

**MARAÑA**  
**Leishmaniasis and the**  
**Pharmaceuticalization of War in Colombia**

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## Abstract

This dissertation is an ethnography concerned with a skin disease called cutaneous leishmaniasis, transmitted through the bite of sandflies that belong to densely forested tropical environments. It is a non-contagious, non-deadly, and usually painless disease, which starts with a tiny sore that continues to grow into an ulcer. In Colombia, soldiers, guerrillas, and paramilitaries constitute the populations most affected by this disease, as a result of spending months immersed in the same landscapes where sandflies thrive. Among those who have heard about leishmaniasis, this illness is often stigmatized as “the guerrilla disease.” The misconception that leishmaniasis is a guerrilla illness solely has deeply infused certain imaginaries with gruesome consequences. This is reinforced by the state’s restriction on access to antileishmanial medicines, a measure that is commonly interpreted as a warfare strategy to affect insurgent groups.

This work explores the ways in which leishmaniasis and the war are inextricably connected and mutually reinforcing. Situated at the intersection between STS and critical medical anthropology, it draws on fifteen months of multi-sited field research (October 2016 - December 2017), conducted during the peace implementation period after the agreement reached by the Colombian government and FARC, the oldest and largest guerrilla organization in Latin America. Research also involved more than 70 interviews with a diverse array of actors, including Army members, FARC guerrillas, scientists, medical professionals, peasants, representatives of multilateral health institutions, civil servants, and survivors of kidnapping.

This work reveals how warfare suffuses in fundamental ways the interrelation and co-evolution—the *co-production* (Jasanoff, 2004)—of technoscience and society in Colombia. It engages not only with the stigmatization of leishmaniasis patients as guerrilla members and the exclusionary access to antileishmanial drugs but also with other closely related aspects that constitute the war-shaped experience of leishmaniasis in Colombia. It traces the social construction of non-deadly leishmaniasis as a life-threatening disease; the systemic and systematic use of a highly toxic drug for a relatively benign disease; the mutual constitution of wartime social orders and pharmaceutical regimes that results from turning a drug into a biopolitical instrument of war; the rise of leishmaniasis as a strategic problem for the Army and the institutional measures to address it; and the vulnerability shared by human and non-human military populations towards the disease.

I have chosen to represent the intricate association between leishmaniasis and war in Colombia as a *maraña*. *Maraña* is a word in Spanish that means tangle but is also commonly used in Colombia to name the entangled greenery, braided lianas, and dense foliage that characterize the environments where the disease typically occurs. Through this metaphor, I argue that the *maraña* formed by leishmaniasis and the war makes it fundamentally impossible to make sense of this disease without taking serious consideration of the armed conflict. I show that leishmaniasis has been socially, discursively, and materially constructed as a disease of the war, and how the armed conflict is entangled with the realm of public health, medicine, and especially pharmaceutical drugs.

*To Diego*

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A little over seven years ago, I decided to turn my training and professional path around. Joining York University's Department of Science and Technology Studies, first as a master's student and then as a doctoral student, allowed me to reinterpret my previous training and experience as a biologist and biomedical scientist. I was able to immerse myself in the world of social sciences and discover in ethnography a space for intellectual and political engagement, as well as of reflexive and creative practice that was new and surprising to me. This dissertation is the product of that transforming and exciting journey in which many people and institutions supported, accompanied, and helped me. I would like to thank them.

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## Chapter One: Introduction

Between 2006 and 2008, Andrea González<sup>1</sup> rode on helicopters of the Colombian Army at least once a week. While those helicopters routinely provisioned troops scattered across densely forested areas in the Amazon region, Andrea was involved in a different operation—a scientific one. Immediately after landing, and as long as the guerrillas were not attacking the helicopter—which fortunately did not happen to her but once—she assessed the healing process of soldiers affected by leishmaniasis<sup>2</sup> skin lesions. These soldiers enrolled in a clinical trial that evaluated the efficacy of two leishmaniasis treatments—miltefosine and thermotherapy. As a university researcher with expertise in microbiology and clinical trial management, Andrea wanted to investigate if either of those two treatments could be used as an alternative to Glucantime. Because of this drug's high toxicity, Andrea, her colleagues, and other Colombian biomedical scientists have been trying to produce evidence demonstrating that other therapies have better or at least similar efficacy than Glucantime. Their goal is to modify the standard use of this pharmaceutical to treat leishmaniasis in the country.

For more than 50 years, Colombia has experienced one of the most violent civil wars in Latin American history called the *conflicto armado*, the armed conflict. This long and bloody war has taken place in multiple settings, but densely forested tropical environments constitute the main scene of conflict. As a result of spending long periods immersed in these areas where sandflies transmitting leishmaniasis thrive, soldiers, guerrillas, and paramilitaries constitute the populations most affected by this disease. Typically, members of the Army with the distinctive sign of leishmaniasis—a rounded, hollowed-out, and raw skin sore—are tested in each Army unit. If *Leishmania* parasites are visible under the microscope in smear samples taken from the sores, soldiers are usually sent to the Army's Leishmaniasis Recovery Center (CRL) located within the Silva Plazas battalion in Duitama, Boyacá. There, they receive Glucantime treatment for 20 days and then spend additional weeks in rehabilitation as they recover from the disease and the

toxicity of the medicine. Once the lesion has completely healed as a scar, they are sent back to their military units.

Unlike these typical cases, the soldiers at the CRL who decided to participate in the trial Andrea coordinated received either oral capsules of miltefosine, one session of local heat with a machine called ThermoMed,<sup>3</sup> or injected Glucantime (for those in the control group). After evaluating the healing process of the leishmaniasis lesions for six weeks, soldiers returned from the CRL to their respective units. However, according to the trial protocol, follow-up had to also be conducted three and six months after the end of the treatment. Since the Army could not afford to keep its men<sup>4</sup> away from the combat front for such an extended period, Andrea and her co-workers had to devise a plan for her to ride on military helicopters for the treatment follow-up visits.

In each of these visits, the soldiers stood in line and showed Andrea their leishmaniasis lesions for her to register how they had healed. On the side, the rotating blades of the helicopter roared. Fearing a sudden guerrilla attack, military members hastily and stressfully loaded and unloaded provisions and people from the aircraft: food, soldiers entering or leaving the area of operations, sick and wounded combatants, ammunition, arms, etc. Andrea recounted her experience to me ten years later, in her university office, far away from the Amazon and the daily tensions of war. “I saw many young men without legs, even a 22-year-old soldier whose face had been completely blown up by a landmine, eyes included; it was absolutely sad and horrifying,” she told me in that conversation. Andrea kept stressing how different and impressive it was to be in forested and remote areas of the country, seeing war face-to-face. In her opinion, her experience was in sharp contrast to that of most Colombians in the main cities who have become used to watching the events of the war on television and giving their opinions from the comfort of a sofa. “We had 437 soldiers enrolled in the study. It was a titanic job, a suicide job. I even had to do it on Christmas day. It was very difficult to coordinate all this with the Army commanders. But that work was great. I loved it!” she said. “Had you been doing research on a disease other than leishmaniasis, do you think you would have faced the same sort of experience?” I asked. “No, it’s very unlikely, it’s very unlikely,” she answered.

Episodes like these never made it into the scientific articles Andrea and her colleagues published on the clinical trial. They have remained untold. Leishmaniasis researchers do not share these stories except as anecdotes that might informally arise as hallway conversations or during the coffee breaks of scientific conferences. As such, they are not part of the “official” scientific accounts about leishmaniasis found in academic journals. Scenes like these remain marginal, unfamiliar, and, for the most part, unknown to the scientific world. Thus, people wearing immaculate lab coats and blue gloves in quiet and aseptic rooms, illuminated with cold white lamps, still compose the iconic image—but not necessarily the reality—of leishmaniasis-related biomedical research and clinical studies in Colombia.

Yet, this disease is deeply intertwined with the complex armed conflict the country has experienced for decades. Thus, when you look closely at Colombian leishmaniasis—as I have—it is inevitable to run into actors, objects, violences, inequities, knowledges, discourses, and imaginaries engendered, shaped, and kept alive by war. This, as Andrea implied, would have been very unlikely had the focus of my attention been a disease other than leishmaniasis.

This dissertation is about cutaneous leishmaniasis and its intricate entanglements with the Colombian armed conflict. It provides deep insight into the ways war is capable of transforming social life, radically altering everyday and cultural practices, including those related to public health, medical practice, biomedical research, and the political economy and regulation of pharmaceuticals. Beings, objects, discourses, and norms that are not usually part of the discussions on the armed conflict appear here as actors directly involved in a multidimensional web of intentional and unintentional violence. This ethnographic exploration of the social world of leishmaniasis in the context of the Colombian armed conflict not only builds a more complex understanding of both this disease and the war but also offers key reflections on how to better address health problems and inequities affecting populations in areas where war and disease have been equally present. This seems particularly relevant at a time when Colombia is going through a long, complex, and challenging process of peacebuilding after the signature in 2016 of a peace agreement between the state and the FARC-EP (*Fuerzas Armadas Revolucionarias de Colombia* –

*Ejército del Pueblo* [Revolutionary Armed Forces of Colombia – People’s Army]).<sup>5</sup> It is at this critical turning point in Colombian history that a study of the tight association between leishmaniasis and the armed conflict can contribute to understanding the role science, medicine, and pharmaceutical technologies have played in the inescapable, pervasive, and corrosive phenomenon of war. Crucially, it can also contribute to envisioning how healthcare and biomedical research can be transformed and re-purposed towards social justice and the aspirations of overcoming violence in Colombia.

