Sun God Pharma:
Bolivian Pharmaceuticals and Symbolic Power

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Abstract:

This article examines the category of "pharmaceutical" in Bolivia. Based on ethnographic research and content analysis of national and multinational pharmaceutical companies' websites and advertisements in Bolivian scientific journals from 2000 to the present, I argue that the alignment of local practices, understanding, and circulation of such products challenges global or hegemonic assumptions about what pharmaceuticals do, how they are produced, and how they act in specific socio-cultural contexts. In doing so, this helps us conceptualize what a pharmaceutical is. I also argue that the production of knowledge about pharmaceuticals has neglected, like many science and technology studies (STS) works published in English, the powerful local challenges that emerge in specific regional or national contexts. Throughout the article, I argue that there is a particularly nationalist orientation in Bolivia toward pharmaceutical manufacture and consumption, which we must understand via ethnography.

Keywords: pharmaceutical, nationalism, ethnography, STS.

Resumen:

Sun God Pharma: productos farmacéuticos en Bolivia y poder simbólico

Este artículo examina la categoría de "productos farmacéuticos" en Bolivia. A partir de investigación etnográfica, análisis de los contenidos de los sitios web de empresas farmacéuticas nacionales y internacionales, y análisis de propaganda de empresas nacionales en revistas científicas bolivianas desde 2000 hasta el presente, se sostiene que las prácticas y conocimientos locales representan un desafío a los circuitos de producción de conocimiento hegemónicos o globales acerca de cómo se producen los productos farmacéuticos, cómo actúan, y cómo funcionan en determinados contextos socio-culturales. De este modo, buscamos a conceptualizar qué son los "productos farmacéuticos". En este trabajo también se propone que la producción de conocimiento sobre productos farmacéuticos ha descuidado, como buena parte de los estudios en ciencia y tecnología, los poderosos desafíos locales que emergen en contextos regionales o nacionales específicos. A lo largo del artículo se argumenta que en Bolivia existe una orientación particularmente nacionalista hacia la fabricación y consumo de productos farmacéuticos, lo cual podremos entender a través de la etnografía.

Palabras clave: productos farmacéuticos, nacionalismo, etnografía, estudios sobre ciencia y tecnología.

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Introduction

"We *are* Bolivian Industry. We work for Bolivia". This claim, appearing in large type superimposed over the Bolivian flag in advertisements by a Bolivian pharmaceutical corporation, encapsulates the dominant market position and nationalist orientation of Bolivian manufacturers. In Bolivia, local corporations rely on powerfully evocative slogans and logos (such as the name and symbol of the Incan sun god used by the largest Bolivian manufacturer by market share, Laboratorios Droguería Inti, S.A.), to position themselves against foreign multinational pharmaceutical corporations. As such, pharmaceutical multinationals, with their controlled dosing protocols and regimes of care, are marginal players for medical practitioners and patients.

This paper analyzes the local control, circulation, and symbolic meaning of Bolivian-manufactured pharmaceutical products by national pharmaceutical companies. I demonstrate how, based upon analysis of advertisements, websites, and ethnographic research, the Bolivian pharmaceutical industry relies on a conflation of indigenous, nationalist, and modernist symbols to portray their products as local and appropriate for the *pueblo boliviano* (Bolivian people), a rooted and specific relationship with the consumer that differs from that of Big Pharma.

Big Pharma and entanglements with bio-citizens, politics & socialities

I define Big Pharma as the group of large, international pharmaceutical companies (Merck, Sanofi-Aventis, and so on) that are dominant in new drug development and global clinical trials. This group has been criticized for how they fostered the expansion of Northern syndromes and pharmaceutical cures into new markets (Lakoff, 2005); their focus on "lifestyle" drugs (Petryna, 2009) over basic medications for communicable diseases; and their prohibitive pricing schemes that exclude much of the world's population from lifesaving drugs while simultaneously creating new pharmaceutical citizen-subjects who are dependent on drugs for daily life (Lakoff, 2005). Big Pharma is hegemonic in global understanding of disease and pharmaceutical treatment precisely because of its importance in creating post-modern "biological citizens" (Petryna, 2002; 2009; Rose, 2006; Rose & Novas, 2005). Such an action is predicated upon their manipulation and control of "bare life" (Petryna, 2002; 2009). This then gives rise to the politicization of who lives, how, and by what means. Yet the concept of intervention into human natures and biologies also opens up possibilities for liberatory interventions into biology and human capacity (Haraway, 1997), a process that Nikolas Rose has termed "the politics of life itself."

There is a complex relationship between pharmaceutical research, development, and market share, national governments and healthcare systems, and individual people and activist groups that come together around a particular cause for concern (Latour, 2004) to advocate for better care. I argue, in line with others in the interdisciplinary field of science and technology studies (STS), that such entanglements provide the very space upon which new subjectivities can emerge and become politically salient at multiple scales (local, regional, national, global). In other words, pharmaceutical presence, consumption, and framing of certain disorders *as* disorders is one way that we can see the emergence of biological citizens and how the nation-state must respond to demands.

Similarly, this forces questions of life, death, identity, and access more squarely into the realm of the political. Such biopolitics are evident in pharmaceutical negotiations, but also in any sort of technoscientific intervention into life (such as debates over genetically modified organisms). Sheila Jasanoff, following Foucault, notes that: "it now seems biology's turn to define new roles for government. Life itself, as Michel Foucault compellingly argued, has become the new preoccupation of states, and the resulting biopolitics gives citizens a new arena on which to demand and contest the exercise of state power" (Jasanoff, 2005, p. 36). If biopolitics are a key factor in understanding state-citizen relationships, then it is no surprise that alongside biological citizens emerge biologized ways of thinking about, knowing, and experiencing one's self, what Paul Rabinow termed biosociality (1999).

Localism, nationalism, and identity: the Bolivian case

Given the centrality of interventions in and on biologies to national projects, emergent subjectivities, and global anxieties, it is clear why Big Pharma has been a privileged site for much recent anthropological research. Multinational pharmaceutical corporations play a role in transnational processes of identification, emergent subjectivities, and negotiation of citizenship rights at national and global levels. The links between nation-states, biological products and interventions, citizenship, identity, and politics are tenacious and central to our understanding of contemporary identities. In this article I ask what happens when the production and meaning of "safe" and locally efficacious medications are dominated by national actors, especially in the context of global pharmaceutical reach and influence. I argue that in Bolivia the very definition of "pharmaceutical" is called into question precisely because of subtle realignments of meaning. If a dominant trend in anthropology is studying global phenomena and its socio-political and ethical impact in specific locations, what local phenomena may be obscured by studying big phenomena? This article is also an argument for a grounded and multi-sited ethnography

(Marcus, 1995). That is, a pharmaceutical company is not always the same pharmaceutical company everywhere. Local voices and viewpoints demonstrate how subtle assumptions and presuppositions shift.

It is therefore deeply surprising that there have been very few studies on *national* pharmaceutical industries published in English. This is especially the case for Latin America and other post-colonial societies, where the importance of medicine and science to modernity, nationalism, and state-building has long been established (Rodriguez, 2006; Zulawski, 2006; Stepan, 1991; Cueto, 1989, 1994; see also Prakash, 1999 for the Indian case). This article addresses this lacuna and describes how local industry is made relevant *in situ* based on specific practices and conceptions of a "pharmaceutical," while also contesting hegemonic orientations. I argue that the products produced in Bolivia are hybrids of Western biomedical products, indigenous remedies, and commercialized natural medicines, all of which are marketed and distributed to pharmacies and corner remedy stores throughout the country.

Bolivian manufacturers produce a range of products from prescription medications (often still under patent elsewhere) to standardized formulations of herbal remedies for local conditions including *soroche* (altitude sickness) and lack of energy. These are advertised together and often manufactured in the same facilities by the same companies. I claim that this simultaneous emphasis on both "Western" products and commercializing local remedies is part of a localist and nationalist orientation that restricts the flow of products from global corporations to Bolivia and from Bolivian manufacturers to neighboring countries. I conclude by asking if this requires a reconceptualization of what a "pharmaceutical" *is* in Bolivia and elsewhere.

Methodology

This article represents one dimension of my research into the development and practice of Bolivian bioscience since 2000. Since 2001, I have conducted over 24 months of ethnographic fieldwork in Bolivia, mainly in La Paz. The longest research trip was from 2003-2005, with follow-up visits in 2006, 2007, 2009, and 2011. As part of this research, I have conducted over 100 interviews with Bolivian researchers, *tesistas*, university and research institute administrators, and pharmaceutical personnel. I conducted extensive participant observation in laboratories, research institutes, technical training courses, government ministries, and administrative offices. These sites were all affiliated with public universities, national research institutes, and Bolivian pharmaceutical companies. I also engaged in archival research in these same sites, with a focus on internal reports, curriculum plans, university-state

documentation, foreign and national funding for projects and the justification for such funding, local Bolivian research journals, and written documentation around the justification, execution, and results of research projects and future experimental plans and designs. Finally, I collected newspaper articles, blog pages, and reports or press announcements posted on official governmental and institute websites.

Of particular relevance for this article is the research I conducted from 2004-2011 around Bolivian pharmaceutical research, production, and commercialization. I spoke with engineers (mainly men), quality-control personnel (mainly women), biochemists employed by pharmaceutical companies or within university research institutes and collaborating with local pharmaceutical companies (mainly women), young students working within research institutes (mainly women), and managers (mainly men). I visited several production facilities and research laboratories multiple times over this period. I focused on Laboratorios Linda La Paz, S.A. (a pseudonym) because I had access to the production plants and personnel. In addition, they have the most active research support and development agenda via *convenios* (agreements) with local university-based laboratories, as well as substantial state contracts to produce pharmaceutical products for distribution via the national healthcare system. During my interviews and site visits, I asked which products were produced or being developed, why, how, and what their relevance was to contemporary Bolivia.

I also conducted website analysis. I analyzed the product lists available on the three largest Bolivian pharmaceutical companies' web pages along with their logos, history, and mission statements. I focused on how they positioned themselves *vis a vis* Bolivia and international markets, as well as if or how they described their relationship to the Bolivian state and people. I then compared these self-portrayals to the regional websites for the largest three multinational pharmaceutical companies. I first looked for any Bolivia-specific webpages, and, if these were unavailable, looked for region-specific information. I then examined how each multinational was describing its role for the specific local region and how that compares to its mission statement and portrayal of its global position. In each case, I focused on why each corporation claimed that their products were important or necessary in specific contexts and their role relative to specific populations.

Finally, I also conducted journal analysis. For the years 1995-2010 I collected and examined every issue of a Bolivia-produced and circulated biochemistry journal. I categorized the advertisements in it according to national vs. foreign. I also analyzed the advertisements for mission statement, use of national or nationalist symbols, and references to local context or importance.

Below is an analysis of the production environment of a specific (but representative) Bolivian pharmaceutical company based on the research described above. I then segue into an

analysis of the local position and goals of the Bolivian pharmaceutical industry within a pluralist landscape when compared to multinational pharmaceutical corporations and conclude with a discussion about the category of pharmaceutical fostered by this study of local contexts and practices.

Research development

Unmarked industry

In a residential neighborhood up a steep side street on the canyonside above downtown La Paz is a sprawling brick house set at an angle against the slope of the hill. The building has white lace curtains on the windows and a minibus parked on the dirt path that runs alongside the far wall of the home. A small nameplate next to the high iron gate identifies the building as belonging to Laboratorios Linda La Paz, S.A., a Bolivian pharmaceutical manufacturing corporation.

When I visited a few years ago, and again just recently, I was given the address of the building and told to wear clean shoes and bring a white laboratory coat to wear. I recall standing in front of the gate and futilely attempting to dust off my black shoes. Dust is omnipresent in La Paz, especially in neighborhoods that ring the central, wealthy downtown. Few streets are paved, despite constant traffic along roads that are often rutted tracks that flood with the slightest rain. I then adjusted my shoulder bag – crammed with two notebooks, a digital recorder, a digital camera, and the requested laboratory coat – and rang the bell.

A security guard opened the gate for me and checked my name on a visitor's list. Nodding in approval, he had me sign in at the gatehouse, just inside the door, and told me I should leave two forms of photo I.D. and my bag[1] with him. I put on my lab coat and the guard handed me a pair of blue shoe covers and told me to put them on in the patio. He then escorted me to the front door of the building, which looked like a standard home front door and was surrounded by potted flowers.

The door opened and my guide, a senior biochemist that specializes in manufacturing pharmaceuticals and quality control, extended her hand to shake mine. "Welcome!" she said enthusiastically. "We're so glad you decided to visit our humble manufacturing plant! Oh, good,

[1] As part of this project I visited several pharmaceutical companies and research facilities to understand the local production and circulation of "traditional" remedies by Bolivian pharmaceutical manufacturers, which is how I wound up staring at the potted plants and front door. Though my notebook was not with me during this visit, I quickly wrote up my impressions and recollections after my tour.

you brought the appropriate safety gear. You know, it isn't just for you, but to protect our patients and consumers. Please come in." I walked in the front entryway and began my tour of the main manufacturing plant for one of Bolivia's main pharmaceutical companies.

Disjuncture

Though I had carefully set up my visit to the plant through my contacts at their main office (located about 1 km away laterally along the contour line of the canyon in another former home) I felt a profound sense of disjuncture when I arrived. When I first rang the doorbell, I thought I must be in the wrong place and, I hoped, the guard would be able to point me to the correct location. Upon being greeted by Dra. Ramírez (a pseudonym), I momentarily assumed that we would be jumping into the waiting minibus to visit the "real" plant, one that was big and sprawling and looked obviously and proudly industrial, probably located in one of the new industrial zones set up in the outer reaches of La Paz or its sister city, El Alto[2].

Of course I was in the right place. This building – with all the outward trappings of a home, complete with lace curtains, wood-framed single-pane windows that swing open to catch the fleeting afternoon warmth of high altitude, and cheery flowers in terra cotta planters framing the door – was the main fabrication plant for one of the top five pharmaceutical companies by sales in Bolivia. The facility was populated by workers wearing head-to-toe white clean suits working in former bedrooms to sort pills and feed them into packaging machinery to seal them into blister packs, large hand-drawn posters lining the hallways diagramming drug pathways or manufacturing processes, large vats of chemicals and reaction tubing on the first floor, and, on the third floor, a quality control laboratory in what appeared to be a converted

[2] In fact, this company has built a large plant in a far zone of El Alto. It is located down a long, rutted dirt road behind high gates. Across the street are small food vendors selling soup from underneath blue tarps. Inside, the front area is welcoming, filled with potted plants and paintings of La Paz. The front door is a reproduction of the Puerta del Sol at Tiwanaku. This plant is not on-line yet, and much manufacturing still occurs in the space I describe above. One of the managers of the company told me that this plant will produce mixed products such as liquids, gels, capsules, and so forth for both natural and traditional (read: synthetic) products and the older plant will continue to be used to produce such products as well. The existence of a new plant indicates this company is growing rapidly, at least within Bolivia. I did inquire about plans to expand outside of Bolivia, and I was told that they do not intend to do so because of the "saturation" of other Latin American markets with local and international products, however, there is still room to expand internally.

kitchen, complete with ceramic bathroom tile as laboratory bench surfaces, staffed by three young biochemists (also women[3]).

As Dra. Ramirez told me about the different *zonas* (manufacturing areas/stages) I realized I had expected this space to be somehow bigger, intimidating, or more controlled (black-boxed, cf. Latour). Yet it struck me as fundamentally cobbled-together, reminiscent of cottage industry (all those women, and located in residential neighborhood in a house that still looked remarkably like the family homes surrounding it). This is despite the expensive tabletop machines gleaming on the third floor or the ventilators that some (though not all) of the workers were wearing while working with chemical precursors to some of the products. The company and the plant were also certified by the government's Ministry of Health and allowed to sell "safe and effective" medications using their brand name[4].

Why doesn't this manufacturing plant fit with our preconceptions of what a "pharmaceutical plant" should look like? I argue that it is because in Bolivia what counts as a pharmaceutical differs in important ways from those produced by Big Pharma. In sum, in Bolivia there is limited research into development of new drugs, and those are generally for conditions that have been abandoned or, at best, quietly ignored, by multinational pharmaceutical companies (such as tuberculosis, antivenin[5], and antibiotics). Instead, local remedies based on plant extracts and refined and standardized by the manufacturer or new tonics, herbal extracts, or vitamin pills marketed as powerful cures for common ailments (colds, flu, and the like) are what receive the limited research funding and dominate new product lists of major Bolivian

[3] The majority (greater than 80%) of biochemists in Bolivia are women. I have explored the reasons and ramifications of this elsewhere (see Centellas, 2008; 2010). It is important to note that close to 100% of the supervisory scientific staff at Laboratorios Vita, another major manufacturer in Bolivia, are women.

[4] The Ministry of Health has been reorganized under Evo Morales's presidency and it now includes a Vice-Ministry of Traditional Medicine. The goal of this Vice-Ministry is to "articulate" with "Western" forms of medicine to tackle some of the persistent inequalities in access to healthcare and appropriate services for many Bolivians. These inequalities are visible in the poor health statistics in Bolivia, most notably around maternal/infant mortality. The Ministry's role in terms of overseeing pharmaceutical manufacturing is to ensure the safety and efficacy of products. Each one must have a sanitary registration number, indicating the Ministry's seal of approval. Even "natural" products receive this number. This is unlike in the U.S. where natural products are not subject to F.D.A oversight. Furthermore, as part of Morales's national project, healthcare has been redefined, at least institutionally and bureaucratically, as pluralist and inclusive, and therefore it is consistent that natural products are not necessarily treated as a separate category in terms of registration requirements.

[5] In 2000, the Bolivian government began a research and production program to locally manufacture antivenin in La Paz. This was motivated by a desire to have a "better match" of antivenin for local biologies as compared to imported antivenins and to save a significant amount of money. This project has received significant press (see, most recently "El fascinante mundo de los antídotos", 2010) and is motivated by a desire to heal the fracturing national body (I discuss the symbolic dimensions of this project in Centellas, 2008). After all, snakes can only live in the tropical (read: poisonous, insurgent) lowlands, not the frigid mountain climate of La Paz, 12,000 feet above sea level.

drug producers, including the one I visited. Much of the research into new products does not occur within pharmaceutical facilities but in university-affiliated research institutes. These links are quite tenacious, with many collaborations persisting for ten years or more. Such "traditional" cures – like the anti-cough tonic produced by one company and advertised as being "natural" and "ours", complete with a list of natural ingredients and their percentages in the ad - are produced by the same companies that also locally manufacture, package, and distribute antibiotics, antiretrovirals, antihypertensives, and other powerful chemicals that fit squarely into our understanding of a "pharmaceutical" and the biomedical (Lock & Nguyen, 2010; Nguyen, 2004) paradigm. This occurs either by making compounds that are no longer covered by patent or, occasionally, manufacturing drugs in Bolivia that are still under patent elsewhere. In sum, natural products are not segregated from "chemical" or traditional pharmaceuticals either in the companies doing the manufacturing, the spaces in which they are produced, the advertising, or their placement in product lists (and, often, on drugstore shelves).

Neglect

In Bolivia, there are virtually no multinational pharmaceutical companies, at least not visible via advertisements in trade publications, billboards, or displayed on pharmacy shelves. For instance, Merck has a page for Bolivia (www.merck.bo) but the information provided is poorly phrased, short, and indicates it does not market pharmaceuticals in the region:

> "In Bolivia, Merck has a representative office engaged in the marketing of engaged in the marketing [*sic*] of laboratory and specialty chemicals. Until the two divisions Merck Serono and Consumer Health Care as well as the business sector Chemicals [*sic*] have specific information on this site the offices are your point of contact for Merck products." (In English with typos in the original)

The office location is given as Montevideo, Uruguay (not in Bolivia, as implied in the above quote). No Spanish-language page is available. The repetition of phrases and missing clauses is sloppy. It appears as if no one even bothered to proofread the copy, and it is likely that few people (within Merck or elsewhere) look at this page for information. This is in contrast to the interactive Spanish-language page for Merck Argentina (www.merck.com.ar), which emphasizes Merck's connections to Buenos Aires and Argentines and is available in Spanish and English. This is indicative of the irrelevance of Bolivian markets and consumption to one of the

large multinational manufacturers. Their absence[6] is striking in the Bolivian pharmaceutical field[7], especially when compared to legacies of clinical trials and market dominance in other developing economies (Petryna, 2009; Petryna, Lakoff, & Kleinman, 2006).

Of course, this also means that some medicines are simply not available in Bolivia, regardless of ability to pay. For instance, at the time of my fieldwork the new and less-painful rabies prophylaxis manufactured by Sanofi-Pasteur was unavailable anywhere in Bolivia. Shortly thereafter, there were several confirmed human deaths due to rabies in La Paz and elsewhere ("Triplican casos de rabia humana en el país," 2004).

Sun God Pharma

The dominance of Bolivian manufacturers – and the products they develop and market – must be understood first as being only one component of a complex medicinal landscape. Many urban Bolivians are intensely pluralistic when it comes to health and healing: using antibiotics here, a visit to a *yatiri* (shaman) there, preventatively taking *remedios caseros* (home remedies) at home, and consuming commercially packaged local patent medicines for maladies such as acute altitude sickness (*soroche)* or lack of energy/vitality. Often people say that they prefer "natural" or "local" remedies to "chemical" ones, especially for conditions that are perceived as not exclusively infectious or biologized. For instance, as soon as I arrive in La Paz after the overnight flight, biochemist friends often meet me. They are inevitably holding a cup of *mate de coca,* which they hand to me to help prevent acute altitude sickness. This cuts across ethnic and class lines, with middle and upper-class indigenous (*mestizos*), and white Bolivians invoking "their" *yatiri* with some frequency, and poor or struggling Bolivians (often, but by no means always, indigenous migrants to the city) discussing the close relationship they

[6] I recently (10/17/2010) searched www.clinicaltrials.gov for any trials occurring in Bolivia. There are 14, of which only 6 are currently active. Most utilize known drugs in new treatment regimes for leishmaniasis, tuberculosis, or malaria. Several are non-interventionist – using the rhythm method for contraception or clear containers to capture solar radiation to disinfect water supplies. Most are sponsored by USAID or other governmental aid agencies. Of course, one must consider the ramifications of conducting clinical trials at extreme altitude (La Paz is located at 12,000 feet above sea level, ranging from 14,000-11,000 feet). It is quite possible that specific formulations and preparations just might not work in the same way, or that may be the fear. Certainly, many protocols in the biosciences have to be "adapted" to "Bolivian conditions" as I have discussed elsewhere (2008), and it is likely that even large-scale reactions, such as those required to produce biomedicines, would need a similar period of "standardization".

[7] One Bolivian manufacturer, Inti, claims on its website to locally produce *some* of Merck's products under license. However, this is an incomplete list and I am unclear on how the products and manufacturing processes are licensed, or not, by Merck. No reference is made on Merck's website regarding a local partner.

have with their *bruja* or *casera* for healing purposes[8] [9]. Indeed, even managers of Laboratorios Linda Lafar, S.A. and biochemists at the main public university in La Paz indicated how they perform a yearly *ch'alla* for their laboratories, consulted with a *yatiri* for health and work issues, and would recommend specific tonics or herbal preparations to me when I had common ailments like a cold or an upset stomach.

Image 1: Pharmacies in La Paz surrounded by natural healing vendors and *ch'alla* (ritual blessing) *misas*. Note how the bricks-and-mortar pharmacies advertise their natural products and remedies, including orange juice and various preparations made from coca leaves, next to an advertisement for a commercial antacid product made by one of the large Bolivian pharmaceutical companies. (Source: photograph by author, June 2011)

Such an orientation is reflected on pharmacy shelves and in the vademecum of Bolivian pharmaceutical manufacturers. "Tonico Inti: Vigor Concentrado" is displayed next to a box of

[8] I am not claiming that all of these groups interact with or understand these traditions in the same way, nor that they access them in identical forms. Instead, I am pointing out the wide-spread acceptance of non-biomedical treatments and procedures that range from what is locally considered "indigenous" medicine (*yatiris, Kallawaya* herbalists, and the like) to home remedies and specific forms of witchcraft and ritual.

[9] See Sikkink (2009) for a more detailed discussion of medical pluralism in contemporary Bolivia and Crandon-Malamud (1991) for a classic study.

anti-hypertensive pills (candesartan cilexetil) manufactured and packaged by the same company. Often both are recommended by the pharmacists, with little differentiation made between the tonic (comprised mainly of amino acids and B-vitamins) and the fairly recent anti-hypertension medication. Honey and bee pollen lollipops are displayed on the counter and advertised as an effective natural remedy for coughs. If this fails, there are herbal healers waiting outside, which are recommended by many pharmacists and doctors as preventative and curative for a range of common ailments from the common cold and intestinal troubles to high blood pressure and *nervios* (nerves).

This emphasis on local remedies alongside biomedical formulations reflects a dominant concern by pharmaceutical companies to be perceived as national industry and sensitive to the specific needs of Bolivians. The largest manufacturer in Bolivia, Laboratorios Inti, S.A., is named for the Incan sun god. While *Inti* is commonly invoked across the Andes to signify connection and continuity with pre-Conquest cultures, the representation of Inti used in the logo is not:

Image 2: Laboratorios Inti, S.A.'s logo.
Image obtained from INTI's website (www.inti.com.bo).

The representation here is of the central image from the Temple of the Sun at Tiwanaku, an important pre-Incan site on the altiplano about 60 km outside of La Paz. Many Bolivians have claimed this site (and image of Inti) to represent a contemporary formulation of Bolivian identity: Andean, Aymara, and (partially) indigenous[10]. Evo Morales invokes it – even being inaugurated by Aymara shamans in Tiwanaku in view of the Temple of the Sun.

Inti (and the other major Bolivian manufacturers) frequently advertise in BIOFARBO, a journal produced by the Facultad de Farmacia y Bioquímica at UMSA. Another major manufacturer, Laboratorios Vita, S.A. shows nothing but a background of red, yellow, and green, the colors of the Bolivian flag. In large type, the ad proclaims: "We *are* Bolivian Industry.

[10] But what is striking here is the common recognition of this image. It is even carved into a fresco above the main door of UMSA, the public university in La Paz, and the Puerta del Sol is reproduced in the new pharmaceutical plant of Laboratorios Linda La Paz, S.A. A full treatment of this symbol would require a discussion of *indigenismo* and *mestizaje* in Bolivia, along with their (often troubling) ethical dimensions, which is beyond the scope of the current paper.

We work for Bolivia". Ads for international companies, or specific high-profit products ("me-too" drugs) only rarely appear. The majority of ads are for local manufacturers, all of which invoke Bolivia national symbols.

Such slogans and advertisements are not transparent. After all, these companies are selling something. But they are branding themselves as local, familiar, rooted, not faceless and transnational. Instead of platitudes about protecting "the consumer" or "our customers," the Bolivian corporations all reference the *pueblo Boliviano* (Bolivian people) as their target group. Indeed, Vita's website proclaims in colorful, italicized, large-point font: "Our objective: health of the Bolivian people," while another company, Laboratorios Lafar, S.A., emphasizes their commitment to quality, "accessible" (read: inexpensive) products to meet the health needs of the Bolivian population. All also emphasize their focus on quality control and certification (or desire to be certified) under an ISO 9001 standard or similar program. This perhaps reflects ambivalence about the reliability of local industry, on the one hand, and the widely-recognized inequalities and asymmetries of global industry (of which Bolivia often bears the brunt). I turn to this below.

Localist pharma

The localist orientation telegraphed via advertisements, official websites, and company-approved vision statements argues that Bolivian industry can solve local (and perhaps ecologically specific) maladies. It also emphasizes a national frame of reference – not grand international ambitions. The circulation of these products is restricted. The reasons for this are multi-factorial. There is the (not so benign) neglect of Bolivia by Big Pharma, as reflected in the Merck website, which enables perhaps greater local circulation of Bolivian products (though given the prices for locally-produced pharmaceuticals compared to patented international formulations, I am not so sure that Big Pharma would be able to make inroads). But there is also a rejection in Bolivia of the foreign: products, companies, governing philosophies, and technologies of statecraft in favor of the local, *lo tradicional* (traditional), *autóctono* (vernacular). Though this sentiment became most apparent with the election of Evo Morales, it permeated many sectors of Bolivian society for years prior to this, as evidenced by the frequent historic conflicts over resource access, use, and export. In this sense circulation of pharmaceuticals both into and out of Bolivia is constrained because of global structural factors as well as prevailing understandings of the importance of asserting local control and local orientation over bodies, places, and substances.

Yet there is a current of insecurity that runs through pharmaceutical publications, websites, and stories about local production of medicines. Counterfeiting and piracy are widespread in Bolivia for everything from appliances to gasoline and brand name cooking oil. Even if an item may not have originated in a knock-off factory, stories of frequent adulteration, modification, and their pernicious consequences are common. Sussing out if a product is the real item or an impeccable simulacrum borders on sport for many Bolivians. There are also products for which the counterfeit is viewed as just as good, if not better due to price considerations, as the real thing.

Medicines do not escape from near-constant discussion regarding if they are counterfeit, if the package contains what is described, if they are effective as they claim or filled with a harmful substance. Both relatively less expensive formulations and pricier items are subjected to such scrutiny. A popular and inexpensive decongestant salve produced by Inti is sold everywhere in Bolivia – itinerant peddlers carry some in their bags, street vendors display the olive-green tins next to batteries, candies, and juice boxes, and gleaming white pharmacies affiliated with the largest chain in Bolivia keep it stocked in glass cases. When buying it from any source, local procedure is to check the seal around the outside, squeeze the cap, and search for any fading, blurring, or smearing of the ink to ensure a real product. The same goes for expensive sunscreens. Even packaged pills receive a process of scrutinizing the blister pack, counting them, and examining the box for stated expiration date and other markers of authenticity. Though some pharmacy chains are known for being more reputable than others, all have recently been fined for selling counterfeit, illegal, or mislabeled pharmaceuticals ("Clausuran farmacias que no retiraron fármacos 'truchos'", 2010).

The prevalence of the "*trucho* economy" (*trucho* meaning counterfeit or grey-market, not official or recognized yet widely-circulating or available) also reflects anxieties surrounding how Bolivian products measure up to one another and, implicitly, to international products. Lafar's products in particular were mentioned as at times inconsistent, insufficiently potent, or not containing the amount of active ingredient stated on the label (though Inti and Vita were also discussed as being unreliable at times by locals). Perhaps their packaging is easier to tamper with. Or their prices (low even by Bolivian standards) make some Bolivians wonder about quality and efficacy, especially since people are often aware that pharmaceuticals command much higher prices elsewhere.

Yet this local perception, regardless of its grounding in an on-going grey market, also can reflect ambivalence about what, exactly, these pills and potions do and how they are supposed to work. There is less concern over herbal, "traditional", or "natural" remedies, where one can see the components and observe (or participate in) their production.

Conclusion

Given the above, how can we understand what a pharmaceutical is in Bolivia and elsewhere? "Pharmaceutical" calls to mind sterile laboratories, potent chemicals, high-tech equipment, highly standardized and automated production in specialized spaces, investment in research, patents, and sophisticated global advertising and distribution networks. It also invokes medicalization, biological citizenship, high prices for drugs of questionable efficacy for lifestyle diseases, and global asymmetries of access to life-saving medicines.

What then to make of the Bolivian landscape? The production plant discussed here does not look like this image, though it has many of the components. The medicines produced in such spaces are globally recognized (anti-hypertensives) and locally specific (Tónico Vital). Research and development orbit around using Bolivian materials to create new products – called alternately natural or traditional – and such products are packaged, branded, and distributed within the same spaces that produce anti-hypertensives and antibiotics. Both kinds of products – the lines between "natural" and "traditional" blurred from their origin – are avidly consumed in Bolivia, influenced, in part, by strong and widespread healing traditions and national symbols. Widespread *trucho* economies mean people constantly evaluate the provenance and promises of all products, including medicines, to determine their validity and efficacy. This is a different model of a pharmaceutical – one that is locally produced by chemists and pharmacists for a small audience using established techniques or accepted "natural" cures. This relationship is predicated on being responsive to the intensely pluralistic landscape in Bolivia, and in so doing, supporting a nationalist identity that draws upon indigenous symbols, self-sufficiency even if imposed due to absence from the global stage, and a rejection of imperialism (here in the form of Big Pharma).

One final comment regarding contemporary uses of the term "pharmaceutical" here. When I think of pharmaceutical practices, I automatically think of patented drugs for lifestyle diseases, Prilosec, Viagra, and so on. I also think of the immense energy – from crafting a message to budgeting for advertising to paying for spots in prime time – that goes into creating a brand name (and, perhaps, the surprising breakdown in this when the market in question is irrelevant, as with Merck and Bolivia). This is perhaps one component of what we mean by "Big Pharma". Where is "Little Pharma"? Generic drug manufacturers also create medicines, though "generics" are often held in contempt or suspicion in the U.S. and elsewhere, similar to the concern with *trucho* products in Bolivia. What's different in Bolivia is that brand names are only nationally recognized, and some of their products in other contexts might be considered "generics". I emphasize here the need to provide texture and a sense of place to studies of pharmaceutical practices, and to recall the diversity of actors, products, and locations involved.

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Notes

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