short, it is a place quite unlike the CS proper, but not so different from other places in the neighborhood.

More than anything, however, the *sala de reuniones* differs from the *sala de DOTS* in being a place of *talk*: talk as a form of communicative labor. Words not drugs dominate this room, and the voice of the person is as important as the body of patient. More than just meetings, monthly TB patient meetings are conceived of as *talleres*, or workshop, spaces of goal-oriented communication in which patients can collectively learn about the tubercular body and the therapeutic modalities that are brought to bear upon it in treatments, where they can share

personal experiences with the disease and its treatment, and where, importantly, patients nearing the final stages of treatment can counsel those just beginning treatment. In this way, patient meetings are the key discursive site for performing the institutional labor of TB *conscientización*.

*TB conscientización as communicative labor*

A publication from the early-1990s, by two leading Bolivian TB specialists, imagined what the monthly patient meeting might look like, might sound like, might accomplish.

According to the publication, the monthly patient meeting would serve as

an agglutinating nucleus for patients to ask questions: “why? who? ...gets sick with tuberculosis?” questions that pose a problem, urging a critical analysis of the disease such as its probable causes and solutions from the technical point of view consisting in the correct management of treatment on their part [...] and from the social point of view, of the necessity of meeting regularly to know in better detail about tuberculosis and other diseases, [and] to analyze themes of our national character and social reality. (Ajata Chura & Lazo Aguilar 1992:22)

The “naturally organized group” of TB sufferers—‘natural’ because of the biophysical aspect of disease, ‘organized’ owing to the social solidarity of suffering—was conceptualized as one of three main actors in a “Triangle of Co-responsibilities,” health workers and the local community being the other two main actors. According to the two specialists, the triangle would form the basis for the inclusion of Bolivia’s popular sectors into TB control, with present and past TB sufferers acting as community intermediaries or spokespersons. In the monthly meetings, patients “will be trained in the knowledge of their disease in order to convert themselves into health agents in the community in which they live.”

Patient meetings would be organized around the techniques of “popular education,” focused as much on the collective process of learning—and the social solidarities formed

through collective learning—as the ends of learning. Building up *confianza*, trust or mutual recognition, among patients and health workers was to be viewed on equal footing with the transmission of knowledge. Language, was, as such, to be “simple,” appropriate to patient understandings, but at the same time, “challenging,” aimed at imparting to patients a new idiom in and through which the experience of disease and its treatment could be reconceptualized. Sharing those experiences in this new idiom was, accordingly, crucial. The key discursive genre of the meeting would be the patient *testimonio*, “inviting patients to describe: how did your disease begin? annoyances, treatments, consultations, what happened after starting anti-tuberculosis treatment? did you improve, worsen, etc.” (ibid.:23). Patients at all stages in the treatment process would be encouraged to participate in the sharing of experiences, constructing the monthly meeting as a striated space of experience, accrued expertise, and exhortation. “[B]y remarking on their own experiences, improved patients will council the others not to leave treatment, to regularly take medications, [and] to always attend the meetings.”

Curiously, the patient meeting would be conceived of as a fiesta and participants—patients, health workers, and community members—as *pasantes*, partygoers. A pair of patients would be assigned to prepare snacks and refreshments for each meeting, “offered by the patients and their families as gestures that set in relief the friendship and sincerity between attendants.” But this was not to diminish the sense of the meeting as a space of communicative work, as *taller*. “[I]n order to give the activity more seriousness,” the specialists suggested, each meeting would end by drafting and signing an *Acta de la Reunión*, a kind of meeting minutes turned public declaration through signature and stamp, the key emblems of officialdom in Bolivia.

The patient meeting as imagined here and in other like-minded works from the period—indeed, this publication is only a slice of a broader discourse in currency in the 1990s—drew inspiration from the concept of popular education pioneered in the 1970s, most notably, by the Brazilian priest and pedagogue Paulo Freire. *Conscientización*, or *conscientização* in Portuguese, was, in fact, the key concept in Freire’s renowned “pedagogy of the oppressed” (1970). For Freire, *conscientização* was a pedagogical technique aimed at empowering Latin America’s popular classes by developing grassroots sites for promoting social liberation and self-determination, spaces in which individuals could learn to view themselves as ‘subjects’ rather than ‘objects’ of social transformation. The basis of the technique was to use collective dialogue on the practical life experiences of session participants to develop a “critical consciousness” of the broader social contradictions structuring those experiences.

In Bolivia, the call for *conscientização* was adopted by national health reformers—many leftist doctors turned neoliberal acolytes—as a means of introducing the ethics of “popular participation” into the public health sector.<sup>3</sup> In this respect, *conscientización* was wed more to a citizenship project than to a project of social liberation and self-determination. Raising the “awareness” or “consciousness” of Bolivia’s *clases populares* about the “health-disease process,” and more importantly, about the new system of basic health rights provided under Bolivia’s variously-named “universal” health coverage schemes, was viewed as a prerequisite to the new public health model, for creating the kind of *usuario* or “client” it rested upon. Creating “awareness” would transform “passive beneficiaries” of state services into a “more protagonistic,

---

<sup>3</sup> Consider, e.g., the argument of two health reformers: “In the process of participating in the resolution of quotidian problems and by the route of group reflection, awareness (*consciencia*) of [community] is produced and, concomitantly, other variables at play in the Health-Disease process are made to work, such that problems are inserted into a more global optice and articulated to reality. This point has intimate relation with the process of the exercise of citizenship of the population, which is made effective in the spaces of open negotiation over health management” (Berterleer and Becerra 1994:34).

coparticipative population, co-responsible for the function of services and their own health” (Baixeras Divar 2002:85). The neighborhood *centro de salud*, in this conception, would function as the operational base for this transformative practice, in the words of one health reformer, “permitting us to apply [public health] knowledge toward the modification of the health conditions of our *pueblo*, and contributing, in this manner, to the development of a new type of citizenship, a citizen more *consciente*, more critical, more participative and, therefore, that understands democracy in a totally different way than we now understand it” (Feo 1997:114).

This particular view of *conscientización*, grounded in the ideals of popular participation and community-based health consciousness, has served as the basis for elaborating new approaches to TB control in Bolivia, of which the monthly patient meeting is one of the most concrete instantiations. Beginning in 2003, many local DOTS programs began to implement a new national strategy called DOTS-*Comunitaria*, or “community-based DOTS”—DOTS-C for short. As the PNCT explained in its 2003 report, DOTS-C aims to overcome the identified psychological, socioeconomic, and cultural barriers to treatment—the same ones discussed above—by supplementing the “predominantly institutional” and “one-size-fits-all” conception of DOTS with communications interventions directed at the “community” in which TB is detected and treated. As the report argued, DOTS-C “departs from the assumption that [...] better results in treatment can be achieved by intensifying the activities of promotion, education, counseling, social communication and participation”—in short, all the activities that fall under the rubric of TB *conscientización* (PNCT 2003a:83). In effect, DOTS-C can be seen as the PNCT’s attempts

to give practical shape to the third of its three “strategic lines of action” for controlling TB in the new millennium, discussed in chapter two:

To cultivate an individual and community *consciencia* of co-responsibility with the State, in the prevention of infection and the control of Tuberculosis.

The objective [of DOTS-C] is to profundize popular participation, encouraging the active intervention of the community in the control of services offered and in the civic obligation of sick persons (*enfermos*) to cure themselves as a measure of protection owed to the population. (ibid.:83)

In practice, DOTS-C rests upon the adaption and implementation of communicative strategies and educational materials developed by the WHO and StopTB Partnership under their respective IEC (Information, Education, and Communication) and ACSM (Advocacy, Communication, and Social Mobilization) programs. Like DOTS-C, both IEC and ACSM start from the premise that DOTS, in its original conception, overlooks the necessities of social communication, health education, and community participation in conducting TB control and promoting patient adherence to treatment. As the StopTB’s ACSM literature explains, the goal is to help national TB programs “retrofit communications interventions on to the well-established but medically-oriented DOTS strategy for TB control” (Dean et al. 2006:32). Crucially, both ACSM and IEC are grounded in behavioralist models of health promotion (the health belief model, the theory of reasoned action, social learning theory, and the preceed-proceed model) that view the patient as both the seat of conscientious action *and* a bundle of social behaviors, and as such, the potential target for development, transformation, and less grandiosely, “modification” through “behavior change communication” (see Clift 2001). As a recent StopTB publication explained:

Behavior-change communication aims to change knowledge, attitudes and practices among various groups of people. It frequently informs the public of the services that exist for diagnosis and treatment and relays a series of messages about the disease [...]



Effective behavior change communication and messages need to convey more than just the medical facts as, on their own, these facts do not necessarily motivate individuals to visit a TB clinic or complete their treatment [...] Behavior change communication creates an environment in which affected communities can discuss, debate, organize and communicate their experiences on TB. It aims to change behavior—such as persuading people with symptoms to seek treatment—and to foster social change, supporting processes in the community and elsewhere to spark debates that may shift social mores and/or eliminate barriers to new behavior. (WHO 2007:3)

“Community” in this discourse serves as a code-word for the source of local “cultural beliefs and practices,” construed as either constraints or compulsions to the adoption of new “health-seeking behaviors.” As Greene points out in a study of treatment failures among TB patients in La Paz, “a substantial base of literature has developed [in Bolivia] targeting cultural difference as the chief determinant of nonadherence in ethnic subpopulations. Language barriers, insensitivity to indigenous health beliefs, values, and practices, and the failure to adequately translate the rationale of Western disease categories and treatment regimens across cultural boundaries have all been cited as cultural bases for the failure of treatment programs” (2004:403). Indeed, a key component of IEC and ACSM strategies is for national TB control programs to conduct local studies aimed at identifying the relevant local cultural “barriers” and “incentives” to adopting healthy behaviors—above we reviewed the results of one such study conducted by Bolivia’s PNCT. With these studies, then, national programs are encouraged to develop locally-appropriate behavior change communication models targeted at overcoming or reinforcing these barriers and incentives, respectively. The implicit image—or desire—here is that local cultural beliefs and practices might be productively tweaked, like the knobs of a control board, to achieve the optimal mix of local health behaviors. As such, these literatures imagine a “cough to care pathway” that, through the optimization of “health-seeking” behaviors, would seamlessly move TB sufferers from detection to diagnosis to the completion of treatment,

and through this promote the global endgame of the “TB-free community,” where institutional interventions could be supplemented, or even superseded, by spontaneous community-based action. As one StopTB researcher summed up, “The basic idea is that TB control programs should become obsolete as soon as possible because cultures have already integrated appropriate values and practices.”<sup>4</sup>

Unlike Freire’s original conception of *conscientização*, then, the guiding social theory of TB *conscientización* as it is practiced in Bolivia, is less critical dialectics and collective praxis, more behavioral psychology run through the ringer of neoliberal notions of human development, community empowerment, and popular participation. Cultivating the cultural dispositions and knowledge appropriate to the imagined TB-free community is its orienting objective. In short, TB *conscientización* has been transformed into a community-based “compliance-seeking” strategy called upon to supplement and overcome the perceived shortcomings of the more individualistic “compliance-seeking” strategy of directly-observed therapy, this by working in and on and *through* the community itself.

What is especially interesting for us is the role that specific forms of talk are conceptualized as playing in effectively bringing about new, desired behavioral patterns. In the IEC, ACSM, and DOTS-C literature, certain communicative practices are foregrounded as more appropriate and effective in the ambit of “raising awareness” among their presumed target audiences. To draw on the work of Baumann and Briggs (2000), TB *conscientización* is constructed around a set of metadiscursive strategies that encourage local health promoters to reflexively calibrate health messages to the targeted audience based upon their presumed

---

<sup>4</sup> See Lozare, Benjamin, “How can communication and social mobilization help the DOTS strategy?” (<http://www.hcpartnership.org/Topics/tuberculosis/23FebACSOOutcomeMapforTBControl.ppt>.)

capacities to properly receive, decode, and ultimately act on those messages—that is, by “modifying” their behavior accordingly. As the ACSM literature advises national TB control programs, the aim of health communications interventions is to communicate “the core knowledge that people need to know to change their behavior,” but this can only be achieved if the message in which this core knowledge is “packaged” is carefully adapted to the local situation, a task which falls to each national program. They recommend following the “Seven Cs of Communication”: command attention, cater to the heart and the head, clarify the message, communicate a benefit, create trust, convey a consistent message, and end with a call for action (Deane et al. 2006:47). In this, they warn against overly technical messages, making a metadiscursive distinction between the expert languages of science and medicine and the everyday languages of advocacy and social mobilization (Table 1). “Detailed explanations are useful” in scientific communication, one report advises, but “simplification is preferable” for the public. “Extensive qualification can be necessary for scholarly credibility” but “extensive qualification can blur your message” in public discourse. “Technical language can add greater clarity and precision” for the scientist, but “technical jargon confuses people” that aren’t scientists. “Supporting evidence is vital” in scientific communication but “too many facts and figures can overwhelm the [lay] audience.” Instead, “present a passionate compelling argument based on fact,” “stat[ing] your conclusions first, then support[ing] them”—and so on (WHO 1998:18).

Interestingly, the ACSM literature even gives examples of how to “package”—that is, pragmatically translate or transduce messages—into the “most effective” public register, as the

<b>Science</b>	<b>Advocacy</b>
Detailed explanations are useful.	Simplification is preferable.
Extensive qualifications can be necessary for scholarly credibility.	Extensive qualifications can blur your message.
Technical language can add greater clarity and precision.	Technical jargon confuses people.
Several points can be made in a single research paper.	Restricted number of messages is essential.
Be objective and unbiased.	Present a passionate compelling argument based on fact.
Build your case gradually before presenting conclusions.	State your conclusions first, then support them.
Supporting evidence is vital.	Too many facts and figures can overwhelm the audience.
Hastily prepared research and presentations can be discredited.	Quick, but accurate, preparation and action are often necessary to take advantage of opportunities.
The fact that a famous celebrity supports your research may be irrelevant.	The fact that a famous celebrity supports your cause may be of great benefit.
Many in the field believe that scientific truth is objective.	Many in the field believe that political truth is subjective.

**Table 1. Science vs. advocacy: Recommended calibration of message form to audience**

(SOURCE: WHO. *TB Advocacy: A Practical Guide*. Geneva: World Health Organization, 1999)

example in Table 2. shows. Notice the deictic recentering of message with respect to its participant structure in tandem with a deictic decentering at the level of the message’s denotational content (*In some parts of our country, one in three people [...] are dying*). Note the introduction of evaluative language (*dying needlessly*), of graded rather than numerical quantifiers (*infecting scores*), and of highly suggestive cause-effect relations (*because they are not being cured...*). Reproduced here, then, is one of the key language ideologies at the core of global health discourse more broadly, one which, as Stacey Leigh Pigg has observed, views languages as sets of labels for packaging and repackaging a presumed, pre-existing extra-discursive truth to suit the communicative situation, while nevertheless preserving the “the basic

<b>Poor</b>	<b>Better</b>	<b>Most Effective</b>
264 HIV-positive patients in the north-west and central states were evaluated over an 18-month period, beginning in January of 1996. 91 eventually died from TB, 42 from pneumonia.	In some parts of our country, 34 percent of HIV-positive patients are dying from TB.	In some parts of our country, one in three people with HIV are dying needlessly from TB. And because they are not being cured, they are infecting scores of HIV-negative people with TB bacteria.

**Table 2. “Packaging the message”**

(SOURCE: WHO. *TB Advocacy: A Practical Guide*. Geneva: World Health Organization, 1999)

facts.” As Pigg writes, “The task in international health education, then, is to move bits of information from one social location to another by finding the right words in another language [or register, we might add] in which to package it” (2001:483).

These examples are drawn from the “advocacy” component of the ACSM literature, where “advocacy” concerns communicating messages to policymakers and the lay public more general. But the “social mobilization” component of the strategy, which focuses more specifically on how to communicate with present and “at risk” TB sufferers, makes more or less the same recommendations, with one major difference. When communicating with present and potential TB patients more particularly, the same literature suggests, program managers must be especially attuned to the *affective* and *creative* construal of message. Program managers are warned to mind the “knowledge-behavior” gap—the critical distance between being informed about a new behavior and adopting that new behavior—and in this respect to make strategic use of “creativity” as a resource for closing that gap. Creativity, as one WHO/IEC publication argues, is the “delicate thread” that runs throughout all behavior change communication (Clift 2001).

Group exercises, role playing, dramatical theatrics, patient testimonials, and more generally what is called “edutainment” or “enter-education” are all ways of creatively packaging educational messages for patients, recontextualizing them in participant frameworks that resonate with local forms of popular entertainment, and as such, productively touch upon the “emotional world” of the patient. As the PNCT explained in its discussion of the DOTS-C strategy:

Behavioral change is produced over time, that is, changing the behavior of an individual occurs slowly, influenced more by the affective area than by reason [...] Educational communication cannot be reduced to the imparting of information and knowledge in traditional forms. It is imperative that communication activities fulfill a double function: entertaining and educating at the same time. The objective of educational entertainment is not only to achieve policy objectives, but to touch the emotional world of the individual in order to effect changes in attitudes and conducts. More than any other means, entertainment opens up the psychological pathways expressed in smiles, reflection, hurt or pain, promoting learning through identification and observation. (PNCT 2003a:83)

In this way, messages addressed to patients are constructed to not only convey knowledge, but, through creative exercises in which message is co-constructed, to at the same time *model* the appropriate production and reception of message, and as such, the correct uptake and use of the knowledge “packaged” in message.

I have been focusing here on the metadiscursive strategies aimed at shaping the way program managers and local healthworkers communicate with patients. This is one metadiscursive dimension of the communicative strategies that make up TB *conscientización*. But it is also crucial to see that TB *conscientización* is equally aimed at reshaping patient communication as well. The most obvious way, of course, is by giving giving patients a new way of talking about tuberculosis, introducing them to the discursive world of TB terminologies and so forth. I will return to this below, but here I want to call attention to another way in which TB



**Figure 56. World TB Day Poster: “DOTS cured me—it will cure you too!”**

(SOURCE: Stop TB Initiative. *World TB Day 2003 Highlights Report*. Geneva: World Health Organization, 2004.)

*conscientización* seeks to reshape patient communication. In fact, there is a consistency across the ACSM, IEC, and DOTS-C literature in the imagined roles and responsibilities patients might come to play in the TB control network, not only as state-designated TB sufferers and “compliant” DOTS patients, but as community spokespersons or advocates for the “goods” of the biomedical approach to disease prevention and treatment. From this point of view, TB *conscientización* aims as much to raise patient awareness about their possible communicative roles in the “global TB community” as to raise their awareness about facts of TB and the requirements of its treatment. Much of the communicative labor performed at the monthly TB patient meeting, as we shall see below, is oriented toward reshaping the patient’s “voice” to fit these broader roles, as a more locally-credible, community-based conduit of the TB message.

This is an institutional objective found at all scales of the TB control network. Consider, for instance, the broader aim of the WHO’s 2003 World TB Day program. 2003’s global slogan, as I mentioned in chapter two, was “DOTS cured me—It will cure you too!” (Fig. 56). As the

accompanying World TB Day literature sent to the headquarters of participating national TB programs explained:

[The slogan] stresses the need to involve people with TB as advocates [...] We know that in many societies the general public is more receptive to hearing messages from cured patients. They are members of the community who have personal experience with the disease and are living proof that TB can be cured. The 2003 campaign focuses on transforming cured TB patients [...] into TB advocates. Giving cured patients the authority and the opportunity to tell their stories [...] will encourage other TB sufferers to seek diagnosis and treatment. (Stop TB Initiative 2003:13)

In this conception, the most credible message is the one dialogically relayed through the “voice” of the patient herself, whose testimony is construed as a kind of “living proof” of the effectiveness of DOTS itself.

In Bolivia, PNCT officials often imagine a kind of epidemiology of information, located in the testimonial of the TB patient, that will circulate productively as a means of breaking the chain of infection. At a regional workshop for TB patient I attended in 2004, for instance, regional PNCT officials elaborated on the role that patients might play as disseminators of knowledge, rather than disease. As the first speaker explained:

The presence of you all who are suffering- have suffered in your own way from this disease is very important for us. If today we we are twenty participants from the community, then we must think, of these twenty participants you could talk with twenty friends of the family, or of the neighborhood community, and from there this could multiply itself into two hundred or five hundred, this talk (*charla*) of today [...] So please don't forget to transmit these knowledges [...] so we can wage a frontal attack on this scourge.

The trope of a kind informational “multiplier effect,” anchored in the “voice” of the patient, ran throughout the conference. Another regional PNCT official linked the responsibility of patients to spread TB knowledge to 2003’s national prioritization of TB control by Bolivia’s Health Ministry. The slogan of PNCT’s yearlong campaign, *Luchemos contra la tuberculosis* (Let’s



struggle against tuberculosis), “is a very beautiful symbol,” the official told the audience. “It means that all us must talk about tuberculosis, all social organizations, all institutional organizations must talk about what tuberculosis is. Why? In order to inform the people (*la gente*) and struggle against this disease.” She exhorted patients to use the store of knowledge and experience they had accumulated in their tenure as TB patients to take up active roles as “community spokespersons” (*portavoces comunitarios*) for the PNCT:

So how are we going to reach out to the people (*llegar a la gente*)? Through these types of activities, that is to say, explaining to persons that tuberculosis exists in our country (*en nuestro medio*), and that persons who are coughing and spitting phlegm are suspect of having tuberculosis. So we have to have more communication with society, communication with the people. We have to go to organized groups, to private institutions, to everyone, to businesses, to factories. Here in this zone there are markets, so all the people from this market zone need to be well-informed. In this form we are to going reach out to the people, the people are going to be acquainted with tuberculosis.

In sum, TB *conscientización*, as a communicative strategy with metadiscursive dimensions, can be seen as emerging at the intersection of two related ideologies of language that are institutionalized and operationalized at all scales of TB control practice. The first, which informs the way TB control institutions and their representatives are commended to communicate with lay publics and present and potential TB sufferers, is anchored in an ideology that, on the one hand, views language as a set of labels for timeless truths that can be tweaked according to target audience and desired communicative effect with minimal loss of fidelity, if conducted properly; and, on the other hand hand, that models communication as a kind of stimulus-response process that again, when conducted properly, can be mobilized to favorably “modify” behavior. The second language ideology, which informs the communicative roles that patients themselves are exhorted to play in the order of things, views the “voice” of the patient, as a site of personal

experience and embodied expertise—“living proof”—that when properly shaped, is capable of setting in motion a kind of multiplier effect that amplifies the biomedical message and sends it coursing across the social terrain in ways that more institutional construal of message alone could not. As we shall see presently, these two language ideologies in fact shape the way the monthly TB patient meetings are structured.

To a remarkable extent the monthly patient meetings I attended in 2003-04 approximated this patient meeting imagined by the two Bolivian physicians in the early-1990s, albeit with a more explicit focus on “behavioral change communication” than the social solidarities. The two key discursive genres of the monthly meeting, *sensibilización* and patient *testimonio*, aim to create a dynamic space of vertical and horizontal relationality within which expert knowledge, practical experience, and moral exhortation can be communicated, from health workers to patients on the one hand, and from patients to patients on the other. Fostering trust and credibility between patients, health workers, and the local neighborhood community is often described as equally important as imparting information about the disease and its treatment, justifying the often highly repetitive activities of the meeting. Similarly, patients that have undergone sufficient *conscientización* are encouraged to spread the knowledge among their families, friends, and neighbors, serving as local “spokespersons” for the active and aware TB community. Some patients are even recruited into more formal roles, as community health representatives in various neighborhood organizations, like the one I will discuss in chapter six. Meetings, moreover, always involve a *refrigerio*, or ‘light snack’, though usually provided by the CS (or the visiting ethnographer) rather than by patients; and though meetings were never conceived as parties *per se*, small parties were often held on the event of a patient’s completion of treatment.

Meetings invariably ended with the signing of some sort of *acta* or another, usually a simple attendance sheet that CS staff could subsequently use to show due diligence on their part, given the constant pressures of promoting patient “compliance.”

### *Sensibilización*

*Sensibilización*, or “sensibilization,” is a key neologism in world of global public health and disease control discourse. It means, roughly, “an introduction to a process, the initial stage of recognition of a theory, methodology, process or procedure,” as an online dictionary oriented to the international development and NGO community explains.<sup>5</sup> One *performs* a sensibilization, usually as part of a campaign. Google the term and you will find dozens of blog entries where global healthworkers detail their efforts (though mostly their frustrations) to “sensibilize” a local population about a disease process or treatment procedure, invariably in the “developing” world: an HIV/AIDS sensibilization for homosexual men in Colombia, a malaria sensibilization among village elders in Burkina Faso. The rationale of the practice is rooted in the broader metadiscursive construct of behavior change communication, as the etymology of the term itself suggests: to *sensitize*, for behavioral psychologists, is to augment or amplify a patient’s behavioral response to some presumably desired stimulus through classical conditioning.

In the case of TB sensibilization, and in the contexts of the monthly patient meeting, the aim is to repeatedly introduce patients to the basic biomedical conception of tuberculosis and its control, the “core knowledge” that patients “need to know to change their behaviors.” The core knowledge is, more precisely, the basic tenants of the global DOTS strategy itself: knowledge of

---

<sup>5</sup> <http://www.definition-of.com/sensibilization>.

TB's symptoms, of how it is detected and diagnosed; knowledge that TB is both a contagious *and* infectious disease, which means, knowledge of the germ theory and that *M. tuberculosis* is TB's causal agent in particular; knowledge that TB is curable, and that directly-observed therapy short-course is the "best practice" for curing tuberculosis, which means knowledge of DOTS as a treatment modality, how it works and why; knowledge that treatment in the modality of DOTS is free of charge, state-subsidized, and that TB patients are entitled to it as a right; and most importantly, knowledge of what is called the "biomedical imperative": that symptomatic persons have a responsibility to seek medical attention and that diagnosed cases have a responsibility to rigorously adhere to their treatment regimen. This core knowledge is codified, most prominently, in the Patient's Charter for Tuberculosis Care (World Care Council & World Health Organization 2006), a kind of global TB patient's bill of rights and responsibilities that is a key part of the DOTS strategy more broadly, and might be thought of as the basic set of shared epistemic and ethical commitments around which the global TB community coheres *as* a community (Haas 1989). In this sense, including patients in the broader "global TB community" means extending to them a working knowledge of these basic epistemic and ethical commitments, hoping, as such, to extend the domain of commitments itself.

At patient meetings, performing a TB sensibilization is in fact a complex semiotic act that involves TB patients and often their loved ones, a doctor or some other competent healthworker, like a licensed nurse or nursing student, and, most importantly, a TB *rotafolio* or flipchart like the one we encountered in this chapter's prologue. Viewed as a metadiscursive means for structuring interaction, the TB *rotafolio* is in many ways to TB sensibilization what the TB *laboratorio* is to patient designation and the *ficha de tratamiento* is to directly-observed therapy. It is through the

strategic, situated enactment of the TB *rotafolio* that sensibilization coheres as a distinct genre of discursive activity. In monthly patient meetings, the standard TB flipchart is not *El Abandono*—which is used in more *ad hoc* fashion with patients like Don Angel and Don Emeterio who have already in some sense “failed” in their treatment careers—but the more general PNCT flipchart entitled, simply enough, *La Tuberculosis*. Like *El Abandono*, *La Tuberculosis* conveys knowledge through the rhetorical device of narrative. In *La Tuberculosis*, the “core knowledge” of the global DOTS strategy is strategically embedded in a story that follows Juan, the fictitious hero of PNCT health promotional literature, through the basic processes of disease contraction, infection, detect, and treatment, making brief excursions along the way to explain in more abstract detail the fundamentals of the germ theory of disease and the biomedical methodology of drug therapy: what the TB bacillus is and what kinds of properties it has; how it is transmitted and contracted; how it adversely affects the lungs and other parts of the body, causing tuberculosis the disease and its particular manifestation of symptoms; how laboratories detect the presence of the bacillus in sputum; how the consumption of antitubercular drugs works to counteract disease by immobilizing the bacillus; why TB drug therapy is so lengthy and how side-effects from therapy is possible; the drug-resistances develop as a consequence of missing or abandoning treatments; and other broader concerns like the extent of the global TB epidemic and the global threat of HIV-TB co-infections. Unlike *El Abandono*, however, the standard PNCT flipchart *La Tuberculosis* has one printed side only on the surface of which visual and graphic representations are strategically juxtaposed. The graphic representations (printed text) explain and exhort, pose questions and answer them, provide written tokens of key technical terms, and so on, while the visual representations (printed images) illustrate and diagram the

denotational content communicated in the graphic component. In this sense, the TB flipchart is a very low-tech information technology, made up of inscriptions in the Latourian sense, that construe the domain of TB control *as* a domain of systematic knowledge, this by rendering it into the form of an “immutable” but “mobile” text-artifact (Latour 1987:243). One can quite literally conduct a TB sensibilization anywhere in this respect: all you need is the flipchart, and the flipchart, albeit somewhat unwieldy, can more or less be carried in the crook of the arm.

That many, if not most periurban TB patients are functionally illiterate is besides the point here. The TB *rotafolio* is not intended to be read by the patient like a book. It is, as should be obvious, meant to be performed. In this sense, the narrative of the flipchart can be seen as a metadiscursive scaffold strategically scripted to facilitate the realtime enactment of a more fundamental genre of discursive activity: the labeling routine. In its most elementary form, TB sensibilization is organized around genred communicative activities that make calculated use of the *rotafolio* as a source of authoritative denotation that, through strategic recontextualization, can be pointed to, extracted, and elaborated on in the realtime event of the labeling routine.

Labeling routines, as Shirley Brice-Heath (1982) has argued in her analysis of literacy events, conform to the basic interactional pattern of initiation-reply-evaluation, typically focused on some sort of graphic display. The “initiation” takes the form of a simple WH-question, like *What is x?*, posed by the pedagogue or group leader, that indexes some aspect of the graphic display and calls upon a participant to “reply” in the form of a simple predication of *x*’s relevant attributes. In the labeling routines of literacy events, this could take the form a basic definitional gloss or, more simply, the vocalized transduction of a nonlinguistic or written linguistic sign into a verbal sign. “Evaluation” then is performed by the pedagogue in the form of a metacommentary

on the participant's reply, focusing on, for instance, its correctness, accuracy, or precision, or by providing various types of further elaborations and explanations that seek to cultivate in participants new associative chains. Labeling routines are fully metadiscursive, then, in the double sense that they are focused on the metalinguistic functions of utterance, as participants endeavor to pragmatically translate or transduce texts across semiotic modalities (e.g., from the written to verbal medium), and at the same time, in that participants' competency in do so is made the target of an explicit metapragmatic discourse. The objective of labeling routines, as Brice-Heath points out, is to render the predications of participants stable and reproducible across situational contexts, by teaching them to competently calibrate certain types of semiotically construable objects—words, images, actions, practices, etc—to a set of standardized labels for them, and in so doing to reseat them in a new chain of epistemic and/or ethical associations, for instance, a broader classificatory scheme or a moral universe of right and wrong behaviors.

In the TB patient meeting's I attended, the doctor in the CS's afternoon rotation, Dr. C, would work through the same flipchart, *La Tuberculosis*, page by page stopping at critical junctures to foreground and highlight the key concepts to be conveyed by performing labeling routines. Sometimes patients would be called upon to provide responses to his questions, as in the labeling routines described by Brice-Heath, but just as often, the doctor would figuratively perform the labeling routine himself, in the rhetorical trope of 'constructed dialogue', posing a *What is x?* question, replying to it himself with a metalinguistic gloss, then providing a metadiscursive commentary on its correct usage, its relation to other terms in the system of DOTS knowledge, and the more abstract epistemic and ethical commitments entailed by that

system. This would be done month-after-month, in more or less the same fashion. As we've seen, the typical periurban TB patient knows little about tuberculosis and its treatment before initiating treatment. In this respect, novice patients are expected to carefully listen and observe as the doctor works through the *rotafolio*, becoming more adept at the usage of the knowledge it "labels" over the broader course the eight month short-course therapy. More adept patients, on the other hand, are more often called upon to provide "replies" to the doctor's requests in fully-functional labeling routines. There is a broader dynamic diagrammatic movement, then, over treatment time, in which a novice patient moves from merely observing and listening to labeling routines, to actively participating in them. Let's look at a few examples.

The first example is taken from the beginning of a patient meeting. Meetings typically begin when Dr. C enters the room, often by knocking on the door and politely inviting himself in, and only after he has greeted each patient, as is the appropriate practice at any social gathering in periurban Bolivia, one-by-one, on a first name basis—revealing the broader communicative norms that constitute the *sala de reuniones* as a special place in Bolivia's public health system. To start the ball rolling, Dr C will often point, through gesture, to the initial panel of the TB *rotafolio*, the title page on which is printed in bright red lettering, *La Tuberculosis*. Then, rubbing his hands together furtively, he will call upon a handful of more adept patients, one after another, to answer the biggest question of all, *What is tuberculosis?*, as we see in lines 1-3, and later, elliptically, in line 8.



**Example 1. TB labeling routine at start of patient meeting**

DrC	Dr. C, doctor at the neighborhood health center	
Mar	Mario, TB patient	
DA	Don Angel, TB patient	
all-caps	Vocal stress	
F	Factive particle	
<b>1 DrC</b>	Entonces hoy vamos a- volver al enterar ¿no? lo que es el- problema de la tuberculosis.	So today we are going to inform ourselves about, no?, what is the- problem of tuberculosis.
<b>2</b>	Entonces eh- Vamos empezar indicando que la tuberculosis- ¿Qué seRÁ la tuberculosis?	So eh- Let's begin by indicating that tuberculosis- What IS tuberculosis?
<b>3</b>	Aver a los actores principales los- los señores que son portadores del bacilo de Koch. ¿Quién quiere decir? ¿Qué será la tuberculosis para- para ti?...	Let's see, the principal actors the- the gentleman that are the carriers of the Koch bacillus. Who wants to say? What is tuberculosis for- for you...?
<b>4</b>	¿[Mario]? {calls out patient's name while rubbing his hands together}	[Mario]?
<b>5 Mar</b>	Para mi la tuberculosis es... una enfermedad que me ha malogrado, no peso no- no lo sabía que me da enfermedad NADA que así era mucho-	For me tuberculosis is... a disease that ruined me, I didn't weigh- I didn't realize that I was sick NOTHING that like this it was very-
<b>6 DrC</b>	Muy bien esto es ps entonces... lo del sufrimiento...	Very good this is F then... about the suffering...
<b>7</b>	Vamos al punto de vista del:... aprendizajes.	Let's go to the point of view of:... things learned.
<b>8</b>	Aver... [Don Angel]	Let's see... [Don Angel]
<b>9 DA</b>	Es una enfermedad que ataca- a niños, jóvenes mujeres... cuanta persona allá es bastante contagiosa y peligrosa ¿no?	It is a disease that attacks- children, young people, women. When a person like that it is very contagious and dangerous, no?
<b>10</b>	Que puede acabar con una persona- en muy poco tiempo. Afectando inclusive- alterando a unos orgaNOS- y hasta la muerte.	It can finish off a person- in very little time. Including affecting- altering some ORGANS- right up to death.
<b>11</b>	Es que nuestro a tardo a tiempo.	It's that for us it's too late.
<b>12 DrC</b>	EXACTE.	EXACTLY
<b>13</b>	Entonces ya estamos profundizando un poquito lo que es el problema de la tuberculosis ¿no?	So we're now deepening a bit what is the problem of tuberculosis, no?
<b>14</b>	Que dice que afecTA... los pulMONES... y esos pueden llevar a la muerte.	It is said that it AFFECTS... the LUNGS... and this can lead to death.
<b>15</b>	Así ¿no? ¿No?	Like that no? Right?

This is a kind of meta-labeling routine in that it aims to revisit and monitor, in the broadest sense, the “knowledge” gained from previous monthly patient meetings, while at the

same time, establishing the broader topic and locking in the right participant structure for TB sensibilization. It is important to see here that Dr. C in fact poses the same question several times, but in two different ways. The form, *¿Qué será la tuberculosis?* (lines 2-3), poses the question in the local register of Aymaracized-Spanish, where the future tense is used to index less certainty, but interactively, to pragmatically construe a question as “less obliging,” hence, “warmer.” The vocal emphasis (all-caps) that Dr.C gives to this enregistered item in line 2 can be seen as a way of calling attention to his register shift, enacting a shift in footing that marks his desire to have the question answered from the patient’s point of view, and perhaps even more saliently, the point of the view of the periurban patient that identifies with the enregistered values of Aymaracized-Spanish (see chapter 6).

In line 5, we see Mario, a patient nearing the end of treatment, struggle to come up with a reply, a fact that Dr. C quickly, but subtly, remarks upon in his metacommentary in line 6. For Dr. C, Mario has produced a response that comes from of his “suffering,” grounded in personal experience rather than “lessons learned” (*aprendizajes*), as Dr. C clarifies in line 6, before he calls on the next patient. That Dr. C is interested more particularly in the patient’s *knowledge* rather than the patient’s *experience* of tuberculosis—a key epistemic distinction that is being pragmatically constructed here—is in fact made clear from the meeting’s start, in line 1, with Dr. C’s use of the cleft-construction *lo que* to topicalize the “problem of tuberculosis.” Cleft-constructions like this are ways of asking for abstract predications, based on a knowledge of *kinds*, and in this respect are part of a more technical register of expertise—one that is often parodied as “*lo quéismo*” in periurban Bolivia, given its socio-indexical associations with expertise, or pretensions to expertise. Later, when we look at patient testimonials, we will see

how Don Angel, an especially adept patient by this point (owing to his prior treatment failures) into a more expert register in part by his use of *lo quéismos*.

The next patient that Dr. C calls upon, as it turns out, is in fact Don Angel. And here we see Don Angel formulate a response to the question (line 9-11) that Dr. C, in the subsequent turn of talk (line 12), evaluates favorably: Don Angel's reply meets the criteria of describing "tuberculosis" in the more abstract terms of lessons learned, knowledge gained. In fact, Don Angel offers his own metacommentary on the problem of tuberculosis in addition explaining tuberculosis itself, that is, by locating it in a local framework of sociophysical consequences. "It's that for us," he says, "it's too late." The more authoritative work of evaluation, however, is performed by Dr. C in lines 13 and 14. According to Dr. C, Don Angel's remarks take us deeper into the domain of TB's controls "core knowledge," the very topic of TB sensibilization. By simplifying and rephrasing Don Angel's speech in the subsequent line, Dr. C moves Don Angel's explanation one step closer to "knowledge," here using strategic pauses and vocal emphasis to extract and highlight the key terms and the key consequences: "it AFFECTS... the LUNGS... and this can lead to death." This last line is embedded in indirectly reported speech, a fact which becomes especially relevant to understanding line 15. When Dr. C says "Like that no? Right?" he is referring more particularly to Don Angel's utterance and his own rephrasing of it. He is suggesting, in effect, that "this is the way we say what tuberculosis is"—this is the way such a question should be answered. He is modeling for patients the very discursive routine at the core of sensibilization.

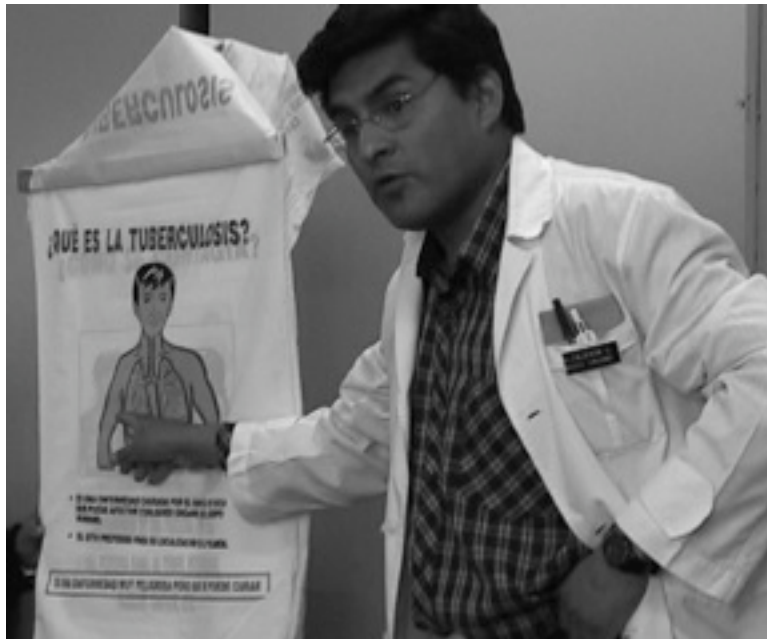
Line 14 is especially relevant to the labeling routines at the core of TB sensibilization, as we shall see in the next example. When Dr. C uses the lexical item, *pulmones*, 'lungs', in the

above example, he is not using it in an everyday sense, as would be familiar to any periurban patient. Rather, he is introducing a rupture in the everyday dialogical associations of the term's usage by pragmatically translating it into a more technical register within which it is understood to have a more precise and literal denotation, this made possible by its position in a narrowly-defined, if more conceptually-elaborate, system of semanticoreferential contrast. Here, *pulmones* is used as a technical term in a highly-structured network of stipulative knowledge, comprised of lexical items organized into taxonomies, paronymies, and other conceptual schemes—what Silverstein calls *-onomic knowledge* (2004)—a technical lexicon that is viewed as having a privileged relation of transparency or “fitness” to the world of representation, in this case, the denotational domain presupposed by the “core knowledge” of the global TB community.

The point of TB sensibilization, of course, is to introduce—or “sensitize”—patients to this new denotational domain, precisely by teaching them how to use the limited repertoire of technical terms authoritatively associated with it. Labeling routines are critical pedagogical events, in this respect, in that they discursively associate technical terminologies to their denotational objects in the more specific form of *labels*. Labels, from this perspective, are minimal metadiscursive texts that semiotically code (or strategically entextualize) the relation of a sign to its denotable object as a relation of *knowledge*, that, as an *object of knowledge* in some specialized domain of institutional practice. As such, labels offer up, in their performative enactment, what Charles Goodwin has called *professional vision*, “transform[ing] phenomena observed in a specific setting into the objects of knowledge that animate the discourse of a profession” (1994:606). Through labeling practices, accordingly, new denotable objects are introduced and old ones are reassigned new meanings through labels that associate them to

technical terminologies and the conceptual schemes they articulate. In the special case of the labeling routines at the core of global health “sensibilization” campaigns, we might also suggest that labels, in their performative enactment, are also ideologically construed as *incitements* of a certain sort, as artificial stimuli or “cues to action” (as the health belief model would have it) aimed at conditioning a new behavioral pattern by sensitizing patients to a new world of representation, one that is often unseen, like the germ theory, but nevertheless real. Though unseen, the ability to *label* it is precisely what *makes* it real—and thus “effective” (for instance, as an actant in a network)—in this ideological construal.

In fact, most of the phenomena discussed and depicted in the TB *rotafolio* are not “everyday” in the sense of experiential access without instrumental mediation. In the next example, for instance, Dr. C explains the lungs from a medical perspective: the bronchial tubes, the alveolar sacs, their architecture, and so forth—the parts of the body the TB bacillus first infects. These are entities that most patients will never have seen, at least not in the human body, and certainly not in the living body, human or otherwise. Patients that have seen these entities—namely, those from agricultural backgrounds, where butchering animals is common—will certainly not know their medical terms: they may have “experience” with them, accordingly, but few will have “knowledge” of them. Teaching patients about these entities is important since it is a key aspect of teaching them the germ theory of tuberculosis more broadly. Most periurban Bolivians think that TB is a *contagious* disease, but few will tell you that it is an *infectious* disease—that you contract the disease more specifically by being infected by its causal agent, the microbe—and that the lungs are the microbe’s preferred point of passage into the body. In this



**Figure 57**  
**Dr. C performing a labeling routine**

example, then, Dr. C has to rely heavily upon the visual representation depicted on the TB *rotafolio* itself (Fig. 57). Here, we see how labeling routines are fully embodied semiotic acts, involving language, material representations, indexical gestures that associate the two together, and even the body of the doctor. In this labeling routine, as in most others, Dr. C first points to and predicates about the visual diagram on the *rotafolio*, then uses the same strategy to point to and predicate about his own body, *as if one could see through it*, to view his lungs. This example is also one in which the labeling routine is performed in the mode of constructed dialogue.

**Example 2. TB Labeling routines through constructed dialogue**

DrC all-caps boldface ***	Dr. C, doctor at the neighborhood health center Vocal stress Technical terms textually construed as labels Undecipherable text	
1 DrC	Bueno. Entonces, estos son los <b>pulMONES</b> ... practicamente. Esta forma <b>los pulmones</b> ¿no?... <b>los pulmones</b> . Están importante ¿no?	Good. So, these are the <b>LUNGS</b> ... practically. This form <b>the lungs</b> no?... <b>the lungs</b> . They are important no?

2	Entonces el <b>pulMÓN</b> , practicaMENTE... está conectado a través DEL... <b>los bronquios</b> , que se divide... <b>derecho</b> ... <b>izquierda</b> (***) . Estos son los <b>bronquios</b> ... <b>derecho, izquierda</b> .	So the <b>LUNG PRACTICALLY</b> ... is connected through THE... <b>the bronchial tubes</b> , that are DIVIDED... <b>right</b> ... <b>left</b> (***) . These are the <b>bronchials</b> ... <b>right, left</b> .
3	Estos <b>bronchios</b> (***) dividir en- con otros pequeñitos pequeñitos pequeñitos, que van a formar LOS... <b>alveolos</b> . <b>Los alveolos</b> . Son un especie de sacitos que tenemos ¿no? <b>Los alveolos</b> practicamente. Lo mismo acá... se dividen en pequeños <b>bronquios</b> para formar LOS... <b>alveolos</b> .	These <b>bronchials</b> (***) divide in- into other small small small things, that are going to form THE... <b>alveoli</b> . <b>The alveoli</b> . They are a species of small sacs that we have no? The <b>alveoli</b> practically. The same here... they are divided into small <b>bronchials</b> to form THE... <b>alveoli</b> .

I have put in boldface the key technical terms that are the target of this particular labeling routine. In the unfolding text, the construal of these lexical items as *labels* is achieved by Dr. C through several rhetorical strategies, most notably, vocal stress, dramatic pauses, and repetition, which in this case are pressed into service as metapragmatic framing devices. Through these means, Dr. C *highlights* the lexical items that he *lays in* as labels that code knowledge. In fact, there is a relatively stable rhetorical pattern replicated here, one that is found systematically throughout TB sensibilization interventions, and more broadly, in the communicative patterns by which public health officials and experts explain simple things to laypersons (including anthropologists, as many of my interviews show). The pattern is best demonstrated in line 3. What is taken as old information in the domain of reference, in this case the “bronchials” from line 2, is used to initiate a small labeling routine aimed at introducing a new denotable object, “the alveolar sacs.” The expectation of this new label is created through metapragmatic prolepsis, in this case vocal stress and a long dramatic pause precisely at the point in the clause where new information is slotted to appear, and indeed has already *begun* to appear, in the form of the definite article: “that are going to form THE,” followed by a pause, “alveoli.” The newly introduced term, then, is quickly followed by its repetition, here keeping intact the full noun phrase (definite article + nominal unit), “the alveoli.” Having laid in the new term, and coded it

as a form of labeled knowledge, Dr. C then offers a simple definitional gloss, “These are a species of small sacs that we have,” which at the same time asks for confirmation of uptake, “no?” When we turn to look at patient testimonials, we will see how this general pattern is analogically mobilized by patients, almost like a Whorfian “fashion of speaking,” to construct authority in their own discourse, even though they are not, in fact, performing labeling routines. Rather, it is the indexical-iconicities of the pattern itself, as a dynamic figuration of medical authority, that becomes important.

The important point for now, however, is that through these rhetorical strategies Dr. C in effect introduces a functional distinction at the level of the utterance’s linguistic structure. The lexical terms that are targeted through these implicit metapragmatic framing devices are accorded a special linguistic status: as privileged labels for kinds of things, they become, as it were, an authoritative metalanguage for referring to the objects extended through gesture (the doctor’s index finger) and presentational deixis (*these are the...*), reframing them not only as rather representations of things on a rather facile visual display, but as actual denotable entities in an unseen world. In short, through labeling, the TB *rotafolio* is construed as a kind of authoritative evidence for an extradiscursive reality that, however, can only be mobilized in discourse. Dr. C’s perhaps curious repetition of the evidential-like adverb, *practicamente*, ‘practically’ or better yet, ‘for all intents and purposes’ serves to further reinforce this order of things. In effect, the doctor pragmatically constructs a complex footing for himself which, on the one hand, recognizes the limits of the visual display—that it is merely “metaphorical”: these are not in fact bronchial tubes, alveolar sacs, and so forth—while on the other hand suggesting that he could, or one could, actually use the same metalanguage to point to the “real” thing, which,



not incidentally, he as doctor has access to through clinical practice. In a sense, the doctor is saying: “If I could, I’d show you the real thing, but I can’t... But have no fear, it really exists, and that’s why we have labels for it!”

More broadly, labeling routines aim to sensitize patients to the unseen world in which tuberculosis, as a pathological agent, exists and has effects, and through which treatments, in the form of drug therapies, can effectively work to counteract the unseen pathological agent. They seek to introduce patients to the abstract diseased tubercular body as it appears in biomedical practice, and to the standardized body-in-treatment that is required for the therapeutic work of anti-tubercular drugs. But they do this more specifically by teaching patients how to correctly use language. Much of the communicative labor of TB sensitization is, in fact, dedicated to modeling for patients not only the proper intake of drugs, but also the proper uptake of facts. Learning about tuberculosis, in this respect, involves learning to recognize how knowledge is coded in texts, and thereby the discursive processes through which facts can be *extracted* from texts and *recirculated* in further discourse, opening up a whole new world of epistemic and ethical possibility for the patient.

As we shall see, the degree to which patients are, in fact, competent in these processes of extraction and recirculation—fact-finding and fact-spreading—are the focus of the patient testimonial portion of the TB patient meeting, when viewed from the metadiscursive dimension. In fact, labeling routines would be of little importance if the knowledge they encode was not picked up in one form or another and animated in the discourse of patients, in their testimonials. For this reason, patient *testimonios* are perhaps the most important component of DOTS *conscientización*.

## *Testimonios*

Testimonialism was in fact at the heart of Freire's original conception of *conscientização*. For Freire, testimonials were sites for the strategic deployment of praxiological knowledge—the concepts of class struggle, social justice, and self-liberation. When refashioned through the key plot-lines of these teleological concepts, personal narratives would serve as a broader social optic for illuminating underlying realities, not only in the narrator's life, but in those bearing witness to the telling, who would come to identify their own life-stories with the narrators. Giving testimony, and bearing witness to the testimony of others, then, was the key starting point for transforming consciousness. Participants in Freire's *conscientização* sessions could then start to see the world, and their agency within it, in a new more active way—a necessary condition for his broader social liberation project.

TB testimonials draw on Freire's original theory of *conscientización*, but again, it is behavioral-modification not social liberation that is the ultimate objective. TB testimonials aim to construct the patient's body as “living proof”—as the global TB literature puts it—of the benefits of biomedicine, and more particularly, of the benefits of strictly adhering to the career timetables of directly-observed therapy. In the monthly TB patient meeting, the testimonial component follows upon and develops the sensibilization component precisely because it is the “voice” of the patient, as a voice that emanates from a body of experience, that is viewed as capable of effectively closing the “knowledge-behavior” gap, the gap between being informed about a new behavior and adopting and acting on that behavior. The testimonial gives the patient a chance—or so is the objective—to mobilize the conceptual knowledge imparted through TB sensibilization as a means of renarrating their experiences with disease and its treatment,

construing their own stories, in some sense, as “object-lessons” for other patients. The TB testimonial, in this respect, is a key site for cultivating the discursive alignments between the embodied self of the patient and the abstract biomedical body, either of disease or in treatment, that is required for successfully inhabiting the role of TB patient. At the same time, the TB testimonial is seen as the key means for transforming the patient into an advocate, and as such, for creating the kind of epidemiology of information, with its multiplier effects, that public health officials imagine in Bolivia. Testimonialism, as a metadiscursive ideology and practice, is viewed as having a “transitive property.” Events of giving testimony are always at the same time events of bearing witness. One bears witness *before* others, who then become authorized and responsible for further, future tellings, for future events of testimony. In Latin America, the *testimonio* has played a major role in sociopolitical struggle for these reasons. It inscribes knowledge in the ethico-moral framework of the “community of the witness” (Yúdice 1991). In global TB control discourse, fashioning the most effective “package” for the public health message, the one that will circulate the widest and longest, is viewed as requiring communicative labor not just on the part of healthworkers, but more crucially, on the part of the persons whose bodies are the most at risk, and therefore, seen as having the most to say: the patients’.

Interestingly, but not surprisingly, the most important testimonials performed at TB patient meetings are those told by patients that have “abandoned” treatment, suffered the consequences, and are now back to bear witness to it. Here I will focus on the *testimonio* of Don Angel, whose struggles with TB treatments we already heard about in the chapter’s prologue.

### Example 3. Don Angel's exemplary testimony

DA	Don Angel, TB patient	
boldface	Dialogized voices	
all-caps	Vocal stress	
***	Undecipherable text	
F	Factive particle	
1	<b>DA</b> Yo (no sabía) las cosas también de DOTS, los que están aquí. Desde que-	I (didn't know) the things also of DOTS, those that are here. From there-
2	Yo, anteriormente rescata con tuberculosis. Hecho mis- inclusive mes mas- nueve meses de tratamiento. Yo también soy diabético, y <b>cuando es uno diabético baja los defensas completamente</b> ps.	Me, I previously recovered from tuberculosis. I did my- including a month more- nine months of treatment. I'm also a diabetic, and <b>when one is a diabetic the defenses lower completely</b> F.
3	[...] {Don Angel briefly discusses his diabetes, and indicates how his first round of TB treatment was at a hospital, not at the CS, where he also gets his diabetes looked after.}	
4	Lastimosamente, no es como acá, estamos con esta conversación. Gracias a Dios tengamos e: esa información mas directa.	Unfortunately, it's not like here, [where] we are with this conversation. Thanks to god we have eh this more straightforward information.
5	Pero yo estaba tratando en Sagrado Corazones de abajo. Entonces, la doctora que va allá simplemente viene el lunes en la mañana, no sé- que dos horas, una hora y media mas o menos. El miercoles, y el día viernes. Entonces está un poco tan chiquitito que ya- simplemente dejanla en tabladitos los esquema. Y son todo los días inyecciones- es con inyección todo los DÍAS. Es incomodo, es doloroso, es mas...	But I was being treated en Sacred Hearts [in La Paz]. So, the [female] doctor there only comes Mondays in the morning, I don't know- for two hours, one and a half hours more or less. Wednesdays, and Friday. So it's such a small amount of time that they simply leave the [drugs for the] scheme on the <i>tabladita</i> . And it's injections everyday- it's with an injection everyDAY. It's inconvenient, it's painful, its...
6	Bueno, <b>pero yo ¿por qué he entrado en este... este segunda esquema? Por una sencilla razón.</b> Los tres primeros meses sí he cumplido al pie de la letra, con los medicamentos. Yo me sentí bien, he subido el peso, ya estaba guapo ya- todo tranquilo. Lunes, martes, miercoles, jueves, <b>VIERNES... mis pildoras.</b> Sabado igual. Sabado en la tarde ya l'estaba metiendo mi cerveza. El domingo igual. <b>Hasta que recién me entero QUE... el TRAGO... neutraliza TU... tratamiento.</b> He cumplido los nueve meses, tranquilo ¿no? Claro con la medicina, pero <b>los microbios</b> han hecho <b>resistencia</b> . Ha pasado seis meses y otra vez he tenido <b>la recaída</b> . Como he llegado estaba bien malo. Estaba bien malo estaba- Ni siquiera podía manejar movilidad.	Well, <b>but me, why did I enter into this... this second scheme? For a simple reason.</b> The first three months indeed I complied exactly, with the medication. I felt good, gained weight, was handsome again- everything was good. Monday, Tuesday, Wednesday, Thursday, <b>FRIDAY... my pills.</b> Saturday the same. Saturday in the afternoon there I was digging into my beer. Sunday the same. <b>Until recently I found out THAT... DRINK... neutralizes YOUR... treatment.</b> I completed nine months, no problem no? Of course with the medicine, but <b>the microbes</b> became <b>resistant</b> . Six months passed and again I had <b>a relapse</b> . How I arrived was very bad. I was very bad I was- I couldn't even drive a car.
7	[...]	
8	<b>El segunda esquema es mas dolorosa ¿por QUÉ?... viene con inyecciones... y la pildoras.</b> Y aparte de eso tiene sus <b>complicaciones secundarios</b> seguramente. [...]	<b>The second scheme is more painful WHY?... It comes with INJECTIONS... and the pills.</b> And besides this it has its <b>secondary complications</b> certainly. [...]

9 Entonces YO a los amigos que están en **la primera esquema**, les orienta que complan al pie de letra **hasta QUE... se CURA... se cura pero bien curado**. [...] Este enfermedad es leTAL. Es letal- Te lleva a la muerte siempre yo no miento así. [...] Yo les urgería a todos que están en **primero esquema acá VEN... pero disciplinadamente, sin dejar un solo día**. Porque si no, van estar de la misma situación que yo estoy. Es un molesto- Trabajamos, tenemos obligaciones, pero tenemos que venir. Yo por ejemplo tengo reunión en mi oficina tengo. Ni modo. Lo primero es los primero.

So I to the *amigos* that are in **the first scheme**, advise you to comply exactly [with treatment] **UNTIL... you're CURED... you're cured but really cured**. [...] This disease is LETHAL. It's lethal- It leads you to death I'm not lying like this. [...] I would urge all that are in the **first scheme** here **TO COME... but with discipline, without missing one single day**. Because if not, you're going to be in the same situation as me. It's an annoyance- We work, we have obligations, but we have to come. I for example have a meeting in my office I do. Nevermind. First things first.

Don Angel's testimonial is standard narrative: a figure of the narrator before some critical event is contrasted to a narratorial figure after that event: an event that projects a before and an after, across which two narratorial figures are distinguished and re-related through some sort of development or transformation (Labov & Waletzky 1967; Mattingly 1998; Ochs & Capps 1996). The key event here is Don Angel's relapse, one brought on, he tells us in line 6, by his consumption of alcohol during his initial treatment regimen, with the consequence that has now been placed in TB re-treatment, with a different, more intense drug regimen. The "before" here is Don Angel's own lack of knowledge, facilitated by an initial treatment program that had little time for him (lines 1, 2, and 5). Before, he didn't know alcohol could neutralize treatment (line 6); he didn't know anything about DOTS (line 1). The "after", then, is that now he knows better, thanks in large part to the monthly TB patient meetings (line 4). This unfortunate sequence of events then affords him a privileged position from which to speak: he can advise other patients, especially those beginning treatment, to "comply exactly with treatment," as he puts in in line 9, "until you're cured, cured but really cured;" to come to the health center for treatment, "but with discipline, not missing a single day," as he also says in line 9. He can articulate a timeless truth—that TB is "lethal, it really leads you to death" (line 9)—with his own body serving as living

proof to diffuse any skepticism: “I’m not lying like this,” Crucially, he can inhabit a special discursive space seldom allotted to the novice patient, and ever more rarely to a doctor or nurse: the “we” that speaks in the name of TB sufferers enrolled in DOTS: “We work, we have obligations,” he says in line 9, “but we have to come... First things first.” He can speak from personal experience here, and as a consequence transform himself into an object-lesson for the other’s benefit, speaking authoritatively about logically unknowable futurities: if you don’t comply with treatment, “you’re going to be in the same situation as me” (line 9).

What is especially interesting for us about Don Angel’s testimonial, however, comes from the way that he interdiscursively, or dialogically “voices” a speaking persona that is not his own. This is the text that I’ve put in boldface: “But me, why did I enter this... this second scheme? For a simple reason” (line 6); “the second scheme is more painful **WHY?...** it comes with **INJECTIONS... and pills**” (line 8); and much more surprisingly: “until recently I found **THAT... DRINK... neutralizes YOUR... treatment**” (line 6); “I advise you to comply exactly with treatment **UNTIL... you’re CURED... your cured but really cured**” (line 9).

Whose voice is this? What social persona is being animated here in Don Angel’s testimonial? The first two examples I mentioned are rhetorical questions, a powerful figure of speech which requires serious discursive license for its use, since one is in effect figuratively inhabiting the role normatively allotted to one’s addressees. It is not common in everyday speech in periurban Bolivia. Basic communicative norms mitigate against it, make it presumptuous, “obliging,” as if the speaker were claiming dominion over others, even claiming to know their intentions. The only kinds of rhetorical question I encountered in everyday discourse in periurban was the highly-marked aporetic lament, *What am I going to do?*, which we saw in my

interview with Don Emeterio in this chapter's prologue, and will analyze in detail in chapter 6. Here, however, it is not so much a rhetorical question, as way way of giving voice to one's own conflicted internal state—not the internal, intentional state of an addressee. Rhetorical questions are common, however, in political speech-making, and even more perhaps in the discourse of experts and elites. In my interviews with Bolivian doctors, epidemiologists, and other public health officials, recourse to the rhetorical question was invariable made when explaining concepts and their institutional rationale, like how and why one calculates an annual risk of infection. And rhetorical questions are very common in the sensibilization component of TB patient meetings, a certain liberty the doctor is entitled to by virtue of his or her specialized training—no doubt *part* of that training, and accordingly, a sign of that training. The use of rhetorical questions in doctor-patient communication, of course, has been widely analyzed in the literature (Ainsworth-Vaughn 1994). But in periurban Bolivia, among persons that aren't elites, doctors, experts or officials, they are highly-marked figures of speech. In this respect, we might argue that Don Angel is not so much speaking in his own name, as animating the discourse of medical expertise, perhaps even the specific words of the doctor himself. The way he hedges his utterance with the evidential adverb *seguramante*, “certainly”—which in Bolivia often means exactly the opposite—is suggestive of this analysis: Don Angel recognizes he may have been too presumptuous.

The second set of examples is even more clear with respect to this animation of expertise. “Until recently I found out THAT... DRINK... neutralizes YOUR... treatment.” This has the precise discursive patterning as Dr C's labeling routines, with their strategic use of dramatic pauses and intonational stress to prime the imagination of the addressee for what's about to

follow. Compare, for instance, the above to Dr. C's labeling of the lungs in Example 2: "So the LUNG PRACTICALLY... is connected through THE... bronchial tubes, that are DIVIDED... right... left. These are the bronchials... right, left." In this respect, Don Angel's description of his own coming-to-awareness about the effects of alcohol on treatment is highly complex, even double-voiced. Formally, his "finding out" is the main predication of the utterance. But set in this marked discursive construction, *what* he found out is the key informational theme. At the same time, at the level of text-level indexicality, it becomes unclear if these are his words or a report of another's words, that is, something he was told or imagined he could be told, namely, by a doctor—or all at once. In short, should this construction be viewed as reported speech? Who, in this respect, does the vocally-marked second person pronoun, *TU* or *YOU* refer to? There are several possibilities: First, Don Angel, figured as an addressee of another's speech—a doctor's speech—which he then is indirectly reporting here. Second, the audience of TB patients in the interactional event itself—with Don Angel addressing them directly, as *YOU*. Or, third, a generic-unspecified *YOU*, not addressed to anyone in particular, but used to make a nomic statement about TB drugs and alcohol consumption.

Arguably, it is all three at once, creating a complex set of laminated participant structures that, as an interactional whole, projects a fundamental ambiguity about the persona of the speaking subject. The overall effect, then, would be to transform Don Angel's personal experience with failing treatment into more than a singularity, an individual case, but rather to treat it as an exemplary experience that can be pointed to as demonstrable evidence—as a case-in-point—of the truths which he speaks.



In short, here we see, in Don Angel's *testimonio*, how he strategically uses the labeling routines at the core of TB sensibilization to transform, through narrative, his own story into a kind of object-lesson. He does this conscientiously, with the explicit intention of informing others.

### *Conclusion*

What is the meaning of the object-lesson here? Ultimately, it says something about the main theme of part one of this chapter: how to effectively inhabit the world of directly-observed therapy, aligning oneself, as socially-located, biographically-complex embodied self, to the spatiotemporal horizons of directly-observed therapy, and the 'body-in-treatment' it makes available. Teaching patients how to form and maintain these alignments to treatments is something that is done in and through language. And here, the "resource" of the patient that has failed to do, seems to play a critical role. Just like the TB flipchart *El Abandono*, these are the patients whose bodies stand as "living proof" of the benefits of directly-observed therapy, only as a semiotic negative, from the perspective of the damage, real or potential, inflicted upon their own bodies, on their families, the neighbors and the community at large. I've decided to give Don Angel this particular pseudonym, in fact, precisely because he was the favorite object-lesson for healthworkers at the TB patient meetings I attended—a fallen angel of sorts. That he narrated his own story along these lines, incorporating the *aprendizajes* or "lessons-learned" both from his unfortunate experience in treatment and from the more general knowledge gained from his rigorous attendance at TB sensibilization sessions—after the fall, so speak—makes his *testimonio* especially compelling for other patients. He is the ideal candidate, in short, for

counseling patients who are only initiating treatment, a role which he plays with gusto, to strictly adhere to the institutional timetables of DOTS, to keep up with the treatment careers, so to speak. Don Angel and patients like him can, in the end, be transformed into strategic assets. Other patients however—patients like Don Emeterio—pose an altogether different set of problems: not only as “at risk” for the contracting and developing tuberculosis, but also “at risk” for abandoning treatment once and for all. In the next and final chapter we will turn to look at a totally different set of communicative strategies, and strategic social actors, that are called upon to deal with these kinds of patients.

*“All Campaigns Are Victorious, They Only Require Persistence in the Heart of A Women”*

*[TB, ethnicity, and the political]*

Almost seven months after the events of Black October, in 2003, and some 14 months since I'd arrived in Bolivia, El Alto's municipal campaigns went into full swing. In the weeks following Black October, the mayor of El Alto, José Luis Paredes —“Pepelucho,” as he's popularly known—dissolved his affiliation with the Movimiento Izquierdista Revolucionario (MIR), a national center-left party, and, in his bid for re-election, constituted his own “political collective” (*agrupación política*), Plan Progreso. At the core of his “plan for progress” was a campaign promise to heal the wounds inflicted on the city by the conflicts of October, this through the creation of a new set of municipal programs aimed at promoting *seguridad ciudadana*, “citizen security.” In mid-April of 2004, with 8 months left until the municipal elections, I attended a campaign rally in which Pepelucho endeavored to introduce the key themes of his citizen security initiative, and, in the form of public spectacle, to inaugurate several of the new initiatives that would serve, by mobilizing the social itself, as a means of making the city “safe” again.

I'd been invited to attend the rally by a group of women from one of the neighborhood organizations I'd been working with, the *manzanas de salud*, a ‘community-based epidemiological vigilance’ program started by Pepelucho in 2001. The mayor's office had been quite adamant that the *manzanas* be present at the rally, and especially adamant they be present

dressed in their emblematic *sombreros* and forest-green cardigans, embroidered with a plump red apple above which the emblem of Plan Progreso itself was embroidered. *Manzano* means ‘neighborhood block’, the domain of the women’s activities, and *manzana*, of course, ‘apple’, the coincidence in sound making for a striking, if pun-like mnemonic. While the *manzanera* program predated Pepelucho’s new *seguridad ciudadania* project, it would, as the women had already been told, be integrated into the new set of initiative. As “epidemiological vigilantes”—a kind of community health promoter—the *manzaneras* would form the key front for securitizing the city in ambit of public health in their respective neighborhoods. The day’s events, however, were not focused on the *manzaneras*, but on the inauguration of a new, heretofore non-existent citizen security group: the *brigadas escolares*, “school brigades,” comprised of hundreds of teenagers recruited from schools throughout the city to perform their civic duties by reporting delinquent activities to neighborhood and municipal authorities.

The rally was held in the Ceja, the congested interchange where the highways running north, west, and southwest along the *altiplano* converge onto the single toll-road that careens precipitously down to the city of La Paz, along the densely-populated populated walls of the Choqueyapu valley, before spilling out onto the Prado, the capital city’s main north-south artery, more than a half kilometer below. The Ceja was once the “eyebrow” of La Paz, sitting high above the city, the main point of entry to the nation’s capital, back when El Alto was but a small peripheral urbanization. Today, however, it is the commercial and administrative eye of El Alto. From the Ceja the city extends out, concentrically, along the radii of the three highways. As the El Alto’s mayor, Pepelucho earned his nickname by “struggling” (*lucho*) to improve the city’s



**Figure 58. “Thanks for the support Pepelucho”**

Perimeter wall of one of the new *centros de salud* built by the Alcaldía in 2003

infrastructure, building roads, overpasses, schools, and neighborhood health centers—*obras*, or ‘public works’, all, of course, bearing his name, typically with a token of appreciation (on the politics of obrismo in El Alto, see Revilla 2008).

The day’s inauguration was convened in an especially strategic, symbolic location: the newly-constructed ramp promising to join the Pan-American highway to the three other highways and to the toll-road to La Paz. Nearby are the forsaken offices of the Alcaldía Municipal, abandoned after the conflict of February 2003, Black February, when angry neighbors stormed, looted, and burned them down. Nearby too, is the pedestrian overpass pulled down during Black October, and closer yet, the spot where two railcars were pushed off their tracks and onto the toll-road, effectively blockading traffic between La Paz and El Alto, and therefore, between the country and its capital. Since renouncing his party affiliation with the MIR, Pepelucho has papered the city with billboards expressing solidarity with the social



**Figure 59**

**“We already warned you, the Aymara man is better than the system”:  
Billboard in El Alto**

movements that spearheaded 2003’s conflicts, many expressed in the culturalist idiom of traditional and popular (anti-establishmentarian) Aymara values at the heart of the social movements (Fig. 59). This was, in fact, the same form of connection that the mayor intended to affect with his new citizen security initiative, framing the exercise of citizenship and civic duty in the populist idiom of communitarian “vigilantism,” and as such, linking his office to the city’s lien on urban indigeneity.

Usually bustling with activity, the chosen locale had been carefully cleared and cleaned for the mayor’s event. More than two dozen small SUVs, new, sparkling blue with bright yellow decals reading Plan Progreso, were parked perpendicularly along the road, an impressive display of the mayor’s capacity to capture international aid for his new program. Behind the vehicles, in a row extending down the street, several hundred soon-to-be members of the school brigade, boys and girls not old enough for obligatory military service, waited patiently, each sporting a fluorescent green vest and similarly-themed baseball cap. On the other side of the street, facing



Figure 60. *Manzaneras de salud*, at the mayor's campaign rally

the initiates, was a small stage with a sound large system and a microphone, on which Pepelucho himself stood, in a light blue suit, flanked by members of the municipal council and top brass from the *Policía Nacional*, in their crisp olive green officers' uniforms. To the right of the stage stood representatives of various municipal organizations—market, transportation, neighborhood associations and so on—each bearing their organization's *estandarte*, their official standard: a red, yellow, and green diamond-shaped flag with glimmering tassels and the association's insignia. To the left of the stage, in a row, stood the *manzaneras*—less than expected had shown up, to the chagrin of the mayor's office.

Just in front of the stage numerous onlookers gathered, mixed in with journalists and photographers, with their cameras and cassette-recorders. After a handful of introductions, Pepelucho took to the microphone to introduce the new program, explain its rationale. The problem with El Alto, he told the audience, was the lack of security, more precisely, the lack of a



**Figure 61**

**Dr. José Luís Paredes, “Pepelucho”**

coherent institutionalization of security forces. “So what do we conclude?” he baited the audience, “that the people have started to take citizen security into their own hands, with violent actions, which is never courageous. But at times there is no other alternative.” He recalled the tragic story of a group of youths that had been “disappeared” by neighbors after being accused of a gang rape. “But these types of extreme actions that don’t have to take place.” Citizen security is the way forward. It would involve investments in infrastructure: besides the new vehicles, the Alcaldía had acquired 10,000 new lampposts, hundreds of stop lights and stop signs, construction materials sufficient to build a dozen new neighborhood police posts. “But the key investment,” he explained, was in “citizens themselves.” Here he held up one of the fluorescent green vests Plan Progreso had designed for the new youth brigades:

The theme is for ALL.

It’s not only for the police, nor for functionaries of the Alcaldía.

*Seguridad ciudadania* is the duty of ALL.



It's a duty that the Alcaldía Municipal also has, and for this I'm going to put on the vest, to exhibit to all—because this is the way to distinguish—that we are working in what is most important, that we are a safe city, that we need a city that will be an example for all the country.

We believe we have to ERASE this stigma that October generated, of the possibility of unrest in our city.

THIS city of El Alto now has LESS conflicts than La Paz.

THIS city of El Alto has a future.

THIS city of El Alto, after today, will become the safest city.

On this high and hopeful note, Pepelucho concluded his speech and, as a marching band struck up a patriotic tune, ceremoniously donned the fluorescent vest. With the popular politician's zeal for the dramatic, he saluted the top police brass.

As the final act, a representative of the national police called the teenage *brigadistas* to be to attention, exhorting them to stand up straight, in their best approximation of military discipline, in preparation for the rites that would invest them, as young neighborhood sentinels, with quasi-official roles in the city's new citizen security program. "I am going to ask that you put your hand on your breast, so that you can make the promise, the promise before the *patria*, before society, and before your constitution..."

In fact, I had learned about the inauguration-*cum*-campaign rally the week before, at a ceremony for the *manzaneras* at DIMUSA, the offices of El Alto's municipal health board, also located in the Ceja. The ceremony was sponsored by an NGO that was working with the *manzaneras* to "conscientize" them on the merits of breast feeding and other matters of infant care, including, importantly, the imperatives of childhood vaccination. As "epidemiological vigilantes," the aim was that, having acquired this knowledge, this awareness, they would further spread it in their neighborhoods, holding their own informative talks among the mothers of their *manzanos*. At the



**Figure 62**

*Manzanera de salud, with certificate and sombrero*

ceremony, however, women that had completed the eight week *curso de capacitación* were to be awarded certificates for their achievements and special *sombreros* (Fig. 62), the same *sombreros*—not coincidentally—they were enjoined to wear at Mayor’s coming rally, along with their emblematic green cardigans.

Not surprisingly in these months of municipal electoraling, the reception also served as a space for political speechmaking by party officials and bureaucrats. Pepelucho himself, according to the reception’s program, was scheduled to appear, to impart some words of praise for the work the women had done in their *manzanos*, to explain in more detail how they fit into his new *seguridad ciudadanía* program, and to announce the acquisition of funds to expand the program itself, funds that would be used to “capacitate” 2,500 new *manzaneras*. But scheduling conflicts unfortunately got in the way, the *manzaneras* were told, as they also got in the way of

the head director of DIMUSA. The keynote address, then, would be delivered by the program director of the Manzaneras, a middle-aged woman who had been recruited from Cochabamba by Pepelucho, and like Pepelucho, a former *militante del partido* for the MIR. Her words were, she explained, spoken in the name of the mayor himself:

I believe it's something very important, what's happening today.

It's proof that everyday the presence of women in the municipality of El Alto is growing.

I observe that the presence of women is so strong that it makes me recall a phrase that this poet, a Cuban revolutionary, José Martí, a Cuban poet, that he said in a phrase.

That all campaigns are victorious, they only require persistence in the heart of a woman (*Que todas las campañas son victoriosas, solo exigen ellas se empeña en corazón de la mujer*).

And I believe in El Alto exactly this is happening, persisting in the heart of the women, in this great campaign of Dr. José Luís Paredes, which is for progress, for rights, for our rights to health, for our right to have better conditions of life—this great campaign for progress in our beloved El Alto.

I believe that the presence of you-all is really vital.

The presence of you-all as women ensures that the dream of this leader, Dr. José Luís Paredes—who isn't only the Alcalde of El Alto, indeed no, but I believe the nerve, the motor of this city—is making this campaign victorious.

This campaign for health we have ignited as *manzaneras* [...]

As the speechmaking proceeded, cycling through a handful of health officials, NGO representatives, and municipal authorities, the *manzaneras* learned of the important roles they would play in the future wellbeing of the municipality. How, as an “army of women” dedicated to “sacrificing for El Alto,” they were “the beginnings of the union between society and those that work in health.” How, as members of the community, they were the “spirit inside the health service,” points of reconciliation between the “thoughts of the ancestors, in Aymara and Quechua” and “advances of modern science.” How, “because of the direct contact” they had in their *manzanos*, “in your idiom, in Quechua, in Aymara, or in Castilian, with the persons and mothers of your neighborhoods,” they were critical “new social actors”. How, as critical new social actors, they “diffuse all this information that pertains to the level of health,” and how this

“compliments the theme of *seguridad ciudadanía*.” And how, through their “voluntary participation” and “personal characteristics,” they embodied the very “solidarity” and—invoking an Aymara term of reciprocal solidaristic exchange—the *ayni* at the heart of the mayor’s new network of citizen security.

In short, they were, as the various speakers made clear, the *corazón*, the ‘heart’, at the center of the city’s struggle to make El Alto “healthy, strong, and without problems.” They would restore *confianza*, ‘trust’, and *calidez*, ‘warmth’, to the network of health services.

I knew about all this because I had been asked to work with various neighborhood *manzanera* groups “conscientizing” them about tuberculosis, as part of my volunteer work as a DOTS-C promoter. In the last chapter, we shall look more particularly at this curious intersection between the *Manzaneras de Salud*, with its broader sociopolitical horizons, and El Alto’s TB control network, with its quite myopic concerns.

## CHAPTER SIX

### COMMENSURATION: COMMUNITY MOBILIZATION

#### AND HOUSEHOLD CONTROL “OUT THERE”

Problem patients, patients like Don Emeterio that have “abandoned” their treatments or are otherwise viewed at risk for doing so, are often asked to sign what is called an *acta de compromiso*, a “pledge of commitment.” Written out by a CS staffmember, usually the head nurse, and undersigned by the patient, these pledges take the form of an explicit primary performative, almost like a promissory note, committing the patient to the faithful completion of his or her treatment regimen. Though they constitute no legal or institutional authority over the patient, *actas de compromiso* are common textual practices at the very local levels where treating tuberculosis is done, called upon when the more official modes of enforcing patient adherence to treatment fail, or, just as often, when extenuating circumstances arise and contingencies must be made. One patient, whose job as a truck driver took him on frequent, extended trips to Santa Cruz and Lima—trips that required he administer his own treatments while away, despite the norms of directly-observed therapy—was, for example, asked to sign the following pledge:

I [xx xx] promise to take the medications everyday, as indicated, because work does not permit me to come everyday for 8 months to the *centro*, I’m grateful for your understanding! Thanks.<sup>1</sup>

---

<sup>1</sup> “Yo [xx xx] me prometo a tomar los medicamentos todos los días, conforme lo indicado, porque el trabajo no me permite venir todos los día los 8 meses al centro, le agradezco su comprensión! Gracias.”

LUGAR DONDE DESEMPEÑA SU TRABAJO \_\_\_\_\_  
 NUMERO DE HELOS \_\_\_\_\_ COLEGIO DONDE ESTUDA \_\_\_\_\_  
 NOMBRES \_\_\_\_\_ CURSO \_\_\_\_\_  
 NOMBRE \_\_\_\_\_ CURSO \_\_\_\_\_  
 NOMBRE \_\_\_\_\_ CURSO \_\_\_\_\_  
 RESPONSABLE DEL CUMPLIMIENTO DEL TRATAMIENTO \_\_\_\_\_  
 FECHA DEL LLENADO DE LA FICHA \_\_\_\_\_  
 NOMBRE DEL ESPONSABLE \_\_\_\_\_  
 SE REALIZO SEGUIMIENTO A: Señora [redacted] FECHA \_\_\_\_\_  
 A: \_\_\_\_\_ FECHA \_\_\_\_\_

OPINION EPIDEMIOLOGICA

Yo Ruth [redacted] Hermana de Graciela me comprometo a hacer tomar su tto para lograr el bienestar de su salud.

[Signature]

Figure 63

Sample TB *acta de compromiso*

“I Ruth [xx xx] Sister of Graciela promise to make her take her tto [treatment] so as to achieve the wellbeing of her health.”

CS staff were concerned that this patient—Don Sebastián, as we shall call him, since we will return to his story below—might “fail” (*fallar*) in his efforts to self-medicate, a not unfounded concern, as we’ll see. In the case of the patient with an extensive record of treatment noncompliance, or the patient who, upon completing treatment, experiences a relapse, a family member co-residing with the patient—a mother, a husband, a sister, an uncle—is often called upon to sign the pledge in the patient’s stead, before the patient is permitted to return to treatment (Fig. 63).<sup>2</sup>

*Actas de compromiso* are ubiquitous textual practices at all level of governmental process in Bolivia, working in and on the edges of officialdom by anchoring state authority to more local, and, as they are perceived, more binding orders of ethico-moral commitment. In periurban TB

<sup>2</sup> “Yo Ruth [xx xx] Hermana de Graciela me comprometo hacer tomar a su tto para lograr el bienestar de su salud.” The inclusion here of the common CS abbreviated *tto*, short for *tratamiento*, ‘treatment’, suggests that this commitment pledge was written out by a CS staffmember.



**Figure 64**

**Sample record of home visit (*visita domiciliaria*)**

“Note. A home visit was realized on two opportunities, to the house of the patient but he was not to be found, the sister claimed that he is well, and that he frequently travels [...] The family member was asked to send her brother to the center to complete his treatment. But to date he hasn't come.”

control, such pledges aim to “oblige” or “obligate” (*obligar*) wayward patients to their treatment regimens by making explicit, in quasi-contractual terms, the exchange of obligations between patients, their households, and the state presumed to be at the core of state-sponsored TB treatments. In this respect, the *acta de compromiso* can be seen as a kind of third-line resource in of the broader arsenal of compliance-seeking strategies, only in this case, aimed at the tubercular household more directly, for mobilizing it as a kind of para-institutional site for performing the surveillance at the heart of DOTS.

But the problem with these kinds of textual practices, as healthworkers know very well, is that they rarely, if ever, “work.” The patient file that contains an *acta de compromiso* will just as often contain a handful of previously signed but broken treatment pledges, appended to a bundle of scribbled notices documenting missed treatments, failed home visits (*visitas domiciliarias*), and other such marks of problematic patienthood (Fig. 64). As healthworkers intuitively grasp, the *acta de compromiso*, firmly anchored in the institutional logics of the TB control network,

translates very poorly *outside* the network, “out there” into the periurban neighborhood, where patients, as complex, socially-located persons, actually dwell. Many healthworkers worry that, if anything, strategies like these may engender more rather than less difficulties in the long run, heightening rather than lessening the presumed *desconfianza*—the ‘distrust’ or ‘disenchantment’—of patients and their families for the public institutions designed to treat them.<sup>3</sup>

And yet, obtaining the active involvement of the tubercular household, above and beyond the individual patient, is viewed as a kind of holy grail in cases like these. As one high-ranking municipal health official explained to me, it is absolutely imperative, when dealing with problem patients most especially, to implicate the *nudo familiar*—the “family knot”—in the enforcement of treatment obligations: the domestic relations of love, trust, and intimacy that bind the patient, as father, wife, sister, or uncle, to his or her respective household, and through this, one hopes, to the prescribed treatment regimen, to the career-like forms of TB patienthood described in chapter five. The family, as a site for tying patients to their treatments, so to speak, is so important in Bolivia, he explained, precisely because there is no juridical mechanism available to public health authorities to legally force problem patients to take their drugs.<sup>4</sup> *Ad hoc* forms of “social control” become necessary. You quite literally have knock on the doors of patients, invite yourself in, gather the family around, and *exhort*. “So you say, ‘You have a family, do you

---

<sup>3</sup> And in fact, as CS staff also recognize, and perhaps patients too, such strategies are in practice aimed less at managing the “best interests” of the problem patient than in defending the network—and defending themselves—against the institutional repercussions of “losing” a patient. The progressive accumulation of texts like these in a patient’s file is, in this regard, a key part of the broader bureaucratic process of translating the complex, everyday behaviors of the problem patient into the much simplified, but institutionally-recognizable form of a *de facto* “noncompliance”—the imputed if never-really-uttered *No!* of the *abandono* (see the prologue to chapter five)—one that can later be marshaled as evidence of due diligence on the part of healthworkers in the unfortunate, and highly scrutinized, event of total treatment abandonment and/or patient death.

<sup>4</sup> Here, the municipal health official was contrasting the legal authority of TB control agencies in Bolivia to those in other countries, namely, in the U.S., where in certain circumstances public health authorities can invoke legal mechanisms, including incarceration, to force “noncompliant” TB patients to adhere to anti-tubercular drug regimens. As the official makes clear, no such legal mechanisms currently exist for public health powers in Bolivia.



realize? You have nephews!”—the official dramatized for me—“So if you want, well, try so that you don’t infect the children, because their lungs are weaker’ ... we try by saying this, no? ‘And so that their lungs don’t suffer’ ... and more like this we speak.” The strategy of last resort, then, is to stage a more exhortative, personalized, and at the same time, more confrontational kind of *conscientización*, right there in the patient’s home, one that stakes the duty to get well not so much to an “awareness” of the public good, but to the private “conscience” of domestic well-being. And if the *acto de compromiso* fails so miserably at this task, then other modes of *control social* have to be found.

When I asked the municipal official what’s to be done, he turned the tables on me, admitting that people “like himself”—that is, program administrators and local healthworkers—weren’t, perhaps, the best positioned “social actors” to perform this kind of work. “Well,” he said, “we throw it at them with people like you!” By people “like me” he did not have in mind foreign anthropologists, of course, but me in my capacity as a voluntary DOTS-C promoter at the neighborhood CS in which I had been conducting fieldwork. More particularly, he had in mind the local neighborhood health promoters I had been charged with teaching about TB control as part of my DOTS-C work: the “community-based health vigilantes,” or *manzanas de salud*, I introduced above, in the chapter’s prologue.

“This is the work of the *manzanas*,” he explained to me, “They are the one’s we have seen that can do this kind of work, including even obliging/obligating (*obligarles*) patients.” “They are the ones,” he said at the end of the interview, “that can speak to the people in their own idiom (*idioma*), including about family problems. Many times, no?, illness is important to the patient, but family problems are more important.” And healthworkers, especially doctors,

rarely understand, or have time to understand, family problems. The problem of patient noncompliance, of treatment “abandonment,” begins here, he explained, in this misunderstanding; it is the root of *desconfianza*—the terms of a powerful local discourse, as should now be obvious—that structures so many interactions between state institutions and the periurban public more generally. “But the *manzanera* understands family problems,” he continued, “they are their own problems [...] they are their neighbors (*vecinas*).” “So it’s worth a lot to earn the *confianza* of the patient [...] to know how to interpret them, aid them. It’s fuller.” *Confianza*—as ‘trust’, ‘confidence’, and the ‘recognition of mutual respect’—was, evidently, the institutionally-imagined forte of the *manzanera*.

If the *acta de compromiso* is an attempt to outsource the work of patient compliance to the tubercular household, so to speak, the Manzanera program might be seen, in this respect, as an attempt to outsource the sociosemiotic work of the *acta de compromiso* (the work it ideally aims to achieve, even as it fails) to the neighborhood community itself, the “community” in which the tubercular household is imagined to dwell.

As another health official explained to me—the same departmental director, in fact, quoted in chapter five that despaired so much over the “impossibilities” of implementing DOTS in El Alto, the one whose professional career hung in the balance precisely on such matters—“reaching out to” or “arriving at the patient” requires, first of all, mobilizing the participation of the broader community. Tying the family knot, it turns out, rests upon activating the community knot:

The community has to be involved in the control of patients that have tuberculosis. There is no other alternative. If the community doesn’t understand how dangerous it could be for a patient to be left without treatment, then tuberculosis, logically, will continue to

increase. But indeed if the community understands how important it is to control the patient, then with certainty [the patient] is going to continue with DOTS.

For the director, this owed to a special property of the *alteño* community, namely, its roots in communitarian values and indigenous forms of sociopolitical organization, one that local TB control units could, and should, he thought, learn from, if not outright co-opt:

Look, the community authorities always operate in accordance with the community in which they live, with the generality of the population. So they [authorities] always comply with their mandate [...] The *dirigentes* are nothing more than the spokespersons [of the community]. So if you reach the community through the *dirigentes*, they'll learn, and then you'll achieve the solidity of things [...] Because if the community in its totality has knowledge of what tuberculosis is [...] they are going to recruit. If someone is coughing, they are going to say, "Look, it's possible you have tuberculosis. You have to go to the health center."

And if a patient refuses to be treated for tuberculosis, it would become the business of the local community and its *dirigentes*, as much as the neighborhood CS and Bolivia's TB control network more generally.

There is, no doubt, in official health discourse like this, a particular idealization, if not romanticization, of the *alteño* "community," of its organizational capacities and constitutive normativities, one that resonates powerfully with the discourse of popular social movements in El Alto, most especially in the wake of the events of October 2003. As Leslie Gill (2000) has pointed out in her work in El Alto, the local construct of the *comunidad organizada*, the "organized community," based in categories of neoliberal governance that construe periurban neighborhoods as spatially-delimited "communities" of ethnolinguistic homogeneity that can be activated for various sociopolitical and public health purposes, is highly problematic from an analytic perspective. But from the perspective of local discourse, the concept of the organized community is nevertheless powerful, forming a rhetorical bridge between state institutions,

NGOs, and development projects, and local social movements, neighborhood associations, and neighbors themselves. In fact, as we shall see, it is precisely the discourse of “local community”—its mobilization and participation in certain local and national sociopolitical and public health projects—that invests “new social actors” like the community-based epidemiological vigilantes at the center of this chapter with such local social salience.

But more broadly, in all this discussion of social control, community participation, and the tubercular household, from the failures imputed to the *acta de compromiso* to the hopes invested in groups like the *manzaneras*, we see how much institutional stock is placed in the possibilities of cultivating a special form of community-based communication that might be able to speak across the local social boundaries that define the TB control network at its outermost edges—one that might be able to overcome these boundaries by *commensurating* the differences that lie on either side of them.

This chapter is about the special forms of communication that, in El Alto, are increasingly called upon to perform this work of social commensuration. With this, then, we return in this final chapter to where we began in introductory chapter: *pescando pacientes*, “fishing for patients,” out there in the periurban neighborhood, beyond the walls of the neighborhood CS and beyond the reach of the public diagnostics lab—in short, *outside* the TB control network altogether. This is the space where patients’ maps and addresses so often fail to pinpoint real people in real places, where the career timetables of TB treatments fail to make career patients and anti-tubercular drug therapies fail to routinely grasp tubercular bodies, where medico-legal designations fail to fully constitute medico-legal subjects, fail to create reliable TB patienthoods.

This is the space where, as Sandra, the nursing student from the introduction, so eloquently put it, “information doesn’t knock on doors”: where the facts of state-sponsored TB control fail to faithfully travel, no matter how truthful, how efficacious, foundering in their bid to find their targets as they struggle to traverse social boundaries of all kinds.

But we return to this complex social terrain not to follow nursing students and CS staff, but to follow local neighborhood actors like the *manzanas*, to see, in some sense, how they fare in the local fishing expeditions to which they are recruited and for which they are capacitated (to invoke, for the last time, the local pescicultural metaphor). This first part of this chapter looks at the institutional recruitment and implicit ideological construction of local women as “epidemiological vigilantes” in El Alto’s *Manzanera de Salud* program. As I argue, the *manzanera*, as a cultural figure, is constituted foremost around a set of ethnolocal and ethnolinguistic emblematicities that, in the minds of municipal health officials at least, are especially suited to performing the boundary-work of social commensuration they perceive as so necessary “out there,” on the boundaries of the TB control network.

In the second part of the chapter, then, I turn to a detailed analysis of a situated interaction between a neighborhood *manzanera* and the wife of a problematic TB patient (Don Sebastián, from above) that took place in mid-2004. As the analysis shows, in practice, the work of social commensuration performed by the *manzanas* turns on their specific communicative capacities to engage in a highly-stylized and locally-important genre of discourse called *comadreando*, ‘co-mothering’ speech. As I argue, the communicative work that is pragmatically achieved in and through *comadreando* can be seen as a much more implicit, dynamic figuration of the *acta de compromiso*, in effect, aimed at constituting—if through different means—the

forms of ethico-moral obligations that link the CS to the patient, the patient to the household, and the household to the state—i.e., to tying TB treatments to the family knot, but through the commensurative work of the community knot.

*Epidemiological Vigilantes  
and Ethnic Emblematicities*

Created by the Alcaldía of El Alto in 2001, the *Manzeneras de Salud* was originally conceived as a “demand generating strategy aimed at improving and reinforcing the linkages between the community and health services.” As the program’s guidebook further explains:

Despite having a good infrastructural and equipment network, the population [of El Alto] does not perceive the totality of its health necessities and as such does not take advantage of health services [...] The Manzeneras are female leaders of a neighborhood block (*manzano*), democratically elected and capacitated to diffuse knowledge door-to-door of the services offered by the public health system. (Torrejón 2001:i)

The public underutilization (*subutilización*) of local health services is perceived as a major impediment to improving public health in El Alto—a city, as we’ve seen, with some of the worst health indicators in Bolivia, in the Americas, and in the world. Municipal health officials are, accordingly, under enormous pressures to boost local health coverages (*cobertura*), an institutional demand that falls squarely on the backs of healthworkers at the level of the neighborhood CS. The institutional objective of the *Manzanera* program, from this perspective, is to aid in the task of boosting neighborhood health coverages by recruiting local women, most mothers and almost all without formal training in public health or medicine, to act as local intermediaries between their respective communities and the regional network of hospitals, laboratories, and primary care centers (Fig. 65). The idea is that, as representatives of the local community, as mothers and neighbors rather than state agents and municipal employees, the





Figure 66

*Manzanera* emblematics delimiting neighborhood blocks

strategy” aimed at reducing mother-infant morbimortality through “human development,” “community empowerment,” and women’s “capacity-building.” In this respect, it is important to see that the women who volunteer as *manzaneras* are themselves viewed by the program as “sites” of human development, capacity-building, and community empowerment, outside of any work they perform as “community-based epidemiological vigilantes”—their official title—in their respective neighborhoods. In 2004, there were some 2,500 women listed as *manzaneras*, a number that the municipality intended to increase to 6,000 as part of the mayor’s campaign platform of “citizen security.” And as the mayoral campaign heated up, one could quite literally watch the program grow in its symbolic aspects, block by block, as highly visible apples with numerical codes began to appear spray-painted on walls throughout El Alto’s neighborhoods (Fig. 66). Each apple designated a *manzano*, and presumably the presence of a neighborhood *manzanera*.



By the time I crossed paths with the *manzaneras*, in early-2004, their domain of application had been expanded to include other health services covered under SUMI, including, of course, TB control. At the weekly *manzanera* meetings I attended throughout the year (some of which I lead in my capacity as a DOTS-C promoter), *manzaneras* were trained in basic biomedical and epidemiological concepts and practices, ranging from breast-feeding and infant care, to vaccinations and issues of personal hygiene like the use of a tooth-brush, to learning to recognize the signs of pulmonary tuberculosis and explain the basic etiology and treatment of the disease. They were given notebooks and taught how to make maps of their neighborhood blocks, and asked to enplot pregnant neighbors, young mothers, and potential and diagnosed TB patients into them. Each *manzanera* was outfitted with a booklet of tickets, or *fichas*, to distribute among neighbors, each ticket redeemable for a free consultation at the neighborhood CS. When a neighborhood CS's coverages fell below programmed levels, in basic vaccinations, in TB case-detection, and other policy-relevant areas, the *manzaneras* were mobilized to participate in local health fairs and marches and mount door-to-door campaigns. When a TB patient passed from the first "initial" phase of directly-observed therapy to the second "continuative" phase, now entrusted to retrieve their medication from the CS on a weekly basis and consume it at home, *manzaneras* were encouraged to do the work of *seguimiento de pacientes*, patient monitoring, periodically checking-up on them in their homesteads. When a TB patient at the neighborhood CS was viewed as at risk for "abandoning" treatment, or when one had in fact "abandoned" treatment, CS staff encouraged the *manzanera* on the neighbor's block to pay the patient a home visit, or *visita domiciliaria*, then report back to the CS. The maps they made and the information they collected about patients and neighbors was used to create a "community diagnostic" of



Figure 67

Map pinpointing tubercular households at the neighborhood CS

health and disease in the neighborhood, rendering the neighborhood more legible to the gaze of the local CS. In the special case of TB patients, the *manzanas* helped to fill in the significant gaps in local knowledge, for instance, by aiding CS staff in quite literally pinpointing the locations of TB patients on the neighborhood maps found in the *sala de DOTS* (Fig. 67).

Despite the program’s self-representation, few, if any, of the women recruited to the *Manzanera* program are in practice “democratically-elected” by their respective neighborhood associations, El Alto’s powerful *juntas vecinales*. In fact, in my experience, most neighborhood *juntas* tend to view the *manzanas* with extreme skepticism, seeing them more as political instruments of the mayor’s office than as local assets to the neighborhood—a not unfounded skepticism, as the events described above in scene 6 suggest. Recruitment, rather, tends to take place through other means, with little to do with the neighborhood *juntas*. In one neighborhood, for instance, the majority of *manzanas* were vendors at the neighborhood *mercado*; in another

neighborhood, *manzaneras* were recruited from a local literacy program; in still another neighborhood, many of the women that volunteered as *manzaneras* had been involved with the *clube de madres*, or ‘mothers clubs’, that formed the core of the rampant political clientelism characteristic of the early-years of Bolivia’s “transition” to democracy. Unlike the *clube de madres*, however, and more befitting of new neoliberal ethic of “popular participation” in state functions, participation in the *Manzaneras* is conceived as purely voluntary, as a form neighborly “sacrifice.”

The exchanges that transpire between the program and its volunteers take the form of *capacitaciones*, ‘training-sessions’, and symbolic *distinguiamientos*, ‘distinguishments’, namely, certificates of recognition along with emblematic sweaters and *sombreros* and fabric briefcases (*maletines*) packed with a ballpoint pen or two and a few sheets of paper—in short, the kind of stuff one receives at a workshop (*taller*), and precisely for this reason, the kind of stuff that, in El Alto, bears the marks of education, learning, and a career: of *profesionalismo*—which, as it turns out, is the explanation many women give for their desire to join the *manzaneras*, “to distinguish” themselves, *para distinguirme*, or, as one women explained, “to make myself more professional,” *pa’ hacerme más profesional*. It is not uncommon, for instance, for periurban Bolivians to proudly accumulate a folder full of *certificados de capacitaciones*, of certificates of capacitations they’ve received, almost like a portfolio. And in fact, one of the main complaints of the *Manzanera*’s program director was that women show up to the weekly meetings long enough to get their certificate and their sweater—then never come back.

The irony here is that, in practice, the neighborhood women that volunteer as *manzaneras* are recruited more specifically—one might even say strategically—from among the ranks of



Figure 68. *Apht'api* at weekly *manzanera* meeting

'humble' women that in their everyday lives maximally embody the signs of ethnolocal and ethnolinguistic difference in the periurban order of cultural recognition; that is, women who embody anything but the *profesionalismo* of Bolivia's *criollo* elites. The *manzaneras* I met were almost exclusively adult women with no formal education, many functionally illiterate, and all easily identifiable by their distinctive dress and language-use as *cholas*, or 'urban Indians'. Like most *alteños*, almost all were first- or second-generation rural migrants or *relocalizados*, who maintained close ties to their *comunidades de origen*, to their provincial communities and/or mining encampments. The weekly *manzanera* meetings themselves often took the form of *apht'apis*, an Aymara ritual of co-commensality aimed at forging community bonds, often took place outdoors, rarely involved chairs and tables, and the sharing of *coca* leaf and local gossip was a staple of such meetings (Fig. 68). The gifts of sweaters and *sombreros* extended to the volunteers, along with these kinds of ritual figurations of the meetings themselves, reveal the implicit principles that define the program's recruitment strategies. In this respect, the

*Manzanera* program partakes in a broader communicative ideology shared by both neoliberal and neopopulist projects in Bolivia, one that problematizes the lack of local *confianza* and *calidez* in institutions as matters of *cultura* and *idioma*, of local cultural and sociolinguistic difference, and finds its solution in and through the mobilization of a highly stereotyped, ethnically-emblematic womanhood: the *chola*.

In his work on populist politics in periurban Bolivia, Rob Albro (2000) has called attention to the significant semiotic work of cultural mediation that *chola* women and, more importantly, their image, mobilized in ritual display and symbolic exchange, play in legitimating and enacting collective sociopolitical and socioeconomic action. The Bolivian *chola*, he writes, “is understood to be both a uniquely effective intermediary—bringing together the intimate and the public, rural and urban, or *indio* and *mestizo*—as well as a frequent buffer, defending largely powerless indigenous people from the abuses of the *criollo* patron” (ibid.:32). As cultural brokers between rural and urban economies, between peasant and capitalist modes of production, between formal and informal spheres of exchange, across the highly-varied socioeconomic relations that constitute and sustain the typical Bolivian household, the figure of the *chola*, “more than any other social category [...] has been thought to connect up the different parts of mixed Andean economies.” In populist politics and the highly intertwined politics of international aid and economic development, too, the figure of the Bolivian *chola* has proven indispensable. As Albro’s research outside the city of Cochabamba shows, populist politics in the neoliberal era has increasingly taken the form of “male leaders publicly ‘delivering’ development aid and domestic goods to *chol*as, who are treated as the traditional representatives of the household” (ibid.:37). In short, as emblems of local authenticity and idealized rural values recreated in the city, the figure

of the *chola* increasingly plays a pivotal symbolic role in legitimating the claims on political and economic power made by populist politicians and neighborhood *dirigentes*, almost invariably men. In El Alto, it is often said that any aspiring *político* worthy of representing “the bases,” *los bases*, must have a *chola* by his side. Authenticity, in this ethnicizing discourse, is here worn on the sleeves of a women.

The *manzanera*, in this respect, as a neighborhood “epidemiological vigilante” who might reconcile or commensurate the perceived distance between the periurban community and state-sponsored health services, seems to be positioned precisely at this broader intersection of symbolic mediation. As one head nurse at a neighborhood CS lamented to me, “The *Manzaneras* were created, more than anything, at least as I see it, with a political end here in El Alto; we have to say it.” She shook her head, frustrated, and continued: “What happens when the Alcaldía inaugurates a public work? Who goes? ALL the *manzaneras* of El Alto go, isn’t it true?” The participation of the *manzaneras* in events like the mayor’s inauguration of his new citizen security program would seem to confirm this analysis. And of course, this state of things—the symbolic uses of the figure of the *chola*—is not lost on the *manzaneras* themselves, though, perhaps, in quite a different way. As one senior-most *manzanera* once joked to me, “*they* used to hand out dried milk to the mother’s in women’s association,” that is, back in the days of a more frank political clientelism, “but now all they want is *our* breast milk,” milk from use-worn nipples that look like *charki*, or beef-jerky, as she put it—a deeply profound way of highlighting the abstract forms of symbolic labor that the *manzaneras* are called upon to perform.

This last point, about the profoundly symbolic sociopolitical uses to which the *manzaneras* of El Alto are put, was driven home to me quite explicitly in mid-2004, when I

learned that another municipal health program, the *Defensores de Salud*, or “health defenders,” a program that recruited community representatives to oversee the implementation of “popular participation” at the local level of the neighborhood CS, was abruptly cancelled. The justification given for the program’s termination was that the funds had been reallocated to the newly-created *jovenes brigadistas*, the “youth brigades” that we encountered in this chapter’s prologue, a core part of the mayor’s citizen security initiative. What struck me as odd here was that, purely from the technical-administrative perspective, the *Defensores de Salud* were a much more successful program than the *Manzaneras de Salud*. Why hadn’t the *Manzaneras* been cancelled instead, I wondered? The answer seemed obvious enough to a key confidant of mine, a woman who had volunteered first as a *manzanera* but then, after growing frustration with the program, quit and enrolled herself as a neighborhood *defensora*. The reason, she told me, was that the *manzaneras* were all women, many mothers, and mostly *de pollera*; the *defensores*, on the other hand, involved men and women, and the women that volunteered were mostly *de vestido*. The key distinction here, between women who are *de pollera* and women who are *de vestido*, a local cultural distinction familiar to any Bolivianist, was evidently reason enough, at least for my confidant, for the mayor to justify retaining—and indeed expanding—the *manzanera* program, regardless of its successes or failures, at the expense of the *defensores*.

### *De pollera*

It is not merely, then, that the *manzaneras* are women and mothers. Crucially, they are recruited almost exclusively from among *señoras de pollera*, a local category of ethnically-marked womanhood which encompasses, somewhat schematically, urban Aymara- and Quechua-

speaking married women who uphold traditional norms of conduct, and especially, norms of vestment, namely, wearing the *pollera*, the long, “gathered skirts” so often associated with indigenous women of the Andes. The important distinction here, as we’ve seen, is between the *señora de pollera* and another category of ethnically-marked womanhood, the *señora de vestido*, a married woman of presumed indigenous origins who eschews the *pollera* and chooses Western-style dress instead. Importantly, this distinction—between *de pollera* and *de vestido*—indexes a realm of value-contrasts between kin- and community-oriented social solidarity, on the one hand, and, on the other, more hierarchical forms of sociality, historically those associated with the nation-state and the professions.

Interestingly, the emblematic values of the *pollera* have undergone a sea-change over the last twenty years, following the transition to democracy and the turn to neoliberal—and increasingly, neopopulist—forms of political mobilization, to become a powerful symbol for mobilizing the rank-and-file in Bolivia’s popular neighborhoods (*Salazar de la Torre 1999*). As the work of Albro mentioned above points out, it is incumbent upon any populist politician worth his salt to be publicly accompanied by a plump *señora de pollera*, his wife presumably, as a mode of making crystal clear his commitments to this realm of kin- and community-oriented social solidarities. And not incidentally, this parallels a broader socioeconomic transformation in which young urban Indian women—*cholitas*—have become a key new market niche for mass produced commodities (Fig. 69). Generally, then, it is in this regime of value-transformations in dress that the *manzanera* becomes a recognizable instance in the broader national imagination of the celebrated *señora de pollera*, she who embodies the “humility” and “authenticity” of the Bolivian *pueblo*.





**Figure 69**

***Cholita* commodity fetishism**

*Aymaracized-Spanish*

While the implicit ability of these women to visually occupy the role of the *señora de pollera* is crucial to their recruitment as *manzaneras*, it is, arguably, more particularly their adeptness at manipulating local language that informs their capacities to effectively occupy the role of neighborhood epidemiological vigilantes. More generally, language, or communicative form, is a primary vehicle through which ongoing social differentiation is both grasped and enacted in periurban Bolivia. Like variations in dress, local ethnolinguistic variation has been caught up in processes of identity formation that, increasingly, intersect with the new institutions of the state. Official program discourse notwithstanding, the important thing here is not that *manzaneras* are speakers of Aymara or Quechua: after all, TB control is a sphere of state-sponsored institutionality in which Spanish, the national language, predominates as the communicative norm. Rather, what the *manzaneras* excel at—what makes them so useful from the perspective of performing metrological work—is the ease with which they are imagined to be

able to shift between more standardized forms of Spanish and forms that are locally viewed as “Aymaracized.” In this respect, their institutional role as neighborhood brokers of biomedical information is enacted not so much through translation in the traditional sense—translations across codes, e.g., rendering Spanish texts into Aymara—but through the kinds of pragmatic translation or “transduction” we have been focusing on throughout this dissertation: the translation of discourses across regimes of difference and value. In this case, the relevant translation is the movement of texts across institutional boundaries, “out there” into the heteroglossic social terrain. In particular, the women recruited to be *manzaneras* are viewed as adepts in rendering bureaucratic and technoscientific registers of talk into the ‘humble’ and ‘authentic’ modes of speaking viewed as more likely to affectively resonate with their neighbors.

‘Aymaracized’ Spanish is best understood as a repertoire of sociolectal variation that when used in discursive interaction indexes a field of normativity that might be called ‘Aymaraness’, a moral world of pastoral or provincial rural value recreated in the city. For speakers, ‘Aymaraness’ becomes a way of reflexively modeling the pragmatic effects of this variation-in-usage, attributing special moral value to Spanish utterances that are construed by speakers as bearing conventionalized likeness to Aymara utterances. In fact, it is possible to construct a continuum of local linguistic variation along which communicative forms can be plotted as more or less “Aymara.” At one end of the continuum is the local standard, sometimes called “La Paz Spanish” or “Andean Spanish” by scholars (*LaPrade 1976; Mendoza 1991; Stratford 1989*), but grasped by most of my informants as *lo correcto*, “the correct form,” owing to its association with public schooling and other state institutions. At the other end of the continuum, is, of course, the Aymara language, still spoken by most neighbors in El Alto, mostly

in their homes and other spaces of privacy. In between, however, are two kinds of “mixed” forms: an ‘Hispanicized’ Aymara, *aymara hispanizado*, and an ‘Aymaracized’-Spanish, the relevant ethnolinguistic emblematic speech form here.

The metadiscursive label ‘Aymaracized’-Spanish, or *castellano aymarizado*, is not the usual way that neighbors refer to these speech forms. More often they say *el habla del pueblo*, ‘the people’s speech’, *el idioma popular*, ‘popular idiom’, or simply *nuestro habla*, ‘our speech’, shoring up both the social domain to which the forms get mapped (“our language”) and the kinds of social consciousness into which they get mapped (the popular, the *pueblo*). A lesser used by my consultants, though much more telling local ethnonym exists: *Castimillano*, formed by iconically-inserting the Aymara term for ‘servant girl’ *imilla*, into *Castellano*, ‘Castillian’ (<*Cast[imilla]no*)—an iconic construction that in effect carries with it the entire realm of social history and value that inform current and past understanding ‘Aymaracized’-Spanish. In this latter metapragmatic construal, ‘Aymaracized’-Spanish is the language spoken by domestic servants, who native Aymara is perceived as “interfering” with the acquisition of Spanish—even across generations.

Table 3 (below) summarizes some of the local understandings and language ideologies that distinguish and contrast ‘Aymaracized’-Spanish utterances from utterances in the local standard. I have drafted the table from the perspective of periurban Bolivians; more precisely, from the way that linguistic form is used to differentiate ‘in’-group and ‘out’-group memberships. (Were one to do the same but from the perspective *criollo* elites, a quite different picture would emerge—but that is not our “perspective” here.) Of particular importance for this chapter, are language ideologies that construe sign forms encoded in ‘Aymaracized’-Spanish as

Aymaracized'-Spanish (as 'in'-group)	'Correct' Spanish (as 'out'-group)
<i>castellano aymarizado</i> <i>castimillano</i>	<i>lo correcto</i>
<i>el habla del pueblo</i> , 'the people's speech' <i>el idioma popular</i> , 'popular idiom' <i>nuestro idioma</i> , 'our idiom'	<i>lenguaje culto</i> , 'elite language'
<i>directo</i> , 'frank' <i>sincero</i> , 'sincere' <i>espontaneo</i> , 'spontaneous' <i>íntimo</i> , 'intimate' <i>cálido</i> , 'warm' <i>dulce</i> , 'sweet'	<i> fingido</i> , 'feigned'; <i>adornado</i> , 'adorned'; <i>ilustrado</i> , 'illustrious' <i>rebuscado</i> , 'thought-through', 'deliberate' <i>profesional</i> , 'professional' <i>frio</i> , 'cold'
<i>con cariño</i> , 'from the heart' <i>humilde</i> , 'humble'	<i>con categoría</i> , 'from the head' <i>orgullosa</i> , 'prideful'; <i>refinado</i> , 'refined'
"person who shows their origins" "person who speaks what they are"	"persons who tries to hide their origins" "person who forgets who they are"
<i>de arriba</i> , 'from above' (El Alto, the <i>laderas</i> of La Paz)	<i>de abajo</i> , 'from below' (from the city of La Paz)

**Table 3. Perspectival language ideologies associated with 'Aymaracized'-Spanish**

speech that emerges “spontaneously” and “directly” from the deepest spaces of interiority, from the heart, in contrast to “round-about” or deliberate speech that makes a detour through the head, where it gets dressed up, or addressed, in and to social categories aimed to impress. In terms of performativity, then, the use of ‘Aymaracized’ forms puts into play a social persona that bespeaks “what one is,” that displays deference toward one’s own “humble origins,” and as such the humble origins of one’s interlocutor, enacting precisely the social boundaries of an ‘in’-vs-‘out’ group.

It is precisely this last aspect—that of a language presumed to emerge spontaneously from the heart in almost mimetic discourse, and reinforced cross-modally by means of the *pollera*—that maximally construes the women that are recruited as *manzaneras* as especially effective agents for commensurating social differences “out there” at the edges of Bolivia’s TB



**Figure 70**

**Manzanera Poster: “Open your door to the Manzaneras today!”**

control network (at least as program administrators imagine it). As one motto of the *manzanera* program exhorts: “Open your doors to the manzaneras today!” (Fig. 70). In this way, the communicative virtuosity of these women is institutionally conceptualized as doing double discursive work: on the one hand, and from the perspective of the TB patient, indexing local “Aymara” forms of voluntarism and community solidarity; while on the other hand, and from the perspective of the state, serving as an icon of Bolivian multiculturalism—in effect, mapping the later into the former, to mobilize the “organized community” to the institutional task.

*El Alto, 2004: The Home Visit (Visita Domiciliaria)*

In mid-2004, I set out with Doña Exalia, a neighborhood *manzanera*, in search of a TB patient that had recently been transferred to the neighborhood CS to complete the remaining seven

months of his treatment. The patient was Don Sebastián, the man introduced at the beginning of this chapter: the truck driver who made frequent, extended trips to Santa Cruz and Lima, Peru, and who, owing to his determination to continue working, despite his illness and despite the norms of directly-observed therapy, had been allowed to self-medicate while traveling on condition that he sign an *acta de compromiso*, committing himself “to take the medications everyday, as indicated.” There, I mentioned the concern of CS staff that Don Sebastián might not, in the end, fulfill his commitment—might not adhere to the timetables of DOTS, *en absentia*. This concern, I said, turned out to be not unfounded: a month or so after signing the pledge, after retrieving his first round of anti-tubercular drugs, and presumably, after returning from his trip to El Alto, Don Sebastián failed to return to the CS as promised, to check-in and retrieve sufficient drugs for his next trip. In effect, Don Sebastián was on his way to “abandoning” treatment in the terms of the CS.

In fact, Doña Exalia and I had already visited Don Sebastián several months before, in his hospital bed at the *Caja Petrolera*, a public-private health provider, located in the center of La Paz. When Don Sebastián was first diagnosed with an advanced case of pharyngeal tuberculosis—TB of the throat—he was fortunate to receive a month’s paid leave from the construction company for whom he drove trucks, and sufficient medical compensation to cover inpatient care at the *Caja*. When Doña Exalia and I visited him at the *Caja*, we found a frightfully “wasted” 58-year old man of 36 kilos (just under 80 lbs), with a thick shock of wiry gray hair and lively black eyes, brought out by the atrophied temples and protruding cheek bones characteristic of an advanced tubercular infection. At the time, Don Sebastián’s pharynx was still swollen from the infection, requiring an oxygen tube in his nose. Despite this, however, he exuded a frenetic

energy as he scurried around his hospital bed, his tube in tow. Doña Exalia and I—me in my capacity as a DOTS-C voluntary, her as a neighborhood *manzanera*—had been sent by the CS to check-up on Don Sebastián, to conduct an initial interview before his transfer to the CS; mostly, to explain to him how his treatments would work when he was transferred to the neighborhood CS, enrolled in the local DOTS program.

Don Sebastián had somehow been forewarned of our visit, and was genuinely happy for it. He wanted to tell us about his disease. As we found out, he had some personal experience with it: his father, a miner, died of TB when he was a child, as did his uncle, also in the mines; he had recently learned that his cousin, who was currently living with his family, had also been treated for TB. Still, for all that, he admitted knowing little about what TB was, must less about its treatment. According to Don Sebastián, he contracted TB on a trip to Santa Cruz. It was a difficult trip, requiring lots of heavy lifting on his part, which weakened him to the point that he couldn't complete the task. That's when the disease "grasped" him. "I went to Santa Cruz a healthy man, and returned to El Alto weak (*débil*) and underweight (*bajo peso*)." Evidently, he lost 16 kilos (26 lbs) in the single month of travel. He developed a severe sore throat, so swollen that when he tried to eat, "food came back up through the nose." He consulted a private doctor, who diagnosed him with gripe and prescribed a *jarabe*, a cough syrup of some kind, which had no effect. His wife convinced him to visit the neighborhood CS. There, he recalled, the doctor was so "frightened" (*asustado*) by his state he immediately ordered an examination of his "salivas." According to Don Sebastián, the CS must have "forgotten" about him, since the results took forever. He gave up and he went to the *Caja* instead, using his company's medical insurance. Taking one look at him, the attending doctor ordered his hospitalization. As Don

Sebastián put it, they then took a “chunk of flesh” from his throat and determined that he had tuberculosis. Tubes were stuck down his nose and throat and he was put on an anti-tubercular drug regimen, 11 pills a day. In one month, he regained 6 kilos (13 lbs).

According to Don Sebastián, the doctors at the *Caja* wanted to hold him until his weight was up at least 10 kilos (22 lbs), but he had decided to leave “early”—the next day in fact. Glancing around the room, at the window overlooking La Paz’s impressive Puente de Las Américas, at the private bathroom with indoor plumbing, at the new television set mounted to the wall, at the bedside pitcher of fresh milk, Doña Exalia had wondered why Don Sebastián would want leave such a place early, and in his condition? It wasn’t really his choice, he explained. His employer would only pay one month of hospitalization, the rest was on his “account;” more importantly, they would only cover one month’s paid leave from work, which meant he needed to return to driving trucks for them to maintain his income, and likely, his job. This was the real issue. He had seven children to support. There was no choice. But it would be okay, he would take his treatments at the CS, and be looked after in his own home when he wasn’t traveling.

When we explained how directly-observed therapy worked, Don Sebastián had listened attentively, seeming to not only fully comprehend, but to be fully committed to the 7 remaining months of his treatment course. Almost two months later, this was the man that Doña Exalia, the neighborhood *manzanera* and I, had been sent out to look for, now on the brink of treatment abandonment. We were following in the footsteps here of several rounds of CS staffmembers. When Don Sebastián failed to retrieve his second batch of medications from the CS, a group of nursing students, like Sandra from the introduction, had been sent to pay him a *visita domiciliaria*. He hadn’t been home then, and they’d made plans to return, but could never locate



him. Then one of the CS's head nurses had paid the family a visit. Speaking with his sister, she'd learned that Don Sebastián had indeed returned to work at the construction company, and that he was currently away on travels; when he would return, they didn't know: he never gave them the details. The nurse had made his sister "promise" to warn Don Sebastián of the dangers of not taking his medications when—and if—she spoke with him by telephone, something she noted in her record of the home visit, but when she visited the house again, he had yet to telephone, and no one had made an effort to get in touch with him, through his employer or otherwise.

It was at this point that the head nurse decided to send out the *manzanas*, to try to tie the family not, as it were. I only tagged along on Doña Exalia's *visita domiciliaria*, 'home visit'.

When we arrived at Don Sebastián's house, we were received at the door by one his sons, an adolescent in his late-teens, by the looks of it. The housing compound itself was of the *medias aguas* type, that is, constructed out of adobe bricks with rooms built out from the perimeter walls, carving out a central courtyard, "open to the rains," just as one one finds in the *campo*—and in contrast to the small single-family planned homes, or *viviendas*, that most of the neighborhood's *relocalizados* live in. The interior walls of the compound had, at some point, been covered with stucco and painted, but that time had long since passed, and the stucco had begun to chip, exposing the browns and grays of the dense earthen bricks. The inside courtyard, too, had at some point been tiled or poured with concrete—it was hard to tell: weather, time, and a lack of upkeep had taken their toll here too. As Doña Exalia and I passed through the front gate, a small pack of nappy dogs, *perros comunes*, or 'street dogs', fought their way into the courtyard, darting directly for a half-dozen or so chickens hard at work searching for scratch. We



**Figure 71**

*Medias aguas* construction type in El Alto, shown with *perro común*, ‘common dog’

were quickly ushered into a small, very tidy, receiving room, with two stiff-backed sofas, numerous chairs, and a radio blasting *cumbia*, where we were asked to wait while the young man went to retrieve his mother—his father, Don Sebastián, wasn’t home, as we already knew. While we waited various members of the household made a point of passing through the room, come to behold the spectacle of a *gringo* and a *manzanera*. After some time, Don Sebastián’s wife, Doña Polonia, as we shall call her, finally entered the room, followed by the young man that had greeted us at the door, him carrying two piping hot mugs of cinnamon tea, intended for us. Doña Polonia, a plump, matronly woman *de pollera* took a seat on the sofa caddy-corner to us, and her son turned down the radio.

Conversation begins, appropriately enough, with her husband, his TB. Doña Polonia recalled for us the day he returned from his trip to Santa Cruz. “One day he just appeared and

seemed to be in his LAST throws, he appeared like that, a TOTALLY different class of person, looking like he'd just been dried out." She recalled him being in Santa Cruz for two months, not one, but like Don Sebastián surmised he must have contracted TB there, though for quite different reasons. It wasn't so much the heavy lifting and exhaustion, she responded to my question, "but perhaps also this: My husband used to really drink, DRINK. It must be that there, being drunk, not eating well, he left himself out in the COLD or something. He doesn't really care for his body. He goes about in whatever way (*como sea así camina*), he doesn't button himself up well (*no se abriga bien el*)." His father had the same disease too, she recalled, "they say he coughed the same, spit up blood also." We'd come to talk about treatments, though. Doña Polonia said she wasn't aware her husband had left on his latest trip without taking his medications with him; she only found out when the nurse came by. She didn't know anything about his medications. In any event, she was glad he'd gone on another trip: he was becoming a *renegón*, a 'grumpy old man'.

In what follows we shall take a close look at several transcripts of this interaction. The entire event took place over the span of 45 minutes, with the principal speech participants being Doña Polonia and Doña Exalia, with Doña Polonia's son and I only sometimes breaking in, to ask questions, in my case, to provide details and explanations, in her son's case. Here we shall only look at two short strips of discourse, the most consequential from an interactional perspective. The first part I shall call 'conscientization-at-a-distance', because, as we shall see, it approximates by degrees the kind of *conscientización* one finds in the neighborhood CS, and more particularly, the kind of basic form of instructing or "orienting" about TB that the *manzanas* are themselves subjected to in their "capacitations." As I shall argue, however, this

kind of conscientization-at-a-distance is less crucial to the overall interaction than what follows. The second transcript is an example of what is often called *comadreando*, or ‘co-mothering’ speech, or really, in this case, *comadreando-at-a-distance*, since, after all, this is not a typical event of *comadreando* (we shall take a look at a transcript of full-fledged *comadreando*, in order to see what I mean). It is, rather, a by-degrees figuration of the ‘home-visit’ as an event of *comadreando*, and this is precisely what makes the interaction noteworthy, as a transformative event of a certain kind. I should note that I was actual witness to very few ‘home visits’ made by *manzaneras*, and this was the only one that I was able to make an audio recording of and transcribe. Yet, the question of whether this kind of event structure holds across other ‘home visits’ with *manzaneras* in a statistical sense is perhaps less to the point. The highly-stylized interdiscursive construal of communication into approximations of certain discourse genres points to a layer of normativity, that, whether it is actually mobilized as such in other ‘home-visits’, nevertheless, remains readily available to interactants.

#### *Conscientization-at-a-distance*

Let’s begin with with the transcript. Doña Polonia and Doña Exalia had, for some time, been discussing Don Sebastián’s TB treatment. Doña Polonia had repeatedly made known her lack of knowledge about tuberculosis, the disease, and the treatment of her husband for it more particularly, either at the hospital in La Paz or in the neighborhood CS. Other than her initial encouragements to get his mysterious illness looked after, it had become clear this was a area of activity that Don Sebastián kept to himself. It had also become clear that Don Sebastián spent

most of his time traveling, thus very little time at home, and this may account for Doña Polonia’s apparent lack of knowledge regarding treatment.

Besides this, two other relevant aspects should be noted. First, unlike many women in the neighborhood, and unlike Don Sebastián, Doña Polonia had little or no personal experience in Bolivia’s mining encampments. This is important because periurban Bolivians that have spent time in Bolivia’s *centros mineros*, especially as children, tend to have more knowledge of biomedical constructs of health, disease, and the body, as well as a broader sense of fluency with state institutions, given the wider access to state health and educational institutions afforded in the mines. Doña Polonia, by contrast, grew up on the *altiplano*, in an Aymara-speaking village, and only later migrated to El Alto, placing her in an asymmetrical position with respect to Doña Exalia, a fact which is no doubt heightened, in her own estimation, by my presence. Second, “indirection” in discourse is a highly-valued communicative norm in periurban Bolivia, and this often takes on epistemic and evidential dimensions: speakers only reluctantly inhabit authoritative stances with respect to knowledge, and often, the most locally-authoritative stance can mean consistently indicating the limits of one’s knowledge, often feigning a lack of knowledge. This is especially when knowledge comes in the form of institutional knowledge, as in the case at hand.

**Example 4. Conscientization-at-a-distance in the ‘home visit’**

DPo	Doña Polonia, the wife of Don Sebastián, the TB patient
DEx	Doña Exalia, the neighborhood <i>manzanera de salud</i>
boldface	Speech forms identifiable as Aymaracized-Spanish
all-caps	Vocal stress
dotted box	Relevant shifts in role-alignment
F	Factive particle
CF	Counterfactive particle
CT	Countertensive particle
+TU	2nd person singular, informal

1	<b>DPo</b>	Ahora ya ¿cómo puede seguir? ¿Con las pastillas seguirá bien?	So now how to proceed? With the pills will [it] proceed well?
2	<b>DEx</b>	Si cumpla el tratamiento se va recuperar <b>pero</b> , si no cumple, es- es inútil. Porque los ocho meses tiene que cumplirse.	If [one/he] complies with the treatment [one/he] is going to recover CF, but if [one/he] doesn't comply, it's- it's useless. Because the eight months one/he has to comply/complete.
3		ESO l'hemos dicho nosotros en abajo.	THAT we told him down below [in the hospital].
4	<b>DPo</b>	Ya	Yeah
5	<b>DEx</b>	“Bíen es que tomar si quieres recuperarte, por tus hijos más que todo.”	“It's good to take [the pills] if you [+TU] want to get well [+TU]. For your [+TU] children more than anything.”
6		Porque ya- <b>también</b> ya está cerca come dice el a la jubilación.	Because now- CT he's close, as he says, to retirement.
7	<b>DPo</b>	Sí.	Yes.
8	<b>DEx</b>	<b>Entons</b> ya más despues ya puede dejar de trabajar va estar bien.	Now then afterwards [one/he] can leave for work, it'll be okay.
9		Pero ya, “recuparte y tomar tus pastillas,” l'hemos dicho nosotros constatamente ahí.	But now: “get well [+TU] and take your [+TU] pills,” we told him over and over there.
10	<b>DPo</b>	Ya.	Ya.
11	<b>DEx</b>	Porque si va dejalo, va volver. El bacilo va volver empezar a molestar.	Because if [one/he] leaves it [treatment], it's going to return. The bacillus is going to return to begin to bother [one/him].
12	<b>DPo</b>	¡Uhhh!	Uhhh!
13		¡Ay ojalá <b>ps</b> que cumpla!	Ay, would F that [he] complies!
14		El ya tiene que aver <b>también ps</b> señora ¿no?	He has to then CT F <i>señora</i> , right?

The participant framework at the beginning of the text is asymmetric, focused on the denotational use of language—language as a means of referring and predicating and more generally, conveying information. Neither Doña Polonia nor Doña Exalia is likely to conceive of this interaction as *conscientización*, but rather, as a form of “orientation,” one that moreover, bears the institutional marks of citizen-state communication. Doña Exalia is wearing her green *manzanera* cardigan, with its distinctively embroidered emblems of institutional affiliation, a fact which, despite her *pollera*, construes her as an agent of the state, and perhaps even more

explicitly, as a representative of the mayor's political party. At the same time, the presupposed code of the conversation is Spanish, and this is not simply owing to my presence. Both women are fluent speakers of Aymara, but Aymara here would not be the appropriate code choice: owing to the topic of discourse as much to the circumstances of our visit. Spanish is the language of institutions. Interdiscursively, then, at the start of this strip of text, interaction is framed in a dyad of institutional knowledge transmission, one within which Doña Exalia occupies the communicative role of the animator of the public health message, while Doña Polonia occupies the role of the message's addressee.

This puts Doña Exalia, the neighborhood *manzanera*, in a difficult position. In my experience, most women that volunteer as *manzaneras* are more comfortable occupying the position of the recipient of public health knowledge—as in the weekly *capacitaciones* they receive—than the occupying communicative roles as animators or promoters of public health knowledge. The types of asymmetries it implies is, in many ways, culturally unacceptable according to the norms of periurban neighborliness, most especially between *señoras de pollera*. It is important to note, in this respect, that in the case of the now-defunct *Defensores de Salud* this kind of communicative asymmetry would seem both appropriate and sociohistorically acceptable—almost all of the *defensores*, as I mentioned, being *de vestido* rather than *de pollera*, as in the case of the *manzaneras*. But in the case of the *manzanera*, the presupposed asymmetries in power and knowledge at this communicative node, presents a complex terrain that must be carefully navigated through language itself.

Doña Exalia does a remarkable job navigating this complex terrain. In effect, over the realtime production of the text, she progressively embeds the denotational content of the ongoing

conversation—the “biomedical imperative” of directly-observed therapy—in a “shadow conversation” (Irvine 1996), as a report of the conversation that took place between her, myself, and Don Sebastián, down at the hospital in La Paz: as what “we” told Doña Polonia’s husband. In fact, there is a consistent discursive pattern at work through which she strategically intercalates a nomicallly-calibrated utterance, one that bears no explicit relation to the speech scenario (construing its propositional content as having an almost law-like status), with an utterance that is explicitly calibrated to the speech scenario, as reported speech (lines 2-3, 5-6, 8-9). This creates two laminated speech events within the overall utterance-event, with the interactional implication that Doña Exalia can “orient” Doña Polonia about compliance to directly-observed therapy indirectly and more subtly by recounting to her a previous conversation with her husband, thus mitigating to some extent the uneasy discursive asymmetries of the interaction. Notice, in this respect, that there are no moments in which the injection of information, so to speak, takes place in the “world of narration,” that is, where it can be construed as targeting Doña Polonia.

Interestingly, this pattern of strategic intercalation—of reframing nomic statements as reported speech—intersects with a second textual pattern. In the first strategic intercalation (lines 2-3), distance and deference is maintained in Doña Exalia’s deictic reference to Doña Polonia’s husband, in this case through the Spanish “middle” (*se va recuperar pero*), which is usually translated in English as *one* but may well be translated as *he*. Deference here, interactionally, is paid to Doña Polonia, not Don Sebastián—Don Sebastián is Doña Polonia’s husband after all. In subsequent intercalations, however, deictic reference to Don Sebastián is made more explicit, and, importantly, more familiar. Lines 5-6, e.g., suggest reported speech, but at the same time,



absent explicit indices, leaves the question open. As such, Doña Exalia's use of the 2p informal pronoun *tu* here dangles discursively in its underdetermination somewhere between deictic reference to Don Sebastián as addressee, and a kind of “nomic familiar” common in Spanish, somewhat like the generic-*you* in English (e.g., *you* get elected governor, *you* can't just quit mid-term). In the third strategic intercalation, however, in lines 8-9, there is no mistaking the status of the *tu*: it maps directly to Don Sebastián as addressee of a kind of exhortation (*But now: “get well [+TU] and take your [+TU] pills,” we told him over and over there*).

There is, then, at the intersection of both these textual strategies, the enactment of a trope of familiarization at the level of interactional text, where the transmission of information (‘knowledge’-bearing texts) is progressively located closer and closer to the speech scenario. The overall interactional effect, is to bring into being a secondary framework of participation, one in which the asymmetrical role alignment in which Doña Exalia inhabits a position of authority, as institutional agent, is pragmatically transformed into a more symmetrical role configuration, where Doña Exalia, while not giving up her official status, construes herself as *like* Doña Polonia in other crucial aspects, namely, as a trustworthy neighborly confidant, a member of the same ‘in’-group.

Crucially, the consummation of this new participant framework is revealed in Doña Polonia's subsequent shift, in lines 13-14, to a more vernacular and intimate register of Spanish—the register of Aymaracized-Spanish, discussed above, the identifiable speech forms of which are in boldface. This is a discursive liberty that would not be appropriate here were it not for Doña Exalia's adept use of language.

12 DPo      ¡Ay ojalá **ps** que cumpla!  
*Ay, would F that he complies!*

13                    El ya tiene que aver **tambiém ps** señora ¿no?  
                          *He has to then CT F señora, right?*

In effect, Doña Exalia progressively sets up, through this trope of familiarization, a new participant structure and invites Doña Polonia to inhabit it. To use a term from Bonnie Urciuli's work (1996:90, also see Goffman 1961:65), Doña Exalia ties a kind of "discursive knot" in the here-and-now of communication that pragmatically locks in a new participant framework, and the kinds of local social persona understood to be enactable within it, that can then be presumed upon as the basis for subsequent talk. My argument here is that by inhabiting the trope of familiarization through a shift of register, Doña Polonia in turn facilitates the subsequent reframing of the interaction as an event of *comadreando*, or 'co-mothering speech'—to which we now turn.

*Comadreando-by-degrees*

Before we return to Doña Exalia and Doña Polonia, and their own turn, by degrees, to *comadreando*, let me say a few about this highly-stylized discursive genre. Actually, more than a few words, since *comadreando* is a quite complex genre, one with a very important role in periurban Bolivia, and more broadly, with a wide reach into sociopolitical developments in neopopulist politics in the years following the neoliberal turn. To give a first approximation, *comadreando*, or 'co-mothering' discourse, is a modality of communication that builds off the Hispanic tradition of *compadrazgo*, or 'ritual co-parentage', a highly important form of sociability in periurban Bolivia, as elsewhere in Latin America. In periurban Bolivia, ritual co-parentage is key way of forging and maintaining networks of resource distribution and

sponsorship among households, especially rural and periurban households. As any Andean ethnographer knows from personal experience, one can be drawn into the networks of *compadrazgo* for just about anything: the prototypical form of *compadrazgo*, the sponsorship of a godchild's (*ahijado/a*) baptism, is only the most formalized modality of ritual co-parentage. In my time in Bolivia, I was recruited to be the *compadre* of countless birthday cakes, several *rutuchas* (ritual haircutting ceremonies for young children), four soccer jerseys, and even of a large sheet of plastic wrap for covering school books.

*Comadreando*, however, is not the same thing as *compadrazgo*. Rather, it is a discursive genre that in effect *figuratively construes* its participants—prototypically female neighbors who are not ritually affiliated otherwise—as intimate familiars or “co-mothers” through acts of reciprocal discursive disburdening, or co-commiseration. In fact, as I was told, it would be highly inappropriate, bordering on disrespectful, for women in more formalized relations of *compadrazgo*—especially those bonded through ritual sponsorship of child's baptism—to *comadrear* (or “co-mother talk”) with one another. As a communicative genre, *comadreando* presupposes and entails in its performance a more egalitarian relationality, typically one forged out of common suffering and some form of sociospatial connection, like living on the same block, as neighbors. *Comadreando* takes place in everyday settings, in this respect: two *vecinas* (female neighbors) sitting in front of a corner-store *tienda*, for instance, sharing *coca* with one another. The pragmatic relations that *comadreando* enacts are precisely those of *confianza* in its most culturally-located sense: trust and confidence, mutual respect and affinity, likeness of situation and solidarities, reciprocal recognition of autonomy and interdependence. And as such, *comadreando* plays an important role in both stabilizing and routinizing the pathways of material

and symbolic exchange that reach across and connect households to one another, namely, through the women that manage their everyday affairs. The women with whom one can reliably engage in *comadreando* are those that one could, were it necessary, reliably call upon for certain simple favors in a time of domestic need.

In fact, I first heard about *comadreando*, that is, first heard the term used as an explicit metapragmatic descriptor for a form of talk, at a meeting of *manzanas* in an especially peripheral periurban neighborhood, like the neighborhood in which Don Rigoberto, whom we met in the prologue to chapter four, lives. As would often happen, the representative of the various governmental or non-governmental organization scheduled to provide the *manzana* group with a “capacitation” would fail to show up, leaving the women in the lurch. They didn’t seem to mind, however, even expected it, and instead filled the time chatting with one another—gossiping might be a better term. One day I decided to probe a bit, suggesting they were doing precisely that: gossiping, or *chismeando*. “No *joven Esteban*,” one of the women replied, “we’re not *chismeando*, we’re *comadreando*!” Then they all giggled like schoolgirls. Each time I visited this group of *manzanas*, they would unfailingly ask me if I wanted to *comadrear*, much to their amusement. Later, in other settings, among other groups of *manzanas*, I’d cause quite a stir by asking them if they were *comadreando*. Most would laugh uncontrollably, inquiring afterwards who taught me such terms. Others might not recognize the term when said so baldly, but upon a moment’s reflection, realized they knew precisely what I meant. To foreground this metapragmatic fact, I’d only have to ask if men, likewise, engaged in a parallel form of *compadreando*. “No,” I was told without hesitation, “there was no such thing as *compadreando*!”

The idea was absurd. *Comadreando*, then, was also at the heart of a local construction of vernacular femininity.

*Comadreando* might best be thought of as a genre of gossip.<sup>5</sup> Only, it is a positive modality of gossip, one that stands in structural contrast to a negative modality of gossip called *miramiento*, more or less the spread of vicious gossip based upon invidious comparisons, usually regarding the hidden accumulation of household wealth. In this respect, if *miramiento* is a way of circulating potentially damaging information in a community, thus sowing the seeds of division and factionalism between households, *comadreando*, by contrast, can be seen as a way of restoring or fortifying inter-household solidarities through a secondary circulatory pathway.<sup>6</sup> At the same time, *miramiento* and *comadreando* are in fact not so easily separable. *Comadreando* is, at the same time, a way of further spreading vicious gossip or *miramiento*, only by recasting it in a more complex participant framework, and as such, for maximally shoring up local factional relation of ‘in’- vs. ‘out’-groupness. In some sense, *miramiento* is what *others* do, while *comadreando* is what *we* do, as a countermeasure: *miramiento* is a way of metapragmatically describing another’s *comadreando*, and vice-versa. Embedded within *comadreando*, then, is *miramiento*. This will become clear if we look at a transcript of full-tilt *comadreando*, before we turn to the *comadreando-by-degrees* between Doña Polonia and Doña Exalia.

The following conversation was recorded for me by DR, my research assistant and *comadre* in the more formal sense, with the participation and permission of a neighbor and

---

<sup>5</sup> In fact, the French equivalent of *comadre*, is *commère*, and it refers not to ‘co-mothers’ so much as to “chatty, inquisitive women,” a term especially in currency in the 19th century. The gossip spread by *commères* is, accordingly, called *commérages*. See footnote 45, pg 399, of Peevar and Volokhnonsky’s new translation of Gogol’s *Dead Souls* (Vintage 1996).

<sup>6</sup> Here I am drawing on Brennais’s (1996) description of the gossip genre of talanoa among Indo-Fijians, as well as Silverstein’s (2006b) interpretation of the phenomenon.

confidant of hers, Doña Edi, with whom she frequently engaged in *comadreando*. The situation, in Transcript 5, is roughly this. The husband of Doña Edi had recently left her for another women. They owned a house together, several rooms of which they rented out, and it became unclear who would retain control over the house and its rents. The immediate topic of conversation, however, is Doña Mariya, one of Doña Edi's tenants. It turns out that Doña Mariya is prone to scandals. Before this strip of discourse begins, it comes out that Doña Mariya is given to drunken debaucheries, allows her son to insult neighbors, and often forces her husband to sleep in the street, a set of circumstances that has precipitated a demand on the part of the neighborhood block committee (*comité de calle*) that Doña Edi give Doña Mariya the boot. This means, however, that she will have to return a substantial sum of money to Doña Mariya, akin to a security deposit, except much larger. (In the respective system of rents, the tenant pays only a lump sum up front, often several thousand US dollars, which is then returned in total upon departure, but meanwhile used as capital by the landlord). At the same time another, more legitimate renter is also moving out, to migrate to Brazil, and also needs her deposit back. The problem is that it is unclear who should pay back the deposits, Doña Edi or her estranged husband, given the dispute over property. Meanwhile, Doña Mariya has been spreading vicious gossip about Doña Edi, to the effect that Doña Edi was spreading vicious gossip about her—what precisely, we never find out. Who sides with whom in the broader neighborhood is highly consequential for Doña Edi, as it bears upon how the neighborhood *junta* comes to view her property claim on the house. In short, she needs to diffuse some serious circulating *miramiento*, and, at the same time, start building up her allies—and here's where we pick up the thread of the text:

**Example 5. Full-tilt *comadreando***

DR	My assistant and <i>comadre</i> , who made the recording
DEd	Doña Edi, DR's neighbor and confidant
boldface	Speech forms identifiable as Aymaracized-Spanish
underline	Generic framing devices of <i>comadreando</i>
gray-fill	Common themes of <i>comadreando</i>
angle-brackers	Inspirated speech
all-caps	Vocal stress
dotted box	Relevant shifts in role-alignment
#	Rapid turn of talk
F	Factive particle
AF	Afactive particle
CF	Counterfactive particle
T	Tensive particle
INT	Intensive particle
CT	Countertensive particle
+NPK	Evidentially marked for non-personal knowledge

1	<b>DEd</b> <u>Ahora</u> la otra inquilina tampoco no ha veniw <u>estoy</u> <u>diciendo</u> .	Now: neither did the other renter come, I'm saying.
2	«¿Qué voy hacer?»	«What am I to do?»
3	“Voy estar <b>pero</b> a seis a sie-siete” <b>siempre</b> <u>mea</u> <u>dicho</u> <b>pues</b> su: mamá. “Con mi hija—¡mi hija qué lle:gue!” <u>mea</u> <u>dicho</u> .	“I'm going to be there CF at six at seven INT,” to me her mother said AF. “With my daughter- my daughter shall come!” to me she said.
4	O:- otra que se <b>hayga</b> desmoralizaw.	Something else that makes one demoralized.
5	<u>Ahí</u> no sé que voy hacer Doña- [DR]. <u>¿De dónde voy a sacar?</u>	From there: I don't what to do Doña- [DR]. Where am I going to get (the money)?
6	«¿De dónde voy a sacar?»	«Where am I going to get the money?»
7	<u>¿Qué voy hacer</u> Doña [Edi]?	What am I to do Doña [DEdi]?
8	“¿Pa' qué <b>mea</b> <b>hablaw</b> esa señora?” <u>hey</u> <u>diCHO</u> :	“Why did that women talk about me like that?” I THOUGHT.
10	<b>DR</b> No le hubieras dicho a <b>la</b> [Mariya]#	You shouldn't have said it to [Mariya]#
11	<b>DEd</b> #NO l'hubiera dicho.	#I shouldn't have said it.
12	Ella quería estar <b>ps</b> - sigue- quería esta:r- Ese día cuando:- El día Domingo estabamos tomanDO#	She wanted to be there F- wanted to be there- That day when- The day Sunday we were DRINKING#
14	<b>DR</b> #Uh-hm	#Uh-hm
15	<b>DEd</b> <b>Ahícito</b> <b>había</b> <b>estado</b> <b>sentaw</b> <b>ps</b> Y#	Over there she was[+NPK] seated F AND#
16	<b>DR</b> #Ya#	#Ya#
17	<b>DEd</b> #La [Pasesa] <u>mea</u> <u>dicho</u> “InvItale <b>ps</b> a <b>la</b> [Mariya] tu inquiLIna” <u>dice</u> .	#[Pasesa] to me said, “Invite her F, [Mariya] your RENTER” says.

18	“Doña [Mariya], servÍte” <b>diciendo</b> “un vaso. Yo l’estoy invitando!”	“Doña [Mariya], serve yourself!” saying “a glass [of beer]. I’m inviting [you]!”
19	<u>D’ahí</u> ha traído CUATro botellas ella.	From there: she brought FOUR bottles her.
20 DR	¿La [Mariya]?	[Mariya]?
21 DEd	Uh-hm	Uh-hm
22 DR	¡Ella <b>hayga</b> tenido ganas de tomar <b>ps!</b> #	She must have had desires to drink F!#
23 DEd	#Sí.	#Indeed.
24	“Servite <b>ps</b> esto Doña [Edi]. Anoche <b>me había fareaw ps</b> hasta tres de la maÑAna” <u>mea dicho.</u>	“Serve yourself F this Doña [Edi]. Last night I partied-[+NPK] F until three in the MORNING,” to me she said.
25	“¡Ay! ¡Mi:rá a ve:r!”	“Oh! Look at that!”
26	“Y ahora estoy bien MAL” <u>diciendo mea dicho.</u>	“And now I’m very SICK,” saying to me she said.
27	“¡Aaa!” <b>nomás también.</b>	“Ahhh,” T CT.
28	<u>D’ahí la</u> [Marta] <b>ha corriw pues.</b>	From there: [Marta] passed by AF.
29	“¿Cómo <b>pues</b> con esa mujer te estás sirviendo? Y yo, conmigo <b>pues</b> ven a servirte!” <b>diciendo</b> de frente <u>mea dicho.</u>	“How AF can you be drinking with this woman? And me, with me AF you’re going to serve yourself [drink],” saying in front [of Mariya] to me she said.
30	Sabían <b>enojaw ps</b> y yo no sabía <b>ps.</b>	They were angry F with one another and I didn’t know F.
31 DR	Pero <b>también</b> que se lleVAban=	But CT they PUT UP with one another
32 DEd	E:so!	This!
33	<u>D’ahí he dicho,</u> “Qué- qué YA me voy Doña [Mercedes], contigo.”	From there: I said, “I’m going [drinking] NOW Doña [Mercedes], with you.”
34	“Así lo que ha hablado de vos, cosas que habla Doña [Edi], ahora vos vas a servirte con el BIEN. Servirte <b>ps</b> conmigo. ¿A mi onda no estás hacienDO?”	“Like that for what she spoke about you, things that Doña [Edi] says, now you’re going to serve [drink] yourself GOOD. Serve yourself F with me. What, you’re not CATCHING my drift?”
35	<u>De ahí,</u> “Yo también a ella le estoy invitando, a la [Mariya] también le esTOY invita:ndo, sí:.”	From there, “I’m also inviting her, [Mariya] I AM also inviting, indeed.”
36	No, no ley dicho ya nada <b>ps.</b>	No, I didn’t say anything F.
37	<u>Así es. Así nomás ps.</u>	It’s like that. Just like that T F
38	<u>De ahí</u> estoy diciendo “¿Qué voy hacer?” <b>diciendo.</b> “Sean enojado <b>ps seguraME:Nte</b> ” <u>hey dicho.</u>	From there: I’m thinking, “What am I going to do?” saying. “They’re angry F SURELY,” I thought.



As with many genres of gossip, the referential content of *comadreando* is often oblique, difficult to piece together from review of the denotational text alone. Key knowledge, rather, is often presumed upon as a minimal condition of participation, leading to what Silverstein has observed as the “depleted referentiality of gossip discourse” (2005b:5). In this case, not only are a whole cast of characters introduced into the text without thematization, but a entire realm of doings and saying are presupposed. Most importantly, Doña Edi never needs to make clear what precisely her nemesis Doña Mariya was saying about her: she can presume that DR was herself privy to the circulation of what here is located as *miramiento*. (And note the implicit metapragmatic naming of the genre, in line 5, *mi:ra>miramiento*). Likewise, Doña Edi presupposes that DR already knows about the altercation that occurred “that day Sunday, when we were DRINKING” (line 12), and therefore it only becomes a matter of Doña Edi presenting her account of how things transpired.

*How* Doña Edi more specifically, and strategically, presents her account of how things transpired that Sunday is especially relevant to the genre conventions of *comadreando*. Foremost is the relatively monologic nature of the world of the speech event itself, in contrast to the highly dialogic world narrated by the speech event: a world of other, multiple, intersecting speech events that are only reported, with little evaluation, though the rhetorical figure of constructed dialogue (cf. Goodwin 1990 on “he-said-she-said” genres of gossip). Embedded in Doña Edi’s long turns of talk are a handful of intersecting shadow conversations that she calibrates to the world of the realtime speech event through sometimes rhythmic use of quotatives and other metapragmatic framing devices. Lines 24-27 are especially exemplary:

- 24 DEd “Servite **ps** esto Doña [Edi]. Anoche **me había fareaw ps** hasta tres de la maÑAna” mea dicho.  
 “Serve yourself F this Doña [Edi]. Last night I partied-[+NPK] F until three in the MORNING,” to me she said.
- 25 “¡Ay! ¡Mi:rá a ve:r!”  
 “Oh! Look at that!”
- 26 “Y ahora estoy bien MAL” diciendo mea dicho.  
 “And now I’m very SICK,” saying to me she said.
- 27 “¡Aaa!” nomás también.  
 “Ahhh,” T CT.

Here, Doña Edi presents the speech of Doña Mariya, speech in which she herself is the addressee, through direct discourse using the evidential constructions like *mea dicho* ‘she said to me’, and *diciendo*, ‘saying’—the latter adding a layer of redundancy to the text that marks at once continuation of reported speech and acts as a discourse marker that contributes to the organization and rhythm of the text, especially as Doña Edi is, more or less, its singular animator. The presumed reported speech in lines 25 and 26 is interesting here in that it is, presumably, the reports of Doña Edi’s own speech, or perhaps, her thoughts at the time. On the one hand, they serve to construct dialogue in the represented world; but on the other hand, they are an especially subtle way of creating an evaluative stance or “point of view” not so much in the world of narration, but in the ongoing speech event in which DR is addressee. Doña Edi can create a highly negative image of Doña Mariya, while purporting to be only reporting, not evaluating. Hence: *she* is engaging in *comadreando*, not *miramiento*; *she* is on the defensive here from attacks by a woman of clearly questionable character.

Notice how, in line 24, Doña Edi embeds a non-personal knowledge evidential marker [+NPK] in Doña Mariya speech: a case of the “drunken past” aimed at absolving oneself of

responsibility for drunken behavior—not very becoming of the more proper feminine persona Doña Edi is busy fashioning for herself. At the same time, notice how Doña Edi consistently narrates herself into represented dialogue as the pragmatic object of another’s usually highly emotional and incendiary speech, an objectification of the self as victim paralleled denotationally through the repetitive use of the standard metapragmatic framing device, *mea dicho*, with its construal of the current speaker as dative object or recipient of earlier speech.

The crux of *comadreando* however comes in lines 2, 5-7, and 38, namely, the use of the highly stylized aporetic lament, *¿Qué voy hacer?* ‘What am I to do?’, and its local transformation here, *¿De dónde voy a sacar?* ‘Where am I going to get [the money]?’ This is a *lament* in the sense that it does not set up a pair-part structure of question-answer but rather one in which the addressee is temporarily recruited to other, often non- or paralinguistic roles, like consoling through touch or sigh. It is an *aporetic* lament in that it highlights and foregrounds, as a moment of tentative entextualization, the impossible dilemmas of the world represented in previous discourse. The aporetic laments in lines 2 and 6 bear special mention, as they are, I argue, the very textual signature or *emblem* of *comadreando* as a recognizable genre. In lines 2 and 6 the aporetic laments is uttered through inspired speech—speech on the intake of the breath group (indicated by angled-brackets), rather than the more usual release. Inspired speech is a highly-marked way of speaking, marked at the level of articulation of sound itself. Though highly-stylized, it makes speech appear as if it were emanating from the soul itself, as kind of natural icon of the deepest space of interiority. To borrow Goffman’s terms, these kinds of aporetic laments, articulated through inspired speech, enact a trope of “self-talk,” a radical change in footing or role-alignments in the world of narration in which the speaker fashions

herself as a “momentary cente[r] of sympathetic attention,” by “simultaneously cast[ing] an officially-intended recipient [...] as an overhearer” (Goffman 1978:812). In lines 2 and 6, Doña Edi in effect recasts herself as both speaker and recipient to her own speech, a shift in participant structure, that, in turn recasts DR as a sympathetic bystander to the act, one privy, in this semiotic figuration, to a moment of deep interiority that seems to surpass entextualization itself. Doña Edi construes herself performatively as an intentionally maligned individual, the victim of an impossible situation, alone with her suffering—a third participant framework that continues to operate over the text, through an intradiscursive *renvoi* activated by repetition of non-inspired aporetic laments. In this respect, the inspired aporetic lament can be seen as a kind of ready-made metatextual partial that nicely entextualizes the very pragmatic import of the genre of *comadreando* itself, tying together through the mediation of self-talk the two other discursive realms at play: the more monologic world of narration in which Doña Edi communicates with DR on the one hand, and the highly dialogical narrated world re-presented by Doña Edi through reported speech. In tying them together through a kind of “staged interiority” (ibid.), where the Doña Edi’s internal dilemmas are made textually manifest, *comadreando* performs the everyday rituals of discursive disburdening, opening up the possibility of co-commissioneration between neighborly confidants.

When I first heard this kind of discourse, often accompanied by sobbing and sighing, followed up, of course, by the highly-marked inspired aporetic lament—and even more marked for me, I might add, as inspired speech is not a systematic discourse resource in my own speech community—I quite literally didn’t know what to do. And I heard it a lot: it would occur very often in interviews with TB patients and their loved ones, and not always women (as in the

case of Don Emeterio, in chapter 5's prologue), and within more general interviews I conducted with periurban women in the neighborhood, regarding household *economía*. My first impulse, naturally, was to console the speaker through language and gesture, by reaching out and grabbing a hand, or offering a tissue, or worst yet, waging some advice. I soon realized, watching DR, my *comadre*, that my behavior was, in fact, highly inappropriate (though understandable for a *gringo*). More properly, the onus is on the addressee, as ratified participant or implicitly-targeted bystander, to listen attentively as the monologue plays out, first and foremost respecting the personal autonomy and communicative integrity of one's troubled interlocutor. This does not entail, however, a kind of distanciation in communicative roles and responsibilities for the addressee of such discourse. To the contrary, the addressee has, in effect, been charged with a tremendous burden—the burden of another's disburdening—one that can be only be properly discharged through future action, either in the form of a reciprocated disburdening through an inversion of participant roles with respective participant frameworks still in tact, or, just as often, through the expression of ascension or assimilation to the overall textual stance constructed by the text.

In Example 5, we see that the burden has been shifted interactionally to DR, who has been called upon through the dynamic figuration of the text, and in an almost inescapable way, to demonstrate her continued allegiance to Doña Edi in the growing factional disputes between her and her husband, her and her insubordinate tenant, her and the neighborhood street committee, and all in the space of upcoming dispute mediation regarding her property before the neighborhood association. This is, in short, the precise space in which local cultural notions of inter-household *confianza* are performatively enacted and entailed. We might add here, that not

only is DR recruited to Doña Edi's side in the dispute, but, as female household head, so is her household, in this case, one of the most established and well-respected households in the neighborhood.

Let's return now to where we last left Doña Exalia, the neighborhood *manzanera*, and Doña Polonia, the wife of Don Sebastián, the potentially "noncompliant" TB patient. Doña Exalia has, to recall, in and through a highly-strategic form of "orientation," discursively repositioned herself with respect Doña Polonia, as not just an agent of a state institution, but at the same time, as a possible, potential neighborly confidant, tying a tiny discursive knot, as it were, in the form of locking in a new, more symmetrical participant structure with respect to relations of communicative authority and the circulation of knowledge, here through a kind of trope of familiarization. Doña Exalia has, in turn, tropically inhabited this new discursive space in her interactionally relevant switch into a local register of vernacular Spanish. The use of Aymaracized-Spanish in Example 5 (the boldface items) demonstrates the relevance of this code to *comadreando* more generally. If we take a look back at the table of language ideologies associated with Aymaracized-Spanish in Table 3, we see the degree to which, in many ways, the register is itself prototypically anchored in the realm of female speech and the cultural values of "Aymaranness" associated with the *pollera*. In fact, *comadreando*, as a key communicative genre in periurban Bolivia, might be seen as the authorizing site investing and anchoring the mediation of linguistic form to cultural value, and as such, a key motor for *enregistering* sociolinguistic variation with respect to cultural value and social differentiation (see Agha 2003). That race and ethnicity, historically, are inscribed on the female body more directly, through language and

dress, further solidifies the links between *comadreando* as a key site for forging and reinforcing inter-household relations of *confianza*, and the sets of cultural values and evaluations accorded to enregistered form of linguistic code. With her shift into this world of shared cultural values made available indexically through linguistic code, Doña Polonia now has a space to embark upon a bit of *comadreando*.

The snippet of discourse we will look at below occurs five minutes or so after the discourse represented in Example 6. In the meantime, Doña Polonia has begun to speak about her eldest son, her *hijo mayor*, a 24-year old named Juan Carlos. Doña Exalia and I were already familiar with Juan Carlos, that is, as a topic of discourse. When we spoke with Don Sebastián at his hospital bed in La Paz, he seemed more eager to tell us about Juan Carlos than about his tuberculosis. As Don Sebastián had complained to us, Juan Carlos was the *oveja negra* of the family, the “black sheep.” He refused to study and refused to work, and, more recently, when Don Sebastián was hospitalized, refused to assume his familial duties as temporary head of the household. Don Sebastián had made arrangements to have his eldest son “replace” him at the construction company, holding his position until he was healthy enough to return—a common practice in periurban Bolivia—but Juan Carlos had demurred. According to Don Sebastián, he claimed he wanted to study radio technology instead, to earn money for this family this way. This had pleased Don Sebastián, who gave him money to purchase equipment and enroll in courses, but, as Don Sebastián recounted, after two weeks of coursework, Juan Carlos “abandoned” the course, sold the equipment, and spent the money carousing (*farreando*) with friends. This made Don Sebastián tear up. His son had no respect for him or his family, he told us. He stays out all night and doesn’t have respect enough to enter through the front door, like a

normal person, but instead climbs over the compound walls, clandestine-like. “What’s to be done with a son like this?” Don Sebastián had asked in his own aporetic lament. “He doesn’t even recognize his father!” He was concerned that if he died of “this disease,” his eldest son would neglect his duties to support the family. “What will my family do if I die?”

At the point where we pick up in the interaction, then, Doña Polonia too has been raising similar concerns about her eldest son, who, as she says, “turned out like the black sheep,” unwilling to perform his familial duties as *hijo mayor*, now that his father had become ill. Just before the first utterance of the following transcript, for instance, we learn that Juan Carlos had promised to accompany his father on his next trip, to look after him; but, when the time came for Don Sebastián to leave, Juan Carlos was nowhere to be found. “He went missing.”

#### Example 6. Comadreando-by-degrees in the ‘home-visit’

DPO	Doña Polonia, the wife of Don Sebastián, the TB patient	
DEX	Doña Exalia, the neighborhood <i>manzanera de salud</i>	
boldface	Speech forms identifiable as Aymaracized-Spanish	
underline	Generic framing devices of <i>comadreando</i>	
gray-fill	Common themes of <i>comadreando</i>	
angle-brackets	Inspired speech	
all-caps	Vocal stress	
dotted box	Relevant shifts in role-alignment	
***	Undecipherable text	
F	Factive particle	
AF	Affective particle	
CF	Counterfactive particle	
T	Tensive particle	
INT	Intensive particle	
CT	Countertensive particle	
<b>1 DPO</b>	Y hoy día ha dicho <b>también</b> , “Ay sí, tienes razón, mí papa está renegando de verdad, ahora VOY a recapacitar, voy a trabajar” <b>dice</b> .	And recently he said CT: “Yes indeed, you are right, my father is truly angry, now I’M going to reform, I’m going to work” says.
<b>2</b>	¡DICE!	He SAYS!
<b>3</b>	Después no procura, no procura.	Then he doesn’t follow through, doesn’t follow through.



4	<b>DEx</b>	En el momento debe pensar eso, después sale sin cuento.	In the moment he must think that, then leave without taking it into account.
5	<b>DPo</b>	Se hace olvidar <b>ps</b> , y llega a las tres en la mañana, cuatro en la mañana, a vez al día siguiente.	He makes himself forget F [gets drunk], and returns at three in the morning, four in the morning, sometimes the following day
6		¡Ooh ya! Ya demasiado me hace renegar.	Ooh! It makes me so angry.
7		Ya le ha visto una vez su papá- más antes su papá <b>también</b> - de BORRACHO <b>nomás</b> sabem <b>ps</b> renirles de éstos-	He encountered once his father- before, his father CT- DRUNK T they used to F quarrel together about these-
8		Y ya no hay caso de avisarle. El con todo su cuerpo borracho viene a gritar.	And there's no way way to console him. He, with all his body drunk, comes to shout.
9		<u>Yo le digo</u> , “De sano debes renirles <b>pues</b> . ¿Por qué <b>siempre</b> de borracho le decirles?”	I tell him, “Sober you should quarrel together AF. Why INT speak together drunk?”
10		“De sano no puedo explicarles, no puedo renirle” <b>dice</b> . “SANO no puedo, no tengo ese CARÁCTER” <b>dice</b> . “Siempre de borracho me gusta renir” <u>así me dice</u> .	“Sober I can't explain [things?], I'm unable to quarrel” say. “SOBER I'm unable, I don't have that CHARACTER” says. “Always drunk I like to quarrel,” like that he tells me.
11		<u>¿Qué puedo hacer?</u>	What can I do?
12		No sé, parece que tiene un corazón de tres de cuatro, como el gato.	I don't know, it seems he has a heart for three, for four [in the morning], like a cat.
13	<b>DEx</b>	Hay que tener suerte éste- para los hijos ¿no señora?	One has to have luck with this, with children, right <i>señora</i> ?
14	<b>DPo</b>	Sí <b>pues</b> .	Yes AF.
15		«¿Qué puedo hacer?»	«What can I do?»
16		A veces tengo problemas, yo no puedo aguantar.	Sometimes I have [my own] problems, I can't tolerate it any longer.
17		Mi esposo viola <b>también</b> , un monstruo terrible	My husband rapes [me] CT, a terrible monster.
18		Y a veces yo (***) mi madre padre, se pierde, se pierde, seman- meses	And sometimes (***) my mother father, they're lost, lost, weeks- months.
19		D'ahí a veces mis hijos me gritó todo, el otro me gritó, el otro me gritó	From there: sometimes my children all yell at me, the one shouts at me, the other shouts at me.
20		<u>¿Qué puedo hacer?</u>	What can I do?
21		Soy capaz de irme, dejarles así, irme lejos	I'm of a mind to take off, to leave them like this, to take myself far away.
22	<b>DEx</b>	Hay ratos es bien difícil ser mamá y papá pa' nosotros.	There are time when it's very difficult to be a mother and father for us.

What we see in this transcript is an approximation of *comadreando* by degrees. Or, if it is an event of *comadreando*, it is not a very “deep” one. This would, in fact, be quite impossible. The domain of shared knowledge and neighborhood networks between Doña Polonia and Doña Exalia is not encompassing enough to make possible the presupposability of discursive topics required of full-tilt *comadreando*. Doña Polonia has to explain too much. Nevertheless, all the key generic ingredients of *comadreando* are discernible from the transcript. There is, first of all, a proliferation of the enregistered forms characteristic of Aymaracized-Spanish—postposed pragmatic particles like *ps*, *pues*, *también*, *nomás*, and *siempre*. Present also is the characteristic split between the highly monologic world of the realtime speech event and the dialogically constructed world represented through directly reported speech. The two worlds of speech are, likewise, calibrated through metapragmatic framing devices like *dice*. And, most importantly, there is the generic emblem of the aporetic lament, *¿Qué puedo hacer?*, in this case repeated three times in a broadly rhythmic way (lines 11, 15, and 20). The key moment here, in this respect, then comes in line 15, when Doña Polonia’s aporetic lament is articulated through inspired speech, indexically creating a new participant framework through the trope of self-talk.

Here I want to focus on the what happens after line 15. With Doña Polonia have already put in play the trope of “staged interiority,” where she, in effect, is both sender and recipient of her own messages, carving out for herself a “center of sympathetic attention” which she can occupy with Doña Exalia (and me and her son too) as responsible overhearers—with this already in play, Doña Polonia elaborates a kind of litany of complaint. It turns out her black sheep son is not her only worry. In lines 16-19, we learn about the things can she can “no longer tolerate”: her

husband rapes her; she no longer sees her parents; and her other children shout at her when her “black sheep” son is not. It is important to see here that Doña Polonia is not so much disclosing a closed set of specific problems, as sketching out a broader picture of her troubled home-life, each specific complaint being but an exemplar in an open series that the overhearers of her message are invited to imagine. She could, we are led to believe, elaborate *ad nauseam*—and there is little doubt about that. This moment of ultimate disburdening, then, is followed up, in line 20, by a repetition of the aporetic lament, and, in line 21, by what amounts to a shocking revelation: that Doña Polonia “has a mind to take off, to leave them like this, to take myself far away.”

This is not, I would argue, something that Doña Polonia is in fact contemplating—leaving her family in the lurch. Rather, it is articulated as a special world of hidden, interior desire, of what she *would* like to do, were she the kind of person to do such things. But the point is precisely that Doña Polonia is *not* the kind of person to do such things. She is, to the contrary, mobilizing a semiotic negative or hypothetical figure of herself to maximally foreground the actual self-sacrifices she makes for her family, not as an individual, but as a dedicated mother and female household head adhering to the cultural norms of vernacular femininity in periurban Bolivia.

At the same time, this ultimately bears upon, if in a highly subtle way, the tuberculosis of her husband and the role her household is being recruited to play in managing his treatment. On the one hand, the intra-household strife that Doña Polonia depicts can be seen as way of bringing recognition to the ultimate ethico-moral world of her husband’s illness, if at the same time positioning herself within it. Her husband’s TB is but one household concern in a broader set of concerns that bear equally on Doña Polonia. On the one hand, her litany of complaint can be

seen as a dynamic appeal for recognition of her own good socialization as a mother, one willing to sacrifice despite the seemingly insurmountable challenges of keeping house, including here the care she will unwaveringly heap upon her rapist-*cum*-tubercular husband—or so we are led to believe. At the broadest level of interactional text, Doña Polonia is offering up a recognition of the roles of household control over her husband’s TB treatment the neighborhood CS has in mind for her, but discursively framing it as an act of self-sacrifice, for the family.

The last line in the transcript, line 22, turns out to be the most interesting. Doña Polonia’s litany of complaint and its accompanied aporetic lament, opens up the space of possibility that Doña Exalia, ever the adept communicator, quite literally jumps on, though subtly. In line 22, we see Doña Exalia offer a very dense moment of commiseration with Doña Polonia:

22 DEx        Hay ratos es bién difícil ser mamá y papá pa nosotros  
                  *There are times when it’s very difficult to be a mother and father for us*

Crucially, this is the first explicit use of the 1st person plural inclusive deictic pronoun *nosotros*, ‘us’, and it is a highly productive *us* at that. Here it means not just *us* as in speaker and addressee (which, in fact, would be *nosotras*), but *us* as in “people like us.” In this case, *people like us* that are the kinds of persons likely to engage in such communication, and about such topics, people that have to make these kinds of sacrifices: mothers, members of periurban households, ethnically-Aymara women, poor Bolivians, and so forth—the indexical under-specificity allows for a telescoping out to broader layers of cultural normativity that surround the possibilities of this *we*, formed, for the first time, here in this interaction. The new *we* is, in a sense, the dyadic rejoinder to the last major shift in role-alignments effected throughout the interaction: Doña Polonia’s at the end of the interactional partial I called *conscientization-at-a-distance*.

Importantly, this new *we*-ness is put into play at the precise moment in which Doña Exalia iconically re-incorporates herself into the participant structure through speech, no longer as an overhearer or *witness* to Doña Polonia's suffering, but as a newly ratified recipient. In more full-tilt everyday instances of *comadreando*, this doubly-iconic re-incorporation would be tantamount to an implicit but highly effective—because *affective*—pledge of solidarity between the two women and the households they stand in for and represent: replication of the structures of inter-household trust or *confianza*. In this case, however, I would suggest that the same quality of relationality is achieved, only in a different sense: as a kind of pledge of solidarity, diagrammatically-achieved, between the state, or minimally the neighborhood CS, and the tubercular household, making available—and this is the key—a new commensurability between the two ethical and epistemic worlds they inhabit that can serve to as a space for future communicative events. In terms of the TB control network, the possibility of at least transforming the homestead into a new node of control over the patients has been opened up.

And this, of course, is the real import of the interaction: a step toward “tying the family knot”

### *Conclusion*

In conclusion, then, let me make explicit the role of pragmatic translation here in “commensurating” worlds. The movement of state-sponsored biomedical discourse from clinic to household is, if one trusts local representations, a real collision of social and linguistic worlds, one requiring mediations above and beyond the bureaucratic—above and beyond textual practices like the *acta de compromiso*. By pragmatically reframing biomedical communication in

more locally-effective epistemic and ethical frameworks—into the terms of the tubercular household itself—these ‘home visits’ can be seen as attempts to open up, recognize, stabilize, and routinize new patterns and pathways for the circulation of entitlements and obligations to treatment, namely, by constructing domestic authority as a node in the broader institutional regime of treatment compliance. More generally, this would suggest that, in thinking about such collisions of worlds, we pay attention to the locally-specific ways that translation practices themselves becomes institutionalized at the growth edges of institutionality, and in doing so, become culturally generative sites in their own right

## BIBLIOGRAPHY

- Abercrombie, Thomas. 1998. *Pathways of Memory and Power: Ethnography and History Among an Andean People*. Madison: The University of Wisconsin Press
- Agha, Asif. 2003. The social life of cultural value. *Language & Communication* 23:231-73
- . 2007. *Language and social relations*. Cambridge ; New York: Cambridge University Press. xv, 427 p. pp.
- Ainsworth-Vaughn, Nancy. 1994. Is that a rhetorical question? Ambiguity and power in medical discourse. *Journal of Linguistic Anthropology* 4:194-214
- Ajata Chura, Alfredo , Lazo Aguilar David. 1992. El componente social del programa de tuberculosis. *El Sajama* 22:21-3
- Akrich, Madeleine, Pasveer Bernike. 2004. Embodiment and disembodiment in childbirth narratives. *Body & Society* 10:63-84
- Albó, Xavier. 1992. Bases Étnicas y Sociales para la Participación Aymara en Bolivia: La Fuerza Histórica del Campesinado. In *Ciudades de los Andes: Visión Histórica y Contemporánea*, ed. E K Garcés. Quito: CIUDAD: Centro de Investigaciones
- . 1997. La Paz/Chukiyawu: The Two Faces of a City. In *Migrants, Regional Identities and Latin American Cities*, ed. T A a L R Hirabayashi, pp. 111-48: Society for Latin American Anthropology Publication Series
- Albó, Xavier, Preiswerk Matías. 1991. El Gran Poder: Fiesta del Aimara Urbano. *América Indígena* L1:293-352
- Albro, Robert. 2000. The populist chola: Cultural mediation and the political imagination in Quillacolla, Bolivia. *Journal of Latin American Anthropology* 5:30-88
- Anderson, Benedict. 1983. *Imagined Communities: Reflections on the Origin and Spread of Nationalism*. New York: Verso
- Antelo Soliz, Jack. 1992. Políticas de salud en Bolivia. In *Dialéctica Social de la Política de Salud*, ed. J Torrés Goitia, pp. 58-60. La Paz, Bolivia: UNICEF
- Arguedas, Alcides. 1909[1988]. *Pueblo Enfermo*. La Paz: Librería Editorial "Juventud"

- Arteaga Cabrera, Wálter. 1996. La tuberculosis en la Colonia y en la República 1825-1900. *Archivos Bolivianos de Historia de la Medicina* 2:7-19
- Attaran, Amir, Sachs Jeffrey. 2001. Defining and refining interenational donor support for combating the AIDS pandemic. *Lancet* 357:57-61
- Bailey, Benjamin. 1997. Communication of respect in interethnic service encounters. *Language in Society* 26:327-56
- Baixeras Divar, José Luis. 2002. La adaptación al cambio de la salud en Bolivia. *Revista de Salud Pública Boliviana* 57:77-109
- Bakhtin, M.M. 1981. Discourse in the Novel. In *The Dialogic Imagination*, ed. M Holquist. Austin: University of Texas Press
- Balcázar, Juan Manuel. 1956. *Historia de la Medicina en Bolivia*. La Paz: Ediciones "Juventud"
- Barnes, David S. 1995. *The Making of a Social Disease: Tuberculosis in Nineteenth-Century France*. Berkeley: University of California Press
- Barragán, R., Arze S. 1988. *La Paz, Chuquiago: El Escenario de la Vida de la Ciudad*. La Paz, Bolivia: Alcaldía Municipal de La Paz, Oficialía Mayor de Cultura
- Baumann, Richard, Briggs Charles L. 2000. Language philosophy as language ideology / Richard Baumann and Charles L. Briggs. In *Regimes of Language: Ideologies, Politics, and Identities*, ed. P V Kroskrity. Santa Fe, NM: School of American Research Press
- Bayer, Ronald, Wilkinson David. 1995. Directly observed therapy for tuberculosis: History of an idea. *Lancet* 345:1545
- Berteleer, Johan, Becerra Eufemia. 1994. Implementación de un SILOS y participación social. *Carta Médica de Acción Internacional por la Salud - Bolivia* 8:30-4
- Biehl, João. 2004. The activist state: Global pharmaceuticals, AIDS, and citizenship in Brazil. *Social Text* 80/22:105-32
- Bolivia. 2003. Programa Nacional de Control de la Tuberculosis: Informe General Gestiones 1997 al 2001, Ministerio de Salud y Deportes, La Paz
- Bourdieu, Pierre. 1991. *Language & Symbolic Power*. Cambridge: Harvard University Press
- Bowker, Geoffrey C., Star Susan Leigh. 1999. *Sorting Things Out: Classification and Its Consequences*. Cambridge: MIT Press



- Brennais, Donald. 1996. Grog and gossip in Bhatgoan: Style and substance in Fiji Indian conversation. In *The Matrix of Language: Contemporary Linguistic Anthropology*, ed. D Brennais, and Ronald K.S. Macaulay, pp. 209-33: Westview Press
- Brice Heath, Shirley. 1982. What no bedtime story means: Narrative skills at home and school. *Language in Society* 11:49-76
- Briggs, Charles L., ed. 1996. *Disorderly Discourse: Narrative, Conflict, & Inequality*. New York: Oxford University Press. 248 p. pp.
- . 2003. Why nation-states and journalists can't teach people to be healthy: Power and pragmatic miscalculation in public discourses on health. *Medical Anthropology Quarterly* 17:287-321
- . 2004. Theorizing modernity conspiratorially: Science, scale, and the political economy of public discourse in explanations of a cholera epidemic. *American Ethnologist* 31:164-87
- Briggs, Charles L., Mantini-Briggs Clara. 2003. *Stories in the Time of Cholera: Racial Profiling During a Medical Nightmare*. Berkeley, Calif.: University of California Press. xxvi, 430 p. pp.
- Brown, Hannah. 2004. WHO identifies drug-resistant 'hotspots'. *Lancet* 363:851
- Bruner, Jerome S. 1991. The narrative construction of reality. *Critical Inquiry* 18:1-21
- Buechler, Hans C., Buechler Judith-Maria. 1992. *Manufacturing Against All Odds: Small-Scale Producers in an Andean City*. Boulder, Colorado: Westview Press
- Calderon G., Fernando. 1984. *Urbanización y Etnicidad: El Caso de La Paz*. Cochabamba, Bolivia: Ceres (Centro de Estudios de la Realidad Economica y Social)
- Callon, Michel. 1999. Some elements of a sociology of translation: Domestication of the scallops and the fisherman of St. Brieuc bay. In *The Science Studies Reader*, ed. M Biagioli. New York: Routledge
- Calvo Vera, Alfredo. 1996. La sanidad militar en retaguardia Hospital del Banco Central. *Archivos Bolivianos de Historia de la Medicina* 2:181-91
- Cartwright, Nancy. 1983. *How the Laws of Physics Lie*. New York: Oxford University Press
- Castel, Robert. 1991. From dangerousness to risk. In *The Foucault Effect: Studies in Governmentality*, ed. G Burchell, Colin Gordon, and Peter Miller, pp. 281-98. Chicago: University of Chicago Press
- Chavarría Lizarazu, Simón. 1948. Estudio tuberculoradiológico en una colectividad supuesta sana de Sucre. *Archivos Bolivianos de Medicina* VI:50-67

- Choque Pozo, Néstor. 1966. La tuberculosis como problema de salud pública. *Archivos Bolivianos de Medicina*:43-54
- Clift, Elayne, World Health Organization. Dept. of Reproductive Health and Research. 2001. *Information, education and communication : lessons from the past; perspectives for the future*. Geneva: World Health Organization. 34 p. pp.
- Cohen, Jon. 2006. The new world of global health. *Science* 311
- Colgrove, James. 2002. The McKeown thesis: A historical controversy and its enduring influence. *American Journal of Public Health* 92:725-9
- Conaghan, C., J.M. Malloy, and L.A. Abugattas. 1990. Business and the Boys: The Politics of Neoliberalism in the Central Andes. *Latin American Research Review* 2:3-30
- Conaghan, Catherine, Malloy James M. 1994. *Unsettling Statecraft: Democracy and Neoliberalism in the Central Andes*. Pittsburgh: University of Pittsburgh Press
- Cormejo B., Gastón. 1996. Aspectos históricos durante la Guerra del Chaco, 1932-1935. *Archivos Bolivianos de Historia de la Medicina* 2:169-80
- Costa Ardúz, Rolando. 1996. Balance hemero-bibliográfico de la tuberculosis en Bolivia, 1825-1925. *Archivos Bolivianos de Historia de la Medicina* 2:115-24
- . 2000. Elías Sagárnaga. *Archivos Bolivianos de Historia de la Medicina* 6:113-7
- Crespo R., Alfredo. 1996. ¿Porque [sic] se perdió el territorio del Chaco pero no la guerra? *Archivos Bolivianos de Historia de la Medicina* 2:135-40
- Criales Alcázar, Hernán. 1996. Acción del Instituto Nacional de Tórax en la lucha antituberculosa. *Archivos Bolivianos de Historia de la Medicina* 2:49-55
- Cueto, Marcos. 1989. *Excelencia Científica en la Periferia: Actividades Científicas e Investigación Biomédica en el Perú, 1890-1950*. Lima: Grupo de Análisis para el Desarrollo
- Czaplicki, Alan, Heimer Carol. 2006. Discipline and disease: Directly observed therapy and the panoptic gaze in HIV/AIDS and tuberculosis control [abstract]. In *Paper presented to the Annual Meeting of The Law and Society Association*
- Czaplicki, Stanislaw. 1986. Movilización social para la inmunización universal al año 1990. *Revista de Salud Pública Boliviana*:47-51
- Daniel, T.M. 2000. The origins and precolonial epidemiology of tuberculosis in the Americas: Can we figure them out? *International Journal of Tuberculosis and Lung Disease* 4:395-400

- Deane, James, Parks Will, Stop TB Partnership. Advocacy Communication and Social Mobility Working Group. Subgroup at Country Level., World Health Organization. 2006. *Advocacy, communication and social mobilization to fight TB : a 10-year framework for action*. Geneva: World Health Organization
- Deleuze, Gilles. 1991. Postscript on the societies of control. *October* 59:3-7
- Donzelot, Jacques. 1991. The mobilization of society. In *The Foucault Effect: Studies in Governmentality*, ed. G Burchell, Colin Gordon, and Peter Miller, pp. 169-80. Chicago: University of Chicago Press
- Draus, Paul Joseph. 2004. *Consumed in the City: Observing Tuberculosis at Century's End*. Philadelphia, PA: Temple University Press. xii, 290 p. pp.
- Duffield, Mark R. 2001. *Global Governance and the New Wars: The Merging of Development and Security*. New York  
: Palgrave. x, 293 p. pp.
- Elbe, Stefan. nd. *Risking Lives: AIDS, Security and Three Concepts of Risk*. Brighton: University of Sussex
- Epstein, Steven. 1996. *Impure Science: AIDS, Activism, and the Politics of Knowledge*. Berkeley: University of California Press. xiii, 466 p. pp.
- Escobar, Arturo. 1995. *Encountering Development: The Making and Unmaking of the Third World*. Princeton, N.J.: Princeton University Press
- Ewald, Francois. 1991. Insurance and risk. In *The Foucault Effect: Studies in Governmentality*, ed. G Burchell, Colin Gordon, and Peter Miller, pp. 197-210. Chicago: University of Chicago Press
- Farmer, Paul. 1997. Social scientists and the new tuberculosis. *Social Science & Medicine* 44:347-58
- . 1999. Managerial success, clinical failures. *British Journal of Diseases of the Chest* 46
- Farmer, Paul, Walton David. 2003. The social impact of multi-drug resistant tuberculosis: Haiti and Peru. In *Return of the White Plague: Global Poverty and the 'New' Tuberculosis* ed. M Gandy, A Zumla, pp. 162-77. New York: Verso
- Fassin, Didier. 2007. Humanitarianism as a politics of life. *Public Culture* 19:499-520
- Feo, Oscar. 1997. Apuntes sobre una nueva salud pública. In *Salud: Cuestión de Estado*, ed. J Tórres Goitia, pp. 113-4. La Paz: Artes Gráficas Latina

- Foster, Robert John. 1991. Making national cultures in the global ecumene. *Annual Review of Anthropology* 20:253-60
- Foucault, Michel. 1973. *The birth of the clinic; an archaeology of medical perception*. New York,: Pantheon Books. xix, 215 p. pp.
- . 2004. The crisis of medicine or the crisis of antimedicine? *Foucault Studies* 1:5-19
- Foucault, Michel, Burchell Graham, Gordon Colin, Miller Peter. 1991. *The Foucault effect : studies in governmentality : with two lectures by and an interview with Michel Foucault*. Chicago: University of Chicago Press. x, 307 p. pp.
- Freire, Paulo. 1970. *Pedagogy of the oppressed*. [New York]: Herder and Herder. 186 p. pp.
- Gal, Susan. 2003. Movements of feminism: The circulation of discourse about women. In *Recognition Struggles and Social Movements: Contested Identities, Agency and Power*, ed. B Hobson, pp. 93-. Cambridge: Cambridge University Press
- Galarreta, Hugo. 1992. Las Juntas Vecinales y la participación popular. In *Dialéctica Social de la Política de Salud*, ed. J Torrés Goitia, pp. 113-4. La Paz, Bolivia: UNICEF
- Gamarra Durana, Alfonso. 1998. Influencia del pensar de Jaime Mendoza en los años iniciales del siglo. *Archivos Bolivianos de Historia de la Medicina* 4:115-21
- . 2004. La salud pública en tiempos bélicos de Bolivia. *Archivos Bolivianos de Historia de la Medicina* 10:73-9
- Gandy, Matthew. 2003. Life without germs: Contested episodes in the history of tuberculosis. In *The Return of the White Plague: Global Poverty and The 'New' Tuberculosis*, ed. M Gandy. New York: Verso
- Gandy, Matthew, Zumla Alimuddin. 2003a. Introduction. In *The Return of the White Plague: Global Poverty and the 'New' Tuberculosis*, ed. M Gandy, and Alimuddin Zumla. London: Verso
- , eds. 2003b. *The Return of the White Plague: Global Poverty and the 'New' Tuberculosis*. London: Verso
- Geertz, Clifford. 1973. Deep play: Notes on the Balinese Cock Fight. In *The Interpretation of Cultures*, pp. 412-53. New York: Basic Books
- Gellner, Ernest. 1964. *Thought and Change*. London: Weidenfeld and Nicolson
- Geslin, Philippe, Hertz Ellen. 2005. Public International indigenes. In *Making Things Public: Atmospheres of Democracy*, ed. B Latour, and Peter Weibel, pp. 566-71. Cambridge: MIT Press

- Gill, Lesley. 1997. Relocating Class: Ex-Miners and Neoliberalism in Bolivia. *Critique of Anthropology* 17
- . 2000. *Teetering on the Rim: Global Restructuring, Daily Life, and the Armed Retreat of the Bolivian State*. New York: Columbia University Press
- Goffman, Erving. 1961. *Encounters; two studies in the sociology of interaction*. Indianapolis,: Bobbs-Merrill. 152 p. pp.
- Goffman, Irving. 1978. Response cries. *Language* 54:787-815
- . 1979. Footing. *Semiotica* 25:1-29
- Gogol, Nikolai Vasilevich, Pevear Richard, Volokhonsky Larissa. 1996. *Dead souls*. New York: Pantheon Books. xxiv, 402 p. pp.
- Gómez, Luis A. 2004. *El Alto de Pie: Una Insurrección Aymara en Bolivia*. La Paz: Indymedia Bolivia
- Goodwin, Charles. 1994. Professional Vision. *American Anthropologist* 96:606-33
- Goodwin, Marjorie Harness. 1990. *He-said-she-said : talk as social organization among Black children*. Bloomington: Indiana University Press. x, 371 p. pp.
- Grange, John M., Zumla Alimuddin. 1999. Paradox of the global emergency of tuberculosis. *Lancet*
- Lancet JI - Lancet* 353:996
- Greene, Jeremy A. 2004. An ethnography of nonadherence: Culture, poverty, and tuberculosis in urban Bolivia. *Culture, Medicine and Psychiatry* 28:401-25
- Guaraz Gutiérrez, Mario. 1996. Semblanza de Abelardo Ibañez Benavente: "Un soldado de blanco". *Archivos Bolivianos de Historia de la Medicina* 2:193-207
- Guardia, Fernando. 1971. *La Evolución de la Forma de la Cuidad de La Paz*. La Paz: ISAP
- Guerra Mercado, Juan. 1996. Historia del diagnóstico microbiológico de la tuberculosis en Bolivia. *Archivos Bolivianos de Historia de la Medicina* 2:87-93
- . 1998. Una revisión histórica y actual de los laboratorios de salud pública en Bolivia. *Archivos Bolivianos de Historia de la Medicina* 4:159-67
- . 2001. Los grandes microbobiólogos cochabambinos. *Archivos Bolivianos de Historia de la Medicina* 7:69-75

- Haas, Peter M. 1989. Do regimes matter? Epistemic communities and mediterranean pollution control. *International Organization* 43:377-403
- Habermas, Jürgen. [1968]1970. *Toward A Rational Society: Student Protest, Science, and Politics*. Boston: Beacon Press
- Hacking, Ian. 1981. *Representing and Intervening: Introductory Topics in the Philosophy of Science*. Cambridge: Cambridge University Press
- Hale, Charles R. 1984. Political and social ideas in Latin America, 1870-1930. In *The Cambridge History of Latin America, Volume IV c 1870-1930*, ed. L Bethell, pp. 367-441. Cambridge: Cambridge University Press
- Hall, Stuart M. 1978. *Policing the crisis : mugging, the state, and law and order*. London: Macmillan. xii, 425 p. pp.
- Hardman-de-Bautista, Martha James. 1982. The mutual influence of Spanish and the Andean languages. *Word* 33:143-57
- Haynes, R. Brian. 1979. Introduction. In *Compliance in Health Care*, ed. R B Haynes, D W Taylor, D L Sackett, pp. 1-7. Baltimore: Johns Hopkins University Press
- Hurtado Gómez, Luis. 1996a. Historia del BCG en Bolivia. *Archivos Bolivianos de Historia de la Medicina* 2:99-107
- . 1996b. Los médicos y la medicina boliviana en la época de la Guerra del Chaco. *Archivos Bolivianos de Historia de la Medicina* 2:131-4
- . 2000. Sindicalismo médico en Bolivia: Apuntes históricos sobre la Confederación Médica Sindical de Bolivia (COMSIB). *Archivos Bolivianos de Historia de la Medicina* 6:17-39
- . 2001. Medicina y política en Bolivia. *Archivos Bolivianos de Historia de la Medicina* 7:35-48
- . 2002. La ética en la práctica médica del siglo XX en Bolivia. *Archivos Bolivianos de Historia de la Medicina* 8:9-18
- Irvine, Judith T. 1996. The indeterminacy of participant roles. In *Natural Histories of Discourse*, ed. M Silverstein, and Greg Urban, pp. 131-59. Chicago: University of Chicago Press
- Kaplan, Martha, Kelly John D. 1994. Rethinking resistance: Dialogics of "disaffection" in Colonial Fiji. *American Ethnologist* 21:123-51
- Kaul, Inge, Grunberg Isabelle, Stern Marc. 1999. *Global Public Goods: International Cooperation in the 21st Century*. New York: Oxford University Press. 584 p. pp.

- Keating, Peter, Cambrosio Alberto. 2003. *Biomedical platforms : realigning the normal and the pathological in late-twentieth-century medicine*. Cambridge, Mass.: MIT Press. xiv, 544 p. pp.
- Kelly, John Dunham, Kaplan Martha. 2001. *Represented Communities: Fiji and World Decolonization*. Chicago: University of Chicago Press. xiv, 243 p. pp.
- Kim, Jim Yong, Shakow Aaron, Castro Arachu, Vande Chris, Farmer Paul. 2003. Tuberculosis control. In *Global Public Goods for Health: Health Economics and Public Health Perspectives*, ed. R D Smith, B R., D Woodward, N Drager. Oxford: Oxford University Press
- King, Nicholas B. 2002. Security, disease, commerce: Ideologies of postcolonial global health. *Social Studies of Science* 32:763-89
- Klein, Herbert. 1963. *The Impact of the Chaco War on Bolivian Society*. PhD Dissertation. University of Chicago, Chicago
- . 1992. *Bolivia: The Evolution of a Multi-Ethnic Society*. New York: Oxford University Press
- Knopf, S. Adolphus. 1907. *Tuberculosis As A disease of the Masses and How to Combat It*. New York: F.P. Flori. 104 p. pp.
- Knorr Cetina, Karin. 1999. *Epistemic Cultures: How the Sciences Make Knowledge*. Cambridge: Harvard University Press
- Kochi, A. 1994. Global challenge of tuberculosis. In *Lancet*  
*Lancet JI - Lancet*, pp. 608-9: Lancet
- Komives, Kristan. 2002. *Designing Pro-Poor Water and Sewerage Concessions: Early Lessons from Bolivia*.
- Kress, Gunther. 2003. *Literacy in the New Media Age*. London: Routledge. xiii, 186 p. pp.
- Kuipers, Joel C. 1989. "Medical discourse" in anthropological context: Views of language and power. *Medical Anthropology Quarterly* 3:99-123
- La Barre, Weston. 1948. The Aymara Indians of the Lake Titicaca Plateau, Bolivia. In *Titles in the Memoir Series of the American Anthropological Association*
- Labov, William, Waletzky Joshua. 1967. Narrative analysis: Oral versions of personal experience. In *Essays on the Verbal and Visual Arts: Proceedings of the 1966 Annual Spring Meeting of the American Ethnological Society*, ed. J Helm, pp. 12-44. Seattle: University of Washington Press

- Laprade, Richard A. 1976. *Some Salient Dialectal Features of La Paz Spanish*. M.A. Thesis. University of Florida, Gainesville
- Larson, Brooke. 2003. Capturing indian bodies, hearths and minds: The gendered politics of rural school reform in Bolivia, 1910-52. In *Proclaiming Revolution: Bolivia in Comparative Perspective*, ed. M Grindle, and Pilar Domingo. Cambridge: Harvard University Press
- Latour, Bruno. 1987. *Science in action : how to follow scientists and engineers through society*. Cambridge, Mass.: Harvard University Press. 274 p. pp.
- . 1988. *The Pasteurization of France*. Cambridge: Harvard University Press
- . 1999. Give Me a Laboratory and I Will Raise the World. In *The Science Studies Reader*, ed. M Biagioli. New York: Routledge
- . 2003. What if we *talked* politics a little? *Contemporary Political Theory* 2:143-64
- Latour, Bruno, Woolgar Steve. 1986. *Laboratory life : the construction of scientific facts*. Princeton, N.J.: Princeton University Press. 294 p. pp.
- Lerner, Barron H. 1997. From careless consumptives to recalcitrant patients: The historical construction of noncompliance. *Social Science and Medicine* 45:1423-31
- Levin, Miriam R. 2000. Contexts of control. In *Culture of Control*, ed. M R Levin, p. 13049. Amsterdam: Harwood Academic Publishers
- Luna Orosco E., Javier. 1996. Algunas curiosidades en el devenir histórico de la tuberculosis. *Archivos Bolivianos de Historia de la Medicina* 2:57-63
- Maestro, Jesús G. 2005. *Semiotics and Transduction: Materialistic Interpretations of Human Communication*. Pontevedra: Mirabel Editorial
- Mannheim, Bruce, Van Vleet Krista. 1998. The dialogics of Southern Quechua narrative. *American Anthropologist* 100:326-46
- Mattingly, Cheryl. 1998. *Healing dramas and clinical plots : the narrative structure of experience*. Cambridge, UK ; New York, NY, USA: Cambridge University Press. xiii, 192 p. pp.
- Medeiros Querejazu, Santiago. 1947. Diagnóstico precoz de la tuberculosis pulmonar. *Archivos Bolivianos de Medicina* V:55-70
- Mehan, Hugh. 1996. The construction of an LD student: A case study in the politics of representation. In *Natural Histories of Discourse*, ed. M Silverstein, and Greg Urban. Chicago: University of Chicago Press



- Mejia, Florentino. 1988. Reseña histórica de Instituto Nacional de Tórax (INT). *Crónica Aguda* II:9-13
- Mendizábal Lozano, Gregorio. 1995. Los 'Higienistas' en la Historia de la Medicina en Bolivia. *Revista Archivos Bolivianas de Historia de la Medicina* 1
- . 1996. Organismos estatales de lucha contra la tuberculosis. *Archivos Bolivianos de Historia de la Medicina* 2:33-47
- Mendoza, Jaime. 1936a. *Apuntes de Un Médico: Ensayos y Semblanzas*. Sucre: Escuela Tipográfica Salesiana
- . 1936b. La lucha antituberculosa en Bolivia. *Revista del Instituto Médico "Sucre"* 62:64-72
- . 1936c. La tuberculosis en Bolivia. In *Apuntes de Un Médico: Ensayos y Semblanzas*. Sucre: Escuela Tipográfica Salesiana
- Mendoza, José G. 1991. *El Castellano Hablado en La Paz: Sintaxis Divergente*. La Paz, Bolivia: Universidad Mayor de San Andrés
- Mol, Anne Marie. 2002. *The Body Multiple: Ontology in Medical Practice*. Durham: Duke University Press
- Morales Gúzman, Armando. 1989. El Instituto Nacional de Bacteriología. *Crónica Aguda* II:6-9
- Morales Villazón, Néstor. 1913. La tuberculosis experimental en las grandes alturas. *Transactions of the International Congress on Hygiene and Demography*, pp. 139-45. Washington, D.C.: United States Government Printing Office
- . 1914[1989]. Una hermosa conferencia en el Acto Inaugural del Año Escolar de Facultad de Medicina. *Crónica Aguda* II:10-5
- . 1916a. La tuberculosis en Bolivia: su etiología y profilaxia, parte I. *Revista de Bacteriología e Higiene* 23-24:850-66
- . 1916b. La tuberculosis en Bolivia: su etiología y profilaxia, parte II. *Revista de Bacteriología e Higiene* 25:892-8
- . 1916c. Volviendo de la labor. *Revista de Bacteriología e Higiene* II:849
- . 1919. *Informe elevado por el Director del Instituto Nacional de Bacteriología a la consideración de señor Ministro de Gobierno y Justicia, Gestión 1917-1918*. La Paz, Bolivia: Talleres Gráficos "La Prensa"
- Moreno Sanjinez, Edgar. 1996. Historia de los esfuerzos médicos en Bolivia para enfrentar a la tuberculosis, siglo XX. *Archivos Bolivianos de Historia de la Medicina* 2:21-31

- Nash, June. 1992. Interpreting social movements: Bolivian resistance to economic conditions imposed by the International Monetary Fund. *American Ethnologist* 19:275-93
- Ochs, Elinor, Capps Lisa. 1996. Narrating the self. *Annual Review of Anthropology* 25:19-43
- Ong, Aihwa. 1995. Making biopolitical subjects: Cambodian immigrants, refugee medicine, and cultural citizenship in California. *Social Science and Medicine* 40:1243-57
- Orihuela, Néstor. 1914[1989]. Enfermedades sociales. *Crónica Aguda* II:i-viii
- . 1918. La vacuna antitífica nacional, parte I. *Revista de Bacteriología e Higiene* 36:1266-9
- . 1920. La humanidad debe estar de plácemes... *Revista de Bacteriología e Higiene* 54:2010-3
- Orosco, Germán, and Ovidio Suárez Morales. 1937. Las adenitis del cuello observadas en la campaña del Chaco. *Seminal Médico (Buenos Aires)* XLIV
- Painter, Michael. 1998. Economic development and the origins of the Bolivian cocaine industry. In *The Third Wave of Modernization in Latin America: Cultural Perspectives on Neoliberalism*, ed. L Phillips, pp. 29-49. Wilmington, Delaware: Scholarly Resources Inc.
- Petryna, Adriana. 2002. *Life Exposed: Biological Citizens after Chernobyl*. Princeton, NJ: Princeton University Press
- Pickering, Andrew. 1999. The Mangle of Practice: Agency and Emergence in the Sociology of Science. In *The Science Studies Reader*, ed. M Biagioli, pp. 372-93. New York: Routledge
- Pigg, Stacy Leigh. 2001. Language of sex and AIDS in Nepal: Notes on the social production of commensurability. *Cultural Anthropology* 16:481-541
- Povinelli, Elizabeth A. 2001. Radical worlds: The anthropology of incommensurability and inconceivability. *Annual Review of Anthropology* 30:319-34
- Programa Nacional de Control de la Tuberculosis. 2001. Estudio de la Prevalencia y Riesgo Anual de Infección Tuberculosa en la Escuelas Primarias de Bolivia (1999-2000), Ministerio de Salud y Previsión Social, La Paz, Bolivia
- . 2002. Plan Quinquenal 1990-2004, Ministerio de Salud y Previsión Social, La Paz, Bolivia
- . 2003a. Informe General Gestiones 1997 al 2001, Ministerio de Salud y Deportes, La Paz, Bolivia
- . 2003b. Informe General Gestiones 1997-2001, Ministerio de Salud y Deportes, La Paz, Bolivia

- . 2003c. XIII Seminario Nacional de Evaluación del Programa Nacional de la Tuberculosis, Ministerio de Salud y Deportes, Cochabamba, Bolivia
- Programa Nacional de Vigilancia y Control de la Tuberculosis. 1995. Informe Control de la Tuberculosis Bolivia 1994, La Paz, Bolivia
- . 1996. Informe 1995, Secretaria Nacional de Salud, La Paz, Bolivia
- . 1997. *Informe 1996*. La Paz, Bolivia: Secretaria Nacional de Salud
- Quiroga, José. 1992. Debate. In *Dialéctica Social de la Política de Salud*, ed. J Torrés Goitia. La Paz, Bolivia: UNICEF
- Raviglione, M C, Pio A. 2002. Evolution of WHO policies for tuberculosis control, 1948-2001. *Lancet*
- Lancet JI - Lancet 359:775*
- Raviglione, Mario C. 2006. XDR-TB: Entering the post-antibiotic era? *International Journal of Tuberculosis and Lung Disease* 10:1185-7
- Revilla, Carlos Javier. 2008. Representaciones colectivas sobre el desarrollo urbano y legitimación en la gestión del Plan Progreso en la ciudad de El Alto. Paper presented at "Decolonizing the Nation, (Re)imagining the City: Indigenous Peoples Mapping New Terrain in Bolivia". Held at Northwestern University, May 8-9, 2008
- Rheinberger, Hans-Jörg. 2005. Gaston Bachelard and the Notion of "Phenomenotechnique". *Perspectives on Science* 13:313-28
- Rivero Pinto, Wigberto, Encinas Cueto Ives. 1991. La presencia aimara en la Ciudad de La Paz, *Chukiyawu Marka: Entre la participación y la sobrevivencia. América Indígena* 1:273-92
- Rose, Nikolas. 1996. The death of the social? Refiguring the territory of government. *Economy and Society* 25
- Rose, Nikolas, Novas Carlos. 2003. Biological citizenship. In *Global Anthropology*, ed. A Ong, and Stephen Collier: Blackwell
- Roth, Julius A. 1963. *Timetables; structuring the passage of time in hospital treatment and other careers*. Indianapolis,: Bobbs-Merrill. xix, 124 p. pp.
- Rouse, Joseph. 1987a. *Knowledge and power : toward a political philosophy of science*. Ithaca: Cornell University Press. xvi, 283 p. pp.
- . 1987b. *Knowledge and Power: Toward a Political Philosophy of Science*. Ithaca: Cornell University Press. xvi, 283 p. pp.

- Sagárnaga, Elías. 1908. *Tratado Elemental de Higiene Militar*. La Paz: Intendencia de Guerra
- Salazar de la Torre, Cecilia. 1999. *Mujeres Alteñas: Espejismo y Simulación en la Modernidad*. La Paz: Centro de Promoción de la Mujer Gregoria Apaza
- Sanabria, Harry. 1999. Consolidating states, restructuring economies, and confronting workers and peasants: The antinomies of Bolivian neoliberalism. *Comparative Studies in Society and History* 41:535-62
- Sandoval, Godofredo, Sostres M. Fernanda. 1989. *La Ciudad Prometida: Pobladores y Organizaciones Sociales en El Alto*. La Paz: ILDIS
- Sandoval Z., Godofredo, Albó Xavier Albó, Greaves Thomas. 1987. *Chukiyawu: La Cara Aymara de La Paz*. La Paz: CIPCA
- Silverstein, Michael. 2003. Translation, transduction, transformation: Skating "glossando" on thin semiotic ice. In *Translating Cultures: Perspectives on Translation and Anthropology*, ed. P G Rubel, A Rosman. New York: Berg
- . 2004. "Cultural" concepts and the language-culture nexus. *Current Anthropology* 45
- . 2005a. Axes of Eval. *Journal of Linguistic Anthropology* 15:6-22
- . 2005b. The poetics of politics: "Theirs" and "ours". *Journal of Anthropological Research* 61:1-24
- Smith, Richard D., MacKeller Landis. 2007. Global public goods and the global health agenda: Problems, priorities and potential *Globalization and Health* 3
- Social, Ministro de Salud y Previsión. 2001. Estudio de Conocimientos, Actitudes y Prácticas de la Población sobre la Enfermedad de la Tuberculosis. ed. M d S y P Social. La Paz
- Sowell, David. 2001. *The Tale of Healer Miguel Perdoma Neira: Medicine, Ideologies, and Power in the Nineteenth-Century Andes*. Wilmington, Delaware: Scholarly Resources, Inc.
- Stepan, Nancy Leys. 1976. *Beginnings of Brazilian Science: Oswaldo Cruz, Medical Research and Policy, 1890-1920*. New York: Science History Publications
- . 1991. *The Hour of Eugenics: Race, Gender, and Nation in Latin America*. Ithaca: Cornell University Press
- Stimson, Gerry V. 1974. Obeying doctor's orders: A view from the other side. *Social Science & Medicine* 8:97-104

- Stop TB Initiative. 2003. *World TB day 2003 highlights report : 24.03.03*. Geneva: World Health Organization. 27 p. pp.
- Stratford, Billie Dale. 1989. *Structure and Use of Altiplano Spanish*. Ph.D. Dissertation. University of Florida, Gainesville
- Teller, Michael E. 1985. *The American Tuberculosis Crusade, 1889-1917: The Rise of A Modern Health Campaign*. Thesis (Ph D ). Univ. of Chicago, Dept. of History, August 1985. 2 v. (iii, 467 leaves) pp.
- Torrejón, Enrique. 2001. *Manzanas de la Salud: Guía Práctica para el Desarrollo de la Salud Comunitaria*. ed. C-C Internazionale. La Paz, Bolivia: Editorial "Cuatro Hermanos"
- Torrés Goita, Javier. 1987. *Salud y Democracia: La Experiencia de Bolivia (1982-1985)*. La Paz: ILPES-UNICEF
- Torrés Goitia, Javier, ed. 1997. *Salud: Cuestión de Estado*. La Paz, Bolivia: Artes Gráficas
- Traweek, Sharon. 1988. *Beamtimes and Lifetimes: The World of High Energy Physicists*. Cambridge: Harvard University Press
- Triechler, Paula A. 1999. *How to Have Theory in An Epidemic: Cultural Chronicles of AIDS*. Durham: Duke University Press. xi, 477 p. pp.
- Trostle, James A. 1988. Medical compliance as an ideology. *Social Science & Medicine* 27:1299-308
- Tsing, Anna Lowenhaupt. 2005a. *Friction : an ethnography of global connection*. Princeton, N.J.: Princeton University Press. xiv, 321 p. pp.
- . 2005b. *Friction: An Ethnography of Global Connection*. Princeton, N.J.: Princeton University Press. xiv, 321 p. pp.
- Urban, Greg. 2001. *Metaculture: How Culture Moves Through the World*. Minneapolis: University of Minnesota Press. xviii, 315 p. pp.
- Urciuoli, Bonnie. 1996. *Exposing prejudice : Puerto Rican experiences of language, race, and class*. Boulder, Colo.: Westview Press. xiv, 222 p. pp.
- Urioste F. de C., Francisco J. 1948. Participación osteo-articular de la tuberculosis en 1,860 casos. *Archivos Bolivianos de Medicina* VI:138-52
- Valenzuela. 1930. Lucha antituberculosa. *Boletín de la Dirección General de Sanidad Pública* 2:257-61

- Vargas Sivila, Enrique. 1943. Vacunación con BCG en Bolivia. *Archivos Bolivianos de Medicina* I:123-7
- Vargas Sivila, Enrique, Subieta R. Romelio. 1947. Importancia del diagnóstico precoz de la tuberculosis pulmonar. *Archivos Bolivianos de Medicina* V:21-54
- Vargas Sivila, Enrique, Wenger Franz. 1943. Notas sobre el desarrollo de la tuberculosis en Sucre. *Archivos Bolivianos de Medicina* I:81-97
- Vásquez V., Joaquín. 1997. Algunos elementos de la filosofía en la historia de la medicina en Bolivia (1900-2000). *Archivos Bolivianos de Historia de la Medicina* 3:55-66
- Weber, Max. 1946. Science as a Vocation. In *From Max Weber: Essays in Sociology*, ed. H H G a C W Mills, pp. 129-56. New York: Oxford University Press
- WHO Global Tuberculosis Programme. 1998. *TB advocacy : a practical guide : 1999*. Geneva: World Health Organization. 42 p. pp.
- WHO Global Tuberculosis Programme. 1999. *Report : multidrug resistant tuberculosis : MDR TB : basis for the development of an evidence-based case-management strategy for MDR TB within the WHO's DOTS strategy : proceedings of 1998 meetings and protocol recommendations*. Geneva: World Health Organization. 5pts. in 1v. (various pagings) pp.
- Williams, Rosalind. 2000. Nature out of control: Cultural origins and environmental implications of large technological systems. In *Culture of Control*, ed. M R Levin, pp. 41-68. Amsterdam: Harwood Academic Publisher
- Winichakul, Thongchai. 1994. *Siam Mapped: A History of the Geo-Body of a Nation*. Honolulu: University of Hawaii Press
- World Bank. 1993. *Investing in Health*. New York: Oxford University Press. xii, 329 p. pp.
- . 2002. *El Alto: A Peri-Urban Challenge in Latin America*. New York: World Bank
- World Care Council, World Health Organization. 2006. *The patients' charter for tuberculosis care : patients' rights and responsibilities*. [France]: World Care Council. [4] p. pp.
- World Health Organization. 1997. *World TB Day: A Guide to Obtaining Media Coverage*. Geneva: World Health Organization
- . 1999. *What is DOTS?: A Guide to Understanding the WHO-Recommended TB Control Strategy Known as DOTS*. Geneva: World Health Organization. 30 p. + annexes. pp.
- . 2001. *A Human Rights Approach to Tuberculosis*. Geneva: World Health Organization

- . 2006. *Global Tuberculosis Control: Surveillance, Planning, Financing: WHO Report 2006*. Geneva: World Health Organization
- World Health Organization, Stop TB Partnership. 2007. *Advocacy, communication and social mobilization (ACSM) for tuberculosis control : a handbook for country programmes*. Geneva: World Health Organization
- World Health Organization. Office of Information. 1993. *WHO declares tuberculosis a global emergency*. Geneva: World Health Organization. 2 p. pp.
- Yúdice, George 1991. Testimonio and postmodernism. *Latin American Perspectives* 18:15-31
- Zavala, Virginia. 2001. Borrowing evidential functions from Quechua: The role of *pues* as a discourse marker in Andean Spanish. *Journal of Pragmatics* 33:999-1023
- Zulawski, Ann. 2000. Hygiene and 'the Indian problem': Ethnicity and medicine in Bolivia, 1910-1920. *Latin American Research Review* 35:107-29
- . 2007. *Unequal Cures: Public Health and Political Change in Bolivia, 1900-1950*. Durham: Duke University Press
- Zumla, Alimuddin, Gandy Matthew. 2003. Politics, science and the 'new' tuberculosis. In *Return of the White Plague: Global Poverty and the 'New' Tuberculosis*, ed. M Gandy, and Alimuddin Zumla, pp. 237-41. New York: Verso