By exploring the relationship between leishmaniasis and the armed conflict, this dissertation does two things. First, it traces the ramifications of warfare for public health, medicines, and biomedicine that, while discreet and almost imperceptible, are profound and result in serious consequences. Second, inverting this relation, I seek to make visible how public health, pharmaceuticals, and biomedicine participate in the production of war. My argument is that Colombian leishmaniasis cannot be understood disconnected from the specifics of the Colombian armed conflict. This disease and the war are not merely linked but are entangled with each other through discourses, logics, technologies, and practices produced by the state, medicine, biomedical research, and the armed conflict itself. Put differently, leishmaniasis has been socially, discursively, and materially constructed as *a disease of the war* with the crucial participation of public health, medicine, and especially pharmaceutical drugs. The case of Colombian leishmaniasis instantiates how a violent context produces a violent technoscience that, in turn, produces the knowledge and the resources that contribute to maintaining violence within society.

The people that populate these pages are the ones you would expect in any account of the Colombian war: soldiers, guerrillas, paramilitaries, and civilians caught up in all sorts of tangible and symbolic crossfires. But other less usual actors are also central to this story: scientists, health workers, public health officials, military dogs, microscopic parasites, sandflies, and the *selva*. *Selva* is a word in Spanish that is usually translated into English as “forest,” “tropical forest” or “jungle.” While both “*selva*” and “jungle” hold colonial, civilizational, and modernizing connotations (Ospina 2014; I. Rodríguez 1997; Serje 2005, 2014), I draw on Kristina Lyons’ (2020) take on *selva* and choose this word over its English translations. In contrast to the word “jungle,” *selva* avoids leading the reader to

tropes that have more to do with histories and geographies of the British Empire and less with colonial processes and development struggles and debates in South America. I also choose the noun *selva* to highlight how reductionist it is to translate *selva* into “forest” (see Scott 1998, 11–22). “Forest” makes invisible the exuberant biodiversity underlying the messy, relational and metamorphic nature of *selva*, and also the ways in which *selva* becomes deeply entangled with human and more-than-human phenomena that develop within it, such as leishmaniasis and the war.

In the case of leishmaniasis, the association between illness and war is most evident in the understandings some people have of the disease in the country. Among those who have heard about leishmaniasis in Colombia, this skin disease—like no other—is often stigmatized as “the guerrilla disease” or “the subversive disease” (see, for instance, Acevedo Serna, 2012; El Espectador, 2012; El Tiempo, 2008, 2015; Emanuelsson, 2012; Molano Bravo, 2005). Although it does not only affect guerrilla members, the misconception that leishmaniasis is a guerrilla illness solely has deeply infused certain imaginaries with gruesome, even deadly consequences for some people in rural areas. Significantly, the intricate association between leishmaniasis and the war is reinforced by the fact that the state has established restrictive control on access to antileishmanial medicines, a measure that is locally interpreted as a warfare strategy by the state aimed to disadvantage insurgent groups living in close relationship with the *selva* and the sandflies that inhabit it.

This dissertation engages not only with the stigmatization of leishmaniasis patients as guerrilla members (Chapter 3), and the exclusionary access resulting from the restrictive control of antileishmanial drugs (Chapter 5), but also with other closely related aspects that constitute the war-shaped experience of leishmaniasis in Colombia. It traces the social construction of non-deadly leishmaniasis as a life-threatening disease (Chapter 3); the systemic and systematic use of a highly toxic drug for a relatively benign disease (Chapter 4); the mutual constitution of wartime social orders and pharmaceutical regimes that results from turning a drug into an instrument of war (Chapter 5); the rise of leishmaniasis as a strategic problem for the Army and the institutional measures to address it (Chapter 6); and

the vulnerability shared by human and non-human military populations towards the disease (Chapter 7).

This work offers a critical analysis of the public health model that underpins the governance of leishmaniasis in Colombia. My understanding of public health draws on the work of Emilio Quevedo et al. (2004). They studied the process of transition from a hygienist to a public health model in Colombia between the end of the 19<sup>th</sup> century and the mid-20<sup>th</sup> century. These authors note that the term “public health” is problematic because it tends to be used in a non-specific way that hinders analytical practice. Therefore, they provide three definitions that highlight different and distinct ways in which public health has been understood (Quevedo et al. 2004, 22–24). One of the meanings of public health refers to *the health of the public*, which designates the state of health or illness of the public(s) and includes the causes leading to conditions of health or illness within populations (e.g., diseases, their agents and etiologies, environmental aspects, etc.). The second understanding of public health is concerned with the disciplines that study the health of the public and propose actions and models of intervention. The first of these disciplines, Public Hygiene, emerged in 19<sup>th</sup>-century France and was based on miasmatic theory. At the beginning of the 20<sup>th</sup> century, this discipline changed radically by adopting the orientation and methods of bacteriology, parasitology, epidemiology, entomology, immunology, engineering, and management. Following this transformation, which was particularly prominent in the United States, the discipline and its professional practices became known as Public Health (note the capital letters). Thirdly, Quevedo et al. distinguish an understanding of public health that refers to *the health for the public*. It designates a set of policies and actions implemented by the state and other public and private institutions that rely on models proposed by Public Health to intervene and control the health of the public.

I adopt this latter meaning of public health throughout this dissertation. Thus, in this work, “public health” refers to *the health for the public* as defined by Quevedo et al. (2004), designating a set of state actions that rely on the biomedical model of etiology to frame and solve the problem of prevention, diagnosis, treatment and rehabilitation of diseases. According to this model, which has come to dominate the management of health

and illness worldwide, “social conditions may increase susceptibility or exacerbate disease, but they are not primary causes like microbial agents or disturbances of normal physiology” (Waitzkin 2016, 24). As such, public health efforts tend to focus on vertical strategies addressing specific diseases rather than broad initiatives aimed at improving the wellbeing and living conditions of populations. Thus, vaccines and pharmaceutical drugs that could prevent and treat diseases dominate public health strategies at the expense of other approaches that tackle the social and material conditions at the root of illness and suffering (Waitzkin 2003; Birn 2005). This public health model stands in sharp opposition to the long-standing tradition of social medicine in Latin America, which is critical of monocausal explanations of disease, and advocates for societal changes and cultural remedies rather than therapeutic medical interventions (Waitzkin 2016; Franco et al. 1991). In the view of social medicine practitioners, illnesses are deeply entrenched in the complexities of social reality and demand “an approach to causality where social and historical conditions receive more explicit emphasis” (Waitzkin 2016, 167).

In biomedical and public health discourses, the armed conflict is commonly described as a social determinant of leishmaniasis in Colombia (see, for instance, INS and ONS, 2017). However, the interactions between these two phenomena have remained superficially explored and documented, and the war tends to fade away into structural factors associated with poverty that, although highly relevant, have been much more emphasized to explain the occurrence of leishmaniasis in the country. This dissertation draws attention to the armed conflict and the ways in which the war has crucially shaped the epidemiology of leishmaniasis in Colombia. It takes the status of the armed conflict as a social determinant of leishmaniasis seriously by qualifying, complicating, and filling this narrative with fleshy content and visceral experiences that demonstrate the undeniable and persistent entanglement between these two phenomena in the Colombian context. Furthermore, by demonstrating that the relation between leishmaniasis and war is multidimensional and multidirectional, this work challenges the uni-directionality that lies behind the notion of social determinants of the disease. As such, I contend that the association between the war and the disease implies much more than a circumstantial and unfortunate encounter between leishmaniasis-transmitting sandflies and combatants in the *selva*. In fact, this ethnographic work shows the critical centrality of the conflict for the



experience of leishmaniasis in Colombia, which renders incomplete any account of this disease that does not take serious consideration of the war. Likewise, it documents how leishmaniasis has shaped the course of the armed conflict in distinctive ways.

Relatedly, leishmaniasis is part of the World Health Organization's (WHO) current portfolio of "neglected tropical diseases" (WHO 2019b) and is also commonly labeled as one of many "diseases of poverty" (WHO 2019a). These "official stereotypes" (Suarez et al. 2005) are widely employed in biomedical and global health discourses to explain that the suffering associated with illnesses like leishmaniasis responds to the fact that the affected populations are poor and powerless people in marginal locations, who do not constitute a priority for states and scientific research, nor an attractive market for pharmaceutical companies (see, for instance, Oliaro et al., 2018). In this work, I question whether the notions of "neglect" and "poverty" are sufficient to account for the stigmatization, exclusion, and violence that affects populations with this disease in Colombia. I also challenge the idea that an increase in leishmaniasis incidence in times and spaces of war is only the result of the structural inequalities and their intensification because of the devastation linked to the armed conflict. I make clear that war cannot be easily accommodated within the narrative of "neglected diseases," which is predominantly concerned with socioeconomic status and poverty but not with violence and conflict. In other words, problematizing an illness as a "neglected tropical disease" does little to explain how the specifics of an armed conflict can shape in distinctive and critical ways the epidemiological patterns, therapeutic itineraries, and the lived experiences of a particular disease.

### **Leishmaniasis: the pathology of the Colombian war**

*"Somos una sociedad enferma"* [we are a sick society]. This statement is commonly heard in Colombia in reference to everyday crimes, human rights violations, and expressions of war that Colombians have seen populating the news day by day, for many decades. The sickness refers to the naturalization of violence; a deep damage, a kind of profound and unspeakable inadequacy that translates into a shortage of empathy and compassion. I am not saying that we, Colombians, are naturally, essentially, or inevitably violent or indolent. But our society has been profoundly transformed and fragmented by the armed conflict, so

much that it is still very hard for us, even today, to understand and agree on the magnitude of what has happened, how *we all* have directly or indirectly participated, and what is needed to put a final stop to violence, to heal the wounds, and avoid repetitions.

Arguably, we still do not fully grasp how war has made us sick, how we have become sick *from* war. Although the armed conflict is Colombia's most prominent problem and probably the most researched subject in the country (Blair Trujillo 2009; F. E. González 2003), there is very little work developed about the relationship between health and the war. Thus, our understanding of how violence has been nurturing and producing disease over many years of war is still very incomplete. This reduced body of literature, however, encompasses some valuable quantitative (see INS and ONS, 2017) and qualitative work. In the latter group, scholars have paid attention to the severe injuries and disabilities caused by the war on the bodies of hundreds of thousands of combatants and civilians (Carmona Lozano 2016; CNMH and Fundación Prolongar 2017; Cohen 2012; Valencia et al. 2015). Others have looked into the ways in which war sustains the structural violence that makes some people live in conditions of vulnerability to illness in the second most unequal country in Latin America<sup>6</sup> (Abadía and Oviedo 2009; Abadía et al. 2008; Cardona et al. 2005; Franco Agudelo 2003; Moreno and López 2009). Other research explores the destruction of healthcare infrastructures, the diversion of funds from healthcare to warfare, the disruption of the health system as a consequence of war, or violent actions against healthcare workers (Beyrer et al. 2007; Franco et al. 2006; D. Z. Urrego Mendoza 2003; Z. Urrego Mendoza 2011, 2015). While this dissertation is also very much concerned with bodily marks left by war, structural violence, and the armed conflict implications for health institutions, access, and workers, my approach is quite different.

This thesis focuses on a single disease: cutaneous leishmaniasis. Of course, cutaneous leishmaniasis is not the only illness affecting members of the different armies who have historically confronted each other in Colombia—from soldiers of the state military forces to far-right paramilitaries and far-left guerrillas. Yet, I have decided to pay close attention to this non-contagious, non-deadly, and curable skin disease because it is highly emblematic and illustrative of the complicated entanglements between biomedicine, public health, and war in this context. As STS scholar Stephen Hilgartner notes (2000, 28),

“studies of extreme situations are often deeply revealing about mundane events, because examining incidents that stretch or tear the social fabric exposes how it is woven together.” Thus, an exploration of leishmaniasis enables an examination of how the specific features of the Colombian war shape in determinant ways the experience of this disease in this country, and the entanglements of warfare and medicine more broadly.

I hope this work serves to motivate the development of further long-term and in-depth scholarship that, starting from the human and non-human experiences of war and disease, interrogates the localized ways in which biomedical technologies and scientific and medical practices have played a role in the production and reproduction of violence in Colombia, across political, historical and cultural dimensions. A book chapter by Fernando Serrano Amaya (2013) is one of the few works that has taken a similar approach to mine. He has studied the links between HIV/AIDS and the Colombian armed conflict through a critique of the predominant securitization discourses in the understanding of HIV/AIDS in contexts of war, and the exploration of local communities’ experiences of this infectious disease in rural Colombia. In one of the cases he examines, attention is drawn to how the entire population of Vista Hermosa (Meta) was forced by the FARC, in 2000, to take HIV tests at the municipal hospital without following the required medical protocols. Armed guerrilla members controlled the diagnostic process from beginning to end. Each civilian had to approach the FARC in order to receive an identification card issued by this guerrilla organization, at which time he or she was informed of the results of the test. HIV-positive people and those who refused to be tested became victims of forced displacement by this armed group.<sup>7</sup> Serrano Amaya argues that this case shows “how the management of the epidemic relates to the dynamics of warfare” (2013, 324), involving institutional and para-institutional powers that ended up impacting the situation of people living with HIV/AIDS in a conflict zone. “The mandatory test could be seen as a way to obtain information and separate populations, using medical arguments rather than moral prejudices to divide an otherwise reticent population” (2013, 325). Diagnostic technologies, stigmatization associated with HIV/AIDS, health institutions and employees, and the armed power of guerrilla organizations came together to produce divisions among the population. Serrano Amaya also mentions that, as part of so-called “social cleansing” practices, paramilitary groups have forced healthcare workers to divulge HIV testing results, victimized HIV+

people, and persecuted HIV activists. These cases are of particular interest because they show that the use of biomedical and surveillance technologies in the biopolitical control, discrimination of populations, and the perpetration of violence that I document in this ethnographic work, has not been exclusive to state actors but also pertains to guerrilla and paramilitary organizations.

The association between war and health crises has been well established in many different contexts, for a wide variety of diseases (Berrang-Ford, Lundine, and Breau 2011; Ghobarah, Huth, and Russett 2004; Levy and Sidel 2007; Pedersen 2002). As it is well acknowledged, diseases, not battlefield injuries, have been the primary cause of casualties and deaths in many armed conflict contexts throughout history (Ostrach and Singer 2012). This is especially true for infectious diseases where pathogens—parasites, bacteria, or viruses—have affected and decimated populations of civilians and combatants in past and present contexts of war (Latour 1993; R. Seaman 2018; Smallman-Raynor 2004). Among infectious diseases, those transmitted by insects have often been shown to be determinant for the course and outcome of wars at different points in time (Bell 2010; Espinosa 2009; Lockwood 2010; Russell 2001; Zinsser 2007; Winegard 2019).

By recognizing war as a highly disruptive process that impacts health in very diverse and contextual ways, critical medical anthropologists have ethnographically explored illness, public health, and clinical practice in conflict contexts. They have examined the specific mechanisms through which war and disease have become inextricably entangled in certain settings, unveiling war costs that remain commonly hidden (Dewachi 2015; Dewachi et al. 2014; Fassin 2009a; Renne 2014; Westerhaus 2007). Also, a rich and stimulating body of scholarship that understands illnesses as embodied experiences of violence has been produced (Adams 1998; Coker 2004; Fassin 2007; Green 1994; Henry 2006; Quesada 1998). Although I draw inspiration from these works, this dissertation takes deep consideration of knowledge-making practices and institutions, as well as the technologies, infrastructures, and regulations that *mediate* (Latour 2005) the experience of a disease developing within a warfare context.

While there is very insightful scholarship taking a non-ethnographic approach to explore the conjunction of (bio)medicine and war (J. Anderson and Perry 2014; Cooter

1993; Mark Harrison and Yim 2017; Linker 2011; Perry 2014), ethnographies that tackle the relationship between these two phenomena from a Science and Technology Studies (STS) perspective remain scarce. Currently, major Ebola, polio, measles, cholera, and leishmaniasis outbreaks occurring in places like Congo, Syria, and Yemen are the result of complex warfare dynamics including food and pharmaceutical blockages, disruption of public health emergency plans, militarized healthcare, attacks against medical professionals, and the intentional destruction of medical facilities and sanitary infrastructures (see Butunka, 2018; Venters, 2017). Although today's world is increasingly marked by armed conflicts and epidemics, the intersection of warfare and infectious diseases is a crucial field of inquiry that has not received enough attention from STS ethnographers.

My analysis develops in close dialogue with ethnographies that have interrogated the links between war, embodiment, biomedicine, and public health. Although the works of Kenneth MacLeish (2013) and Zöe Wool (2015) are not entirely concerned with health, their ethnographic explorations of the ordinary life of American soldiers and veterans constitute remarkable examples of scholarship that, partially drawing on STS theoretical contributions, are concerned with the bodily dimensions and everyday realities of those whose job is to make war happen. Wool explores what it means to lead an ordinary life in the aftermath of war, amidst the precariousness and physical and mental damage produced by extraordinary forms of violence. MacLeish's ethnography is particularly useful to make sense of the biopolitical condition of soldiers, a group of people rendered vulnerable for "living in and with bodies that are instruments and objects of violence" (2013, 13). Through careful documentation of the war-making experiences of active members of the US Army, MacLeish also shows that war is a never-ending phenomenon that permeates various aspects of society. Both Wool and MacLeish make clear that it is impossible to draw a line between the Army and the rest of society, as well as to demarcate the spatial, temporal, cultural, and bodily boundaries where war begins and where it ends. This dissertation is also attentive to the experiences of those whose bodies are harmed while making war happen, but also of civilians immersed in logics and practices attached to the war. I show that leishmaniasis is not only one of the ordinary ways in which the war affects and alters the lives of combatants and civilians in war zones, but also an embodied condition that

moves the conflict to places where its presence is unexpected. Bodies affected by both leishmaniasis and the war also inhabit the domains of public health, medicine and biomedical research, where epistemic and technological dimensions become much more conspicuous than in either MacLeish or Wool's publications.

In that sense, this dissertation is also in dialogue with the work of Jennifer Terry (2017), who has turned her analytical attention to the intersection between biomedicine and war in the context of US-led combat operations in Iraq and Afghanistan post 9/11. She is especially interested in the development of new biomedical technologies in the US and how these are enmeshed in warfare discourses and practices, acting within but also far beyond the contours of military institutions. The term *bioinequality* holds an important place in Terry's account, as it highlights that "bodies suffering from war wounds are classified by a variety of social technologies" that value some lives over others (2017, 20). As a result, the benefits and promises of new therapies, devices, and pharmaceuticals developed thanks to and in the name of the war are available to some but denied to most people. While Terry is mostly concerned with "the biomedical industry's development of high-tech, expensive, and lifelong therapies that are too costly for the vast majority of persons wounded in war" (2017, 21), my case shows that even old, state-provided, and imperfect technologies can be used to redraw distinctions between people in societies at war. While members of the Colombian Army have enjoyed full access to antileishmanial medicines, the state has excluded civilians and guerrillas on a wartime basis. The instrumentalization of pharmaceuticals that I document in this dissertation resonates with Joseph Masco's argument. In *The Theater of Operations* (Masco 2014), he shows that weapons are not the only means of violence that the state monopolizes. Affects, imaginaries, infrastructures, and other elements of the material world are also part of the state's arsenal to produce violence. The restrictive control of a pharmaceutical to generate distinctions between state allies and enemies in a context of war is a clear example that medicines can also participate in the perpetration of violence.

The instrumentalization of drugs in war contexts is not necessarily new or unique to Colombia. In his study of the rise and fall of state medicine in Iraq, Omar Dewachi has documented that, in the aftermath of the 1991 Gulf War, this country was subjected to a

series of international sanctions that prohibited, among others, the import of crucial antibiotics “due to their ‘dual use’ for military and civilian purposes” (Dewachi 2017, xi). The UN claimed that the goal was to destroy Iraq’s military capacity after its occupation of Kuwait in 1990 by “severing the ‘supply lines’ on which the Iraqi regime depended” (Dewachi 2017, 7). Dewachi has characterized these restrictions on access to medicines and other goods needed for the reconstruction of Iraq as “one of the harshest experiments of the war under UN economic sanctions” (2017, ix). The implication of pharmaceuticals in warfare that I explore in this dissertation is another example of the dramatic consequences that such a vicious strategy can have not only for combatants but also for civilians.

By putting the focus on leishmaniasis, this work shows how and why this disease has become a *homeland pathology* (Hochman, Liscia, and Palmer 2012) in war-ridden Colombia, that is, a disease encapsulating not only violent years of social and armed conflict, but also the state’s conception of its enemies, rural populations and spaces, development and progress, and legitimate ways of waging war. For historians Hochman, Di Liscia, and Palmer (2012, 13–27), *patologías de la patria* [homeland pathologies] are scientific constructions of diseases that, in specific moments of Latin American modern history, have served to delimit spaces and identify certain populations for their further—but conditioned—incorporation into nation-building projects. *Homeland pathologies* indicate time-space particularities that, through the use of medical labels, constitute, demarcate, and bring to the fore populations embodying negative aspects of the nation which need to be scientifically addressed. These diseases do not need to be epidemiologically problematized as serious health issues. Instead, their configuration as *homeland pathologies* and their elevation as national concerns depend on contingent factors capable of establishing associations and affinities between individuals and spaces, their imbrication with larger national problems and projects, and biomedical intervention as a state duty.

As a homeland pathology in contemporary Colombia, leishmaniasis is an illness that condenses many of the social dynamics and patterns characterizing a period of national history marked by the war. Moreover, leishmaniasis allows for a rich exploration of how a disease and its associated technologies, biomedical understandings, and practices can be shaped, instrumentalized, and resignified to produce intentional and unintentional violence,

stigmatization, and exclusion in a context of conflict. Thus, this dissertation extends our understandings of the ways in which pharmaceuticals, diseases, scientific knowledge, and armed conflicts become entangled in very complicated ways. This exploration of leishmaniasis in Colombia and the pathological dimensions of war this disease entails is an example of the contributions that ethnographic approaches rooted in STS can make to unveil—and eventually disrupt—how pharmaceuticals and biomedical epistemologies, spaces, and practices can produce unanticipated battlefields and violences that are otherwise rarely recognized as such.

In this work, I often choose to speak of “Colombian leishmaniasis.” My use of this terminology does not correspond in any way to the nomenclature used by scientists, nor to a specific species of the *Leishmania* parasite. When I speak of “Colombian leishmaniasis,” I am drawing on Margaret Lock’s conceptualization of *local biologies* to point at the convergence between biological and social elements that constitute leishmaniasis in Colombia. Otherwise put, when I say “Colombian leishmaniasis,” I am referring to this disease as a *biosocial* phenomenon that originates in a particular time and space (Lock and Nguyen 2010). I do this as a way of problematizing the main working assumption of biomedicine: that all bodies are biologically the same, independently from where they are geographically, politically, and historically located (Lock 1995). In contrast, the “Colombian leishmaniasis” terminology underscores that this disease is the result of particular cultural and historical trajectories in which the war remains deeply implicated in the local experience and knowledge of leishmaniasis.

### **The co-production of health and war regimes**

To study and make sense of the association between leishmaniasis and the armed conflict in Colombia, I have adopted the interpretative framework of *co-production* proposed by Sheila Jasanoff (2004). Taking a co-productionist perspective means that science and society are understood as mutually constitutive, “each underwriting the other’s existence” (Jasanoff 2004, 17). Co-production sees science as a practice that cannot be simply placed on the side of nature, objectivity, reason, and facts, or set apart from culture, subjectivity, politics, and emotions. In other words, the knowledge that scientists produce is neither a truthful reflection of nature nor just a sophisticated expression of social and political



interests. “The term *co-production* reflects this self-conscious desire to avoid both social and technoscientific determinism in accounts of the world” (Jasanoff 2004, 20). Instead, *co-production* constitutes a symmetrical approach in the study of science, technology, and society “in that it calls attention to the social dimensions of cognitive commitments and understandings, while at the same time underscoring the epistemic and material correlates of social formations” (Jasanoff 2004, 3). Thus, the study of the interconnection of science, technology, and society from a co-productionist perspective refuses to consider the products of scientific inquiry as mirror images of reality, as unmediated reflections of what is conventionally designated by the word “nature.” Instead, the co-productionist framework demands to analyze how scientific knowledge “embeds and is embedded in social practices, identities, norms, conventions, discourses, instruments, and institutions—in short, in all the building blocks of what we term the *social*. The same could be said even more forcefully of technology” (Jasanoff 2004, 3).

Importantly, co-production considers science and technology “indispensable to the expression and exercise of power” (Jasanoff 2004, 14). As such, exploring how science, technology, and society are co-produced is also a question about the power dynamics and imbalances at stake in both the production of knowledge and its material embodiments, and in the ordering of society through science and technology. As a major power agent, the state commonly motivates and is involved in questions of co-production. Hence, works that draw on this interpretative framework often study “how knowledge-making is incorporated into practices of state-making, or of governance more broadly, and, in reverse, how practices of governance influence the making and use of knowledge” (Jasanoff 2004, 3). Thus, state power is not taken for granted but explored as an entity in constant need of legitimation, often achieved and exercised with the help of science and technology, their cultural authority, and the ideals of objectivity, neutrality, and reliability conventionally attached to them. Similarly, scientific inquiry and technological developments are viewed as conditioned by particular state visions and purposes.

Crucially, working within the co-production framework involves tackling normative questions and adopting a prescriptive orientation. Since science, technology, and society are regarded as mutually constitutive *products* of certain material, historical, political, and

cultural arrangements, this implies that the ways in which these domains exist and relate in the world are susceptible to contestation and transformation. Thus, co-production also allows us to think of alternatives and imagine ways to construct “the pathways by which change could conceivably occur” (Jasanoff 2004, 42).

Drawing on a co-productionist understanding of science, technology, and society, this dissertation is centered on four questions: What kind of relations exist between the armed conflict and the knowledge, technologies, imaginaries, and experience of leishmaniasis in Colombia? What are the implications and effects of this relation for populations affected by both leishmaniasis and the war? What happens to scientific objects like leishmaniasis and antileishmanial drugs when they circulate through a society historically configured by war? What does the experience of war through leishmaniasis reveal about the legacies of the armed conflict and the horizons of peacebuilding for Colombians?

### ***Maraña* and disentanglement**

I have chosen to represent the intricate association between leishmaniasis and war in Colombia as an intertwined *maraña*. *Maraña* is a word in Spanish that means tangle but is also commonly used in Colombia to name the *selva*. I was reminded of this by several soldiers affected by leishmaniasis with whom I had the opportunity and the privilege to talk with for months during my fieldwork. *Maraña* refers to the thickness of the *selva*, to its entangled and intertwined greenery, to braided lianas and dense foliage that make the trek challenging. When soldiers enter this forested landscape, they talk about *enmarañarse* (getting tangled up), sneaking into the *selva*, becoming part of the *maraña*, getting so entwined with it, and submitting to its vicissitudes that *desenmarañarse* (untangling) turns into a complicated task. *Maraña* is a conceptual resource that I have recovered from the voices of my research participants to explain the kind of human and more-than-human contingencies, relations, and interactions that give rise to leishmaniasis within biodiverse spaces historically affected by the war—the *selva*. Through the metaphor of the *maraña*, I describe the relationship between leishmaniasis and the conflict as an intertwined, contingent, and messy arrangement of lianas that hold these two phenomena together in multiple and interconnected ways. As a concept, *maraña* also stresses that although

leishmaniasis and conflict have become *enmarañados*—which makes it fundamentally impossible to make sense of this disease if the war is overlooked or downplayed—they can also become *desenmarañados* (untangled). Since their attachments are relational and not inherent to them, leishmaniasis and war can and should constitute another type of relationship for those who have historically lived with both the disease and the conflict.

My understanding of the *maraña* formed by leishmaniasis and the war departs from predominant human-centered approaches that make sense of violence and armed conflicts as quintessentially human-made phenomena, involving exclusively human victims, perpetrators and witnesses. Instead, I understand war as the product of a heterogeneous arrangement of human and nonhuman entities that is “contingent upon a wide cast of helpers, co-travelers and companions of various shapes, sizes, and kinds” (Asdal, Druglito, and Hinchliffe 2017, 1). It builds on the work of other scholars who consider the intricate socio-ecological relations between humans and non-humans as crucial agents in shaping history, waging war, and producing violence (De León 2015; Kosek 2010; Lederach 2017; Lyons 2020, 2018, 2017; Ruiz Serna 2017). As such, *maraña* involves a relational approach to the understanding of war that transcends both the humanist perspective on the Colombian armed conflict and the anthropocentric frame of peacebuilding processes (Lyons, Pinto-García, and Ruiz Serna Forthcoming).

*Entanglement* is a powerful concept, inspired by quantum physics, which took force with Karen Barad’s work (2007) and has been very productive in STS. In physics, two particles are said to be “entangled” when, although being separated in space, they *cannot* be independently described because the state of one is connected and dependent on the state of the other. Alex Nading (2014), for example, has heavily drawn on the notion of entanglement to illustrate the intricate, complex, and unbreakable connections between the humans and nonhumans that make up dengue in Nicaragua. For Nading, *entanglement* indexes indestructible relations whose subtraction would render incomplete any understanding of this vector-borne disease. Although *entanglement* is often translated into Spanish as *enmarañamiento*, I want to indicate in what ways these two concepts resemble and differ in my work.

While *entanglement* and *maraña* have the relational emphasis in common, I see *maraña* as the result of processes of *enmarañamiento* and actions of *enmarañar* (tangle up) that, unlike entanglement, can be undone by unraveling—at least partially—what holds its elements together. Even though my inquiry does rely on *entanglement*'s relational emphasis to highlight the impossibility of making sense of leishmaniasis without taking serious consideration of the war, and also to describe how and why leishmaniasis and the armed conflict have established complex links to each other with the constant implication of nonhumans, I refrain from seeing these two as inseparable phenomena. I contend that leishmaniasis and the armed conflict *can* break the ties that have attached them in war times and *should* constitute another type of relationship—a *disentangled* one—in peace times. In other words, if the *enmarañamiento* of war and leishmaniasis is not inevitable, their disentanglement should be possible.

If I consider that the armed conflict and leishmaniasis can be disentangled, it is not because I understand the separation between the social world and leishmaniasis as something possible. In tune with longstanding findings in STS and medical anthropology, diseases, as any other representation of nature constructed through scientific practices and discourses, always embed and are embedded in particular social arrangements, values, and historical trajectories (Jasanoff 2004). Thus, *desenmarañar* war and leishmaniasis in Colombia involves re-constructing (Woodhouse et al. 2002) the links holding these phenomena together through processes guided by the goals and principles of peacebuilding and social justice. Disentanglement, then, is a normative stance that underscores the need to produce *other* attachments between leishmaniasis and society through *different* scientific programs, technological designs, healthcare practices, regulations, and social and cultural processes capable of challenging violence, suffering, and inequality.

The possibility for *disentanglement*, which I suggest is partially attainable if we think with the *maraña*, also draws on the work of Eva Haifa Giraud (2019). Recognizing the ethical, political and material need to understand that “nature” and “culture” are not mutually-exclusive ontological categories, her work is in line with a large body of STS scholarship that strives to unsettle anthropocentric and binary worldviews by insisting that the human condition depends and is constituted by complex and entangled relations with

nonhumans (D. Haraway 2003; Strathern 1980). However, Giraud sustains that that “irreducible complexity . . . can prove paralyzing and disperse responsibilities in ways that undermine political action” (2019, 2). Drawing on Karen Barad’s work and her notion of *agential cuts* (see Hollin et al. 2017), Giraud explores the possibility of political action to build more ethical and livable futures despite and amidst entangled complexities. She proposes the adoption of an *ethics of exclusion*, which pays attention to those relations, practices, and more-than-human arrangements “that are *foreclosed* when other entangled realities are materialized” (2019, 2, emphasis in the original). In other words, it is not enough to give meaning to the world by shedding light on existing or aspirational entanglements between human and non-human entities. It is necessary to think about the “flipside” of entanglement, that is, about the exclusions built into the entanglements of the present and the alternative futures we hope to create.

Considering the need for disentanglement of the *maraña* formed by leishmaniasis and the Colombian armed conflict, throughout this work, I draw attention to some of the relations and practices that would have to be excluded in order for another type of associations to emerge and materialize. Thus, in this dissertation, I use *entanglement* and *maraña* interchangeably to highlight the convoluted and messy relations holding together leishmaniasis and war in Colombia, but also the hopeful possibility of their disentanglement. Disentanglement forces us to think creatively beyond simple “solutions” that, by reducing a highly complex problem to a quick technological fix, fail to address the roots of the problem, offer at best a palliative remedy, and often create additional drawbacks (Layne 2000). Thinking in terms of disentanglement means recognizing that technology can be part of the solution, but is not *the* solution to the range of problems that the entanglement between war and health poses. It is about working in a transdisciplinary way to develop various interventions of a socio-technical and cultural nature—what Linda Layne (2000) calls *social-technical* and *cultural fixes*—to address the wide range of problems enmeshed in the *maraña*.

### **The pharmaceuticalization of war**

Glucantime is the drug standardly used to treat leishmaniasis in Colombia and most Latin American countries. It is an injectable medicine produced by the French multinational

pharmaceutical company Sanofi, originally developed in the 1940s. In Colombia, leishmaniasis governance is virtually reduced to the state purchase, distribution, and administration of Glucantime ampoules. In fact, it is not an overstatement to say that the state management of leishmaniasis starts and ends with Glucantime. The restricted circulation and controlled distribution of this pharmaceutical object are crucial to understanding the co-production of a war regime and a health regime that crystallizes in the case of Colombian leishmaniasis. Thus, a significant portion of this dissertation's pages is devoted to Glucantime, the pharmaceutical through which the state has waged part of the war against guerrillas producing what I call the *pharmaceuticalization of war*.

Anthropologists and sociologists have employed the term *pharmaceuticalization* in two major ways. Anthropologist João Biehl (2007) studied the introduction of antiretroviral therapy in Brazil, a state policy that was widely celebrated for “demonstrating” that extensive provision of drugs for HIV+ people was possible in developing countries. While Biehl acknowledges that this strategy did improve access to therapy for thousands of people and decreased mortality rates, he warns that such a drug-centered public health model tends to marginalize preventive strategies. Moreover, it overlooks improvements in medical care, health infrastructure, and general well-being, which ultimately depend on alleviating poverty, balancing inequalities, and addressing human rights violations. This *pharmaceuticalization of public health*, he argues, is especially detrimental to the most vulnerable people living with HIV because the state's presence comes in the form of pharmaceuticals but not as a strengthened public health system, capable of supporting the sustained provision of medicines and other non-pharmaceutical aspects that are also crucial to leading healthy and dignified lives. This type of public health approach has been shown to be particularly prominent in “Global South” contexts (although not only, see for example Pollock and Jones 2015), where health problems are often framed in terms of lack of pharmaceuticals, reducing the scope of public health and the range of possible solutions to the provision of drugs (Pollock 2011; Ecks 2005).<sup>8</sup>

In sociology, the notion of pharmaceuticalization is a further development of *medicalization*, a key and older concept in the sociology of health and illness that has underpinned the theorization of important scholarship since the 1970s (Williams, Martin,

and Gabe 2011; S. E. Bell and Figert 2012). Medicalization has been primarily concerned with medicine as an institution of expanding social control that makes “the labels ‘healthy’ and ‘ill’ *relevant* to an ever increasing part of human existence” (Zola 1972, 487, emphasis in the original). Medicalization has been helpful to think critically about instances in which a non-medical problem is defined in medical terms, or when medical interventions are employed to address it (Conrad 2005). Relatedly, *pharmaceuticalization* denotes the increasingly frequent tendency of using pharmaceuticals to address a broad variety of problems and situations, even non-medical ones (Williams, Martin, and Gabe 2011). Although medicalization and pharmaceuticalization often overlap, it is important to highlight that pharmaceuticalization can take place without or beyond medicalization (Abraham 2010; Williams, Martin, and Gabe 2011). Studies that trace pharmaceuticalization think of the growing role of pharmaceuticals in society as “a dynamic and complex heterogeneous socio-technical process” that involves the expansion of *pharmaceutical regimes* (Williams, Martin, and Gabe 2011, 721). “That is to say that it can be understood as a network of institutions, organisations, actors, and artefacts, alongside those cognitive structures and affective processes associated with the creation, production and use of therapeutics” (Gabe et al. 2015, 193). Thus, scholarly projects interested in pharmaceuticalization processes pay attention to the participation of a heterogeneous array of entities, practices, knowledges, and emotions in the colonization of everyday life by pharmaceuticals.

Most studies on pharmaceuticalization have focused on the leading influence of pharmaceutical companies on the growing presence of pharmaceutical products in society (for instance, Dumit 2012). Thus, the concept has been primarily employed to make sense of cases where pharmaceutical companies, seeking to expand their market, develop or repurpose drugs for conditions that were previously unrecognized as pathological or in need of a pharmaceutical fix. In that vein, pharmaceuticalization has been particularly fruitful to study the use of drugs as psychosocial remedies for sexual problems, sleep disorders, hyperactivity, anxiety, attention deficits, and depression (Abraham 2010). However, other scholars have documented pharmaceuticalization processes developing in arenas where the pharmaceutical industry does not necessarily play a dominant role. Understood as “the translation or transformation of human conditions, capabilities and capacities into

opportunities for pharmaceutical intervention” (Williams, Martin, and Gabe 2011, 711), *pharmaceuticalization* has been increasingly useful to make sense of phenomena taking place far beyond the medical profession and the pharmaceutical industry (McReynolds-Perez 2014). Elbe and colleagues (2015), for example, have drawn attention to the role that governments play in creating regulatory conditions and policy instruments for the expansion of pharmaceuticals in society. Fearing the possibility of pandemics and bioterrorist attacks, these authors show how, under a “health security” discourse, governments in the United States and Europe have acquired and stockpiled enormous amounts of pharmaceuticals, as well as promoted the development of new medical countermeasures. They argue that “[g]overnments too are today accelerating, intensifying and opening up new trajectories of pharmaceuticalization in society” (Elbe, Roemer-Mahler, and Long 2015, 263).

Similarly, this dissertation documents a pharmaceuticalization case in which the role of the pharmaceutical industry or the medical establishment is not as relevant as the practices, visions, and logics of a state. What I call the *pharmaceuticalization of war* involves three interrelated processes. First, it highlights that, in the case of Colombian leishmaniasis, a model of public health that relies almost exclusively on drugs—primarily on Glucantime—displaces preventive strategies and ignores broader issues of economic inequality and marginalization that are central to the occurrence of the disease among those who inhabit poor and remote areas of the country. For people with leishmaniasis, the state becomes present only through Glucantime, a drug that is far from their reach, housed in health institutions to which rural Colombians have very limited access. Thus, the pharmaceuticalization of public health in the case of leishmaniasis is part of institutional dispositions that generate and deepen inequalities between rural and urban contexts, giving rise and reproducing structural forms of violence.

Crucially, the pharmaceuticalization of public health at work in the case of Colombian leishmaniasis operates as an underlying condition for the second process characterizing the pharmaceuticalization of war—the penetration of pharmaceutical technologies into war-making processes. In other words, the pharmaceuticalization of public health provides the context for the expansion of pharmaceuticals into war. In this



dissertation, I show that Glucantime is officially delivered through a complex control scheme that, relying on regulations, institutions, discourses, expertise and knowledges, serves to manage populations and produce therapeutic distinctions between state allies (Army soldiers and military dogs) and state enemies (guerrilla members and civilians with uncertain affiliations). Thus, I illustrate that Glucantime is not an apolitical or neutral entity, nor a predetermined technology that solves a public health problem in foreseeable ways. In fact, this drug does much more than simply fulfill its assigned therapeutic purpose. The state has remade Glucantime into a valuable *biopolitical instrument of war* by restricting its circulation and accessibility according to a social order of included allies and excluded enemies that originates with the armed conflict. Thus, the third process underlying the pharmaceuticalization of war involves the central participation of Glucantime in drawing biopolitical distinctions between individuals affected by leishmaniasis in Colombia.

By saying that Glucantime is a biopolitical instrument of war, I am drawing on the interpretation that Giorgio Agamben (1998) and others (Fassin 2008, 2009b) have made of Michel Foucault's conceptualization of biopower. Foucault differentiated between two forms of power. On the one hand, there is a sovereign power that is expressed in "the right to *take* life or *let* live," that is, in "the privilege to seize hold of life in order to suppress it" (Foucault 1978, 136). On the other hand, there is a type of power he called *biopower*, which is not primarily concerned with death but with "the administration of bodies and the calculated management of life" through detailed controls and far-reaching regulations. (Foucault 1978, 140). Although Foucault wrote that the replacement of sovereign power by biopower is a hallmark of modernity—"the ancient right to *take* life or *let* live was replaced by a power to *foster* life or *disallow* it to the point of death" (1978, 138)—he also paved the way for thinking about the synchronic or dialectic articulation of these two forms of power in contemporary societies (Fassin 2008). According to Didier Fassin, it is "the concomitance and even the confusion" between the sovereign right to kill and the mechanisms underlying biopower that offers "a new way of thinking the tragedy of the present" (2008, 152, 153). Differently put, killing people and letting them die are two convergent processes at work in contemporary politics of death, and I would say that this is especially evident in times of war and within regimes that call themselves democratic.

This dissertation draws on Agamben's work (1998) because he focuses precisely on this point where sovereign power and biopolitical power come together. In fact, he does not see biopower as a relatively recent phenomenon that emerged with modernity, but as part and parcel of sovereign power in general. For him, sovereign power has always exercised biopower by including certain lives and excluding others. In that respect, Agamben distinguishes between *zoe*, which refers to being alive like any other living being, and *bios*, which refers to a particular form of life such as living as part of a group or as an individual. According to Agamben, sovereign power has always dealt with both *zoe* and *bios*, but has done so by differentiating between those worthy of political life and the protection of the sovereign (*bios*), and those who remain excluded from political life and regarded only in terms of bare life (*zoe*). As such, biopolitics is practiced on two levels: first, by dividing human lives between included and excluded (the biopolitical face of sovereign power), and second, by practicing mechanisms of regulation and discipline over those whom the state includes and chooses to govern and protect. Thus, biopower is not only about fostering and managing life, but also about exclusion, violence, and death.

As a biopolitical instrument of war, Glucantime works beyond the realm and concerns of medical practice and authority, sustaining an ideology and social divisions established in wartime. Any person with leishmaniasis who approaches the state seeking medical care gets channeled into the Glucantime regime and ends up encountering a war regime of friends and foes. On the one hand, those considered enemies (guerrillas) or potential enemies of the state (civilians with uncertain affiliations) are excluded from access to *the* pharmaceutical that encapsulates the state's response to leishmaniasis. They are nothing but bare life left unprotected by the state. While these people are often killed, this case shows that they can also be left to die. The exclusion of certain people from access to Glucantime is a clear example of how biopolitics has operated in the Colombian war. On the other hand, those considered allies of the state (soldiers and military dogs) are included and protected in the form of guaranteed medical and pharmaceutical care. As *bios*, they are subjected to the regulatory and disciplinary mechanisms that underlie the administration of Glucantime.

As a result, the restricted paths through which Glucantime circulates naturalize leishmaniasis as a guerrilla disease, differentiate the population along friend/foe lines and stabilize social orders and forms of control engendered by the war. Paraphrasing Didier Fassin (2008, 160), Glucantime *catalyzes* in that it is not limited to unveiling historical tensions in conflict-ridden Colombia, it also contributes to producing them by putting people on one side or the other of the state war against guerrillas. This pattern of inclusion/exclusion that plays into the access to leishmanias treatments is a telling sign that the ordering of societies at war can also be found “in the very organization of life around the products of human ingenuity and knowledge” (Jasanoff 2003, 161). This co-evolution and mutual constitution of a pharmaceutical regime and wartime social orders is what I name the *pharmaceuticalization of war*. Moreover, this terminology emphasizes that pharmaceuticalization is a two-way process whose explanatory power is more comprehensive if understood in terms of co-production (Jasanoff 2004). As such, the *pharmaceuticalization of war* foregrounds the processes through which wartime social orders and pharmaceutical regimes are mutually constituted. Under these premises, this dissertation is a story at once about the penetration of pharmaceutical products into war-making processes, and the fashioning of the war apparatus to fit the constraints of a therapeutic regime primarily based on Glucantime.<sup>9</sup>

### **Leishmaniasis as a biomedical category**

In the biomedical world, the word “leishmaniasis” refers to a broad spectrum of illnesses that have been grouped into two major and very different forms of the disease: cutaneous leishmaniasis and visceral leishmaniasis. Visceral leishmaniasis, also known as kala-azar, affects the internal organs of the body and is generally fatal if left untreated. Cutaneous leishmaniasis—the disease this dissertation is concerned with—is neither deadly nor contagious, and only affects the skin. Scientists have described more than 20 parasites of the *Leishmania* type as causative agents of leishmaniasis. From a biomedical standpoint, these microscopic creatures are transmitted to mammals—humans included—through the bite of tiny female sandflies that feed on blood to develop their eggs. Of approximately 800 species of sandflies, entomologists consider at least 98 of them vectors of the disease (WHO 2017, 2010).

In the case of cutaneous leishmaniasis, weeks or months after an infected female sandfly has bitten, a skin lesion develops, generally in the spot of the bite. It starts out like a *granito* [a tiny sore] that keeps growing and forms an ulcer. The typical textbook leishmaniasis lesion is commonly described in daily medical practice as a *volcancito* [little volcano]—a circular sore with a raised edge and a reddish-pink crater that might suppurate or be covered with a scab. However, ulcers can have all sorts of shapes and sizes. Most are painless and grow slowly, and several cases clear up spontaneously, without the need for treatment.<sup>10</sup> Therefore, cutaneous leishmaniasis tends to be considered a benign disease, especially when compared to life-threatening visceral leishmaniasis.

Nevertheless, a leishmaniasis skin lesion might cause pain, especially when it gets secondarily infected with fungi or bacteria, which sometimes comes with a swollen, festering, and smelly appearance. Also, having a sore that, as days go by, expands towards the sides and the depth of the skin, is not only disturbing and uncomfortable but might also trigger feelings of disgust on oneself and others. Although some lesions can heal by themselves without any pharmaceutical treatment, there are also chronic (non-healing) ulcers lasting several years and often not responding to drugs (see Fernández et al., 2014).

In terms of bodily manifestations, the spectrum of leishmaniasis also includes so-called “asymptomatic individuals,” that is, people who, despite having been bitten by sandflies and infected with *Leishmania* parasites, never develop ulcers.<sup>11</sup> At WorldLeish, the largest international conference on leishmaniasis taking place in 2017 in Toledo, a couple of scientists used the image of an iceberg to represent the place of asymptomatic patients in the current biomedical understanding of the disease. While the small and visible tip of the iceberg corresponded to the cases that are detectable to the eye in clinical practice, the large part submerged, unseen, and little-studied represented the asymptomatic cases.

Although diffuse and mucosal leishmaniasis are often recognized as two additional forms of the disease, they are commonly understood as under and over-responsive presentations of cutaneous leishmaniasis, respectively (R. Rojas et al. 2006). Diffuse leishmaniasis is characterized by multiple and widely disseminated lesions on the skin that do not form ulcers. Mucosal leishmaniasis is seen as a form of the disease that is

exclusively restricted to Latin America, occurring when the *Leishmania* parasites from a skin lesion migrate through blood or lymphatic vessels to mucous membranes, especially those of the nose, mouth, and throat. This migration process or metastasis can take place simultaneously with the appearance of the skin lesion, or years after the ulcer has healed. Although mucosal leishmaniasis only accounts for 1-4% of leishmaniasis cases in Colombia (INS and MinSalud 2017), it is the most feared complication of cutaneous leishmaniasis because, when it happens, damage can be extensive, and partial or total destruction of the nose and mouth may occur (see, for instance, Osorio et al., 1998; Ovalle-Bracho et al., 2016; Zea et al., 2009). In extreme cases, secondary over infection of mucosal lesions with bacteria can lead to death when the upper respiratory tract is compromised (MinSalud and INS 2017).

Leishmaniasis is considered endemic in 98 countries, with 58,000 cases of visceral leishmaniasis and 220,000 of cutaneous leishmaniasis per year worldwide.<sup>12</sup> Six countries have more than 90% of all visceral leishmaniasis cases: India, Bangladesh, Sudan, South Sudan, Ethiopia, and Brazil. And 70 to 75% of the cutaneous leishmaniasis cases are found in 10 countries: Afghanistan, Iran, Syria, Algeria, Ethiopia, North Sudan, Costa Rica, Peru, Brazil, and Colombia (Alvar et al. 2012). Although leishmaniasis—primarily cutaneous leishmaniasis—is widely distributed around the globe, generalizations and comparisons between regions of the world are not always easy or useful because the disease in its multiple forms develops and manifests differently, particularly from one side of the Atlantic Ocean to the other. Depending on the parasite and the vector species, the ecological characteristics of the transmission sites, and the previous and current exposure of humans to the parasites (WHO 2010), the manifestation of leishmaniasis variates broadly from one place to another.

While there is a large gap in terms of scholarly works studying the social and political history of leishmaniasis, some scientists have produced internalist accounts about the people involved in the establishment of leishmaniasis as a medical category during the British occupation of India (see, for example, Dutta, 2008; Gibson, 1983; Steverding, 2017; Vincent, 2017). These texts reveal that leishmaniasis shares the same colonial and military patterns behind the scientific origin of other vector-borne “tropical diseases” such as

malaria and yellow fever (Espinosa 2009; Packard 2011; Quevedo V. et al. 2017). Significantly, concerns about kala-azar (visceral leishmaniasis) among the British became prominent when in the late 19<sup>th</sup>-century tea plantation workers were highly affected by this disease in northeast India, resulting in loss of revenue and profit for the British government (Dutta 2008). Although this disease's symptoms resembled those of malaria, patients did not respond to the quinine treatment. Thus, several researchers were appointed to investigate the etiology of the disease and determine if it was just another bad form of malaria or something different.

The scientific description of the association between *Leishmania* parasites and kala-azar (visceral leishmaniasis) in 1903 is attributed primarily to Lieutenant General William Leishman. He was a Scottish military physician who, after serving for the British Army in India, became part of the medical staff at the Royal Victoria Hospital in Netley, England. There, Leishman noticed unknown parasites in smears taken post-mortem from the spleen of a soldier who had been in Calcutta and published his observations in 1903. In the same year, Charles Donovan, an Irish doctor, member of the Indian Medical Service—the military medical service in British India—and professor at the Madras Medical College, reported the same sort of parasites in the spleens of alive and dead kala-azar patients (Dutta 2008). It was Ronald Ross—the same military doctor who received the 1902 Nobel Prize for identifying the pathogenic relationship between malaria, parasites, and mosquitoes—who acted as a liaison between Leishman and Donovan, and proposed that the new parasite should be called *Leishmania donovani* (Gibson 1983).

In 1904, Leishman associated this visceral leishmaniasis parasite with similar ones found in skin sores by J. H. Wright. As Louis-Patrick Haraoui has noted, “this was the first established link between clinical entities with very distinct symptomatology: usually benign skin lesions on the one hand, and severe, fatal involvement of the internal organs on the other” (2007, 62). Further descriptions of other *Leishmania* parasites causing either the deadly (visceral) or the non-deadly (cutaneous) forms of leishmaniasis followed. In the American continent, different *Leishmania* parasites causing cutaneous leishmaniasis started to be described and named in 1911. Many of them—*L. peruviana*, *L. braziliensis*, *L. guyanensis*, *L. amazonensis*, *L. panamensis*, *L. venezuelensis*, *L. mexicana*, *L.*

*colombiensis*,<sup>13</sup> etc.—have received scientific names that index their local and geographical particularities, as well as the broad diversity of parasites involved in leishmaniasis on that side of the Atlantic. Similarly, the disease itself has also been historically named according to spatial and imperial references. Even today, in several parts of the world, cutaneous leishmaniasis is known by names that perpetuate and give primacy to colonial imaginaries attached to particular people and geographies. Some of these “topographic nicknames” (Haraoui 2007, 56) are Aleppo boil, Baghdad boil, Delhi boil, and Oriental sore (see also Bowker and Star 1999: 79–80).

Reminiscent of imperialism and the colonial origins of leishmaniasis as a medical category, scientists still use the New World / Old World terminology to highlight these differences (see, for instance, WHO, 2010). Cutaneous leishmaniasis in the American continent—what scientists refer as “New World cutaneous leishmaniasis” or “American cutaneous leishmaniasis”—is predominantly related to *selvas*, not to the semi-arid or even desert conditions of cutaneous leishmaniasis transmission in the rest of the world (Reithinger et al. 2007). In the American continent, cutaneous leishmaniasis has been primarily seen as an occupational disease affecting mostly men who enter or live in close contact with the *selva* because of the economic activity they are involved in (Weigle et al. 1993; WHO 2010; Benchimol et al. 2019). In Mexico, for instance, the disease is known as *úlceras del chiclero*, highlighting how it has predominantly affected workers who tap rubber [*chicle*] trees. In Colombia, cutaneous leishmaniasis has been commonly seen as a disease affecting men who are in contact with the *selva* because of the work they do, especially combatants—members of the Army, guerrillas, and paramilitary organizations—directly involved in the protracted armed conflict that has unfolded within this landscape.

The vast majority (95-98 %) of all leishmaniasis cases in Colombia correspond to cutaneous leishmaniasis. While visceral leishmaniasis also occurs in the country, this form of the disease accounts for less than 1.5% of all leishmaniasis cases and remains concentrated in two specific and well-characterized areas that are very different from the *selva* ecosystems where cutaneous leishmaniasis develops (INS and MinSalud 2017). Thus, when the term “leishmaniasis” is employed in Colombia without the words “visceral” or “mucosal” qualifying it, people are most certainly referring to cutaneous leishmaniasis. As I

have done so far, I adopt the same usage throughout this dissertation. Thus, as stated in footnote 2, unless otherwise indicated, I use the word “leishmaniasis” to refer to cutaneous leishmaniasis, which is the disease that is strongly attached to the armed conflict in Colombia and constitutes the focus of my work. Although this dissertation is primarily concerned with cutaneous leishmaniasis, I will occasionally talk about mucosal leishmaniasis. As I already mentioned, this form of the disease is understood as a complication of cutaneous leishmaniasis that is unique to Latin America and is considered more dangerous because of the mutilations and deformations it can cause to the nose, mouth, and throat. While the mucosal form only accounts for 1-4% of all leishmaniasis cases in Colombia (INS and MinSalud 2017), the potential risk it poses to cutaneous leishmaniasis patients has been critical for the overall management of the disease in the country (see Chapter 4).

As I mentioned earlier, the World Health Organization (WHO) considers leishmaniasis a neglected tropical disease. Categorized as “tropical” and “neglected,” and seen as a vector-borne disease exclusively affecting poor countries, leishmaniasis carries all the labels through which tropical medicine, international health, and global health have become both famous and infamous in the context of imperialism and (neo)colonial expansion (see Haraoui, 2007). Thus, this study of leishmaniasis and its war entanglements in Colombia dialogues with a growing list of works dealing with the past and current entanglements between colonialism, scientific research, and international (or global) health.<sup>14</sup>

In the same vein, more recently, leishmaniasis has also been categorized as an “emerging disease,” which highlights its threatening potential of becoming an epidemic of global proportions. In biomedical accounts, tourism, military operations, and immigration from developing and leishmaniasis-endemic countries to developed and non-endemic ones, have been described as a growing risk.<sup>15</sup> Thus, works grappling with the discourse of “emerging diseases,” its political and economic underpinnings, and its institutional deployments on the international arena in the context of global health are also relevant to this project (French 2009; French and Mykhalovskiy 2013; Lakoff 2010; King 2004, 2002). Although it is beyond the scope of this dissertation, the “emerging diseases” discourse



frames the connections between the local governance of leishmaniasis in Colombia, biomedical research conducted in the country, bilateral exchanges between the United States and Colombia, and the multilateral agenda of global health.

This is very much related to the fact that, among infectious diseases, leishmaniasis—both cutaneous and visceral—stands out as a notorious public health issue in contexts that have recently been affected by major armed conflicts (Berry and Berrang-Ford, 2016; see also Haraoui, 2007). For example, epidemiologists have attributed a major epidemic of visceral leishmaniasis in Sudan to the civil war that took place between 1983-2005 (Berry and Berrang-Ford 2016; J. Seaman, Mercer, and Sondorp 1996). In Iraq, war and instability are believed to be responsible for the increase in the number of visceral leishmaniasis cases (Jacobson 2011; Majeed et al. 2013). The largest outbreaks of cutaneous leishmaniasis in Afghanistan have taken place in Kabul refugee camps between 2002 and 2007, and the persistence of the disease has been attributed to the constant migration of people as a result of war (Aagaard-Hansen, Nombela, and Alvar 2010). While several outbreaks of leishmaniasis have taken place in the Middle East, for the most part linked to war-associated population migration, the frequency and magnitude of outbreaks in the region have markedly increased with the Syrian war (Alawieh et al. 2014; Inci et al. 2015; Sharara and Kanj 2014). Several articles also report the drastic rise of leishmaniasis cases within foreign troops operating in the Middle East, especially among members of the U.S. Army participating in the so-called War on Terror (Beiter et al. 2019; Kitchen, Lawrence, and Coleman 2009; Lesho et al. 2004). In fact, by 2005, cutaneous leishmaniasis became “the commonest global war on terror-associated reason for outpatient consultation” at the Walter Reed Army Medical Center in Bethesda, USA (Zapor and Moran 2005, 395).

As such, the relation between war and leishmaniasis in Colombia cannot be disassociated from broader connections between these two phenomena in other places. While the mechanisms and actors involved in war-leishmaniasis entanglements in other contexts significantly differ from the particularities I have traced in Colombia, connections can be established between localities, especially in light of global health regulations and discourses shaping them. As the first in-depth ethnographic study of leishmaniasis and the first work in the social sciences investigating the relationship between this disease and the

Colombian armed conflict, this dissertation contributes to filling a large gap in scholarship. It also hopes to provoke further reflections and motivate additional and necessary research on the links between leishmaniasis and war in Colombia and beyond.

### **The Colombian war**

Since the 1960s, Colombia has experienced a tragic civil war. The Colombian armed conflict is a very complex and prolonged phenomenon that has caused 261,619 deaths between 1958 and 2018. Civilians account for 82% of the deaths (Observatorio de Memoria y Conflicto 2019). Taking into consideration the deaths and other victimizing events associated with the armed conflict, the war has left almost 8.9 million mortal and non-mortal victims.<sup>16</sup> Its beginning dates back to 1946 when a wave of violence started between the two major traditional parties—liberal and conservative. What began as a bipartisan political struggle took on new political nuances as the international setting shifted after World War II. The consolidation of socialism in the Soviet Union, the ideological and geopolitical divisions during the Cold War, the imperialist strategies of the United States, and the triumph of the Cuban revolution in 1959 acquired significant relevance in many Latin American countries. In the 1960s, after an agreement between liberal and conservative representatives to alternate power every four years, several leftist guerrilla groups emerged in Colombia to rebel against the ruling elites and the profound inequalities, especially those related to land distribution. While some of these groups signed peace agreements with the government in the early 1990s, and even one of them—the M-19 (Movimiento 19 de Abril)—had a leading role in the enactment of the constitution that has governed the Colombian nation since 1991, others continued fighting against the military forces of the state.

In the 1980s, the illegal drug business took off and, merging into an already heated environment, provided favorable conditions and the economic means for the escalation of armed confrontations. The illicit economy of cocaine allowed for the strengthening of the FARC and ELN (*Ejército de Liberación Nacional* [National Liberation Army]) guerrillas. These armed groups also started using extortive kidnapping of wealthy people—including drug lords—as a means of financial support. Drug cartels, leftist guerrillas, economic interests, and regional political elites became entwined in a swirl of violence that has not

stopped. The parallel consolidation of right-wing paramilitary groups during these years took on unprecedented proportions in 1997 with their unification under the name AUC (*Autodefensas Unidas de Colombia* [United Self-Defenders of Colombia]). The AUC were grounded as an armed force to end guerrillas and any expression of leftist ideology in Colombia. They were sponsored by corporations, ranchers, large landowners, and drug traffickers, and operated many times with the connivance of the state and its armed forces.<sup>17</sup> While guerrilla organizations had an anti-state character and sought to destroy the state to create something new, the paramilitaries' aim was to maintain the *status quo* and co-opt the state (Avila 2019, 34–35). Acknowledging that it is very simplistic and reductionist to put it in these terms, the FARC commonly used kidnapping as a war strategy, the paramilitaries privileged forced displacement and massacres, and the ELN sabotaged the country's energetic infrastructure (Avila 2019, 37).

Since the 1980s, escalation of the Colombian armed conflict has been remarkable. The government formed by Álvaro Uribe, who was elected president for two terms (2002 - 2006 and 2006 - 2010), galvanized the idea that the military solution—more war against the war—was the only possible path towards the end of the armed conflict. A pivotal moment in the war trajectory came when Uribe launched an unprecedented military offensive against guerrilla groups—primarily against the FARC—through a policy called Defense and Democratic Security (PSD). In the context of the longstanding War on Drugs and the burgeoning War on Terror, antiterrorist discourses in relation to guerrilla groups were greatly emphasized during Uribe's government to obtain international support to wipe out both insurgency and cocaine production—what Uribe conflated in the term “narcoterrorism.” During Uribe's government, the number of soldiers in the Army increased by 31.6% (Leal Buitrago 2011). Between 2003 and 2009, the state went from spending nine to almost 20 trillion pesos in security and defense (Angarita 2011, 294). Also, new mobile brigades were created, joint forces commands were implemented, and military operations were technologically strengthened. Consequently, the Army ceased to be reactive and began to take the initiative in operational terms (E. Cruz 2015). Although guerrillas have traditionally occupied all kinds of rural areas, particularly the *selvas*, during Uribe's government, the Army and also paramilitary groups forced them to retreat and concentrate in these forested environments. Guerrillas also modified their strategy by

prioritizing intermittent sabotages and ambushes—actions more typical of guerrilla warfares, reminiscent of the guerrillas’ military strategies in the initial stages of the armed conflict. The guerrilla *modus operandi* became all about causing exasperation and wearing out the opponent physically and emotionally to maximize casualties and strategic gains at the lowest possible operational cost. Additionally, given its military inferiority, guerrillas opted to limit their territorial control over strategic corridors, mainly with the extensive use of landmines and similar explosive devices (CNMH and Fundación Prolongar 2017; Echandía Castilla and Bechara Gómez 2006).

Two elements of Uribe’s military strategy are of significant importance for understanding the *maraña* formed by leishmaniasis and war in Colombia. First, with the growth of the Army and the development of massive and several-month incursions into the *selvas*, the disease began to critically affect the Army in terms of the emotional and military capacity to fight the war (Chapter 6). As I highlight throughout this dissertation, this had a large impact on how leishmaniasis was managed within the Army, but also beyond this institution. Second, Uribe used a warmongering and incendiary discourse against the guerrillas, but also—and with devastating consequences—against social movements, groups defending social and environmental justice, human rights defenders, and, in general, any critic of his government and the power structures in Colombia. Dangerously, guerrillas, labeled as terrorists, were conflated with any person, group, or expression that was not aligned with the status quo or Uribe’s actions and goals (Avila 2019; E. Cruz 2015, 2016; Gallón 2005). This type of stigmatization was not new in Colombia and had a longer trajectory rooted in the National Security Doctrine expanded by the United States throughout Latin America during the Cold War. However, Uribe’s Defense and Democratic Security Policy (PSD) has been seen as an actualization of this doctrine and a continuation of the anti-communist bias beyond the Cold War era (Angarita 2011; E. Cruz 2016). “In fact, the PSD was aimed at the articulation of society to an anti-terrorist purpose, calling into question the distinction between combatants and non-combatants”<sup>18</sup> (Cruz, 2016: 78).

Part of my argument is that the understanding of leishmaniasis as a typical guerrilla disease, combined with the visible lesions left by this disease on the skin, merged in such a way that these bodily marks have worked as actual stigmas singling out “enemies” of the

state, those barely discernible from regular citizens. In the Colombian armed conflict, where distinctions between combatants and civilians have become so blurry, especially during Uribe's administration, guerrillas have been equated to terrorists, and any anti-establishment manifestation has been equated to terrorism/guerrilla. As leishmaniasis sufferers have also been equated to guerrilla members, they have similarly become targets of state violence. Thus, in a country where guerrillas have been throughout decades consistently demonized as the primary enemy of the state, carrying a leishmaniasis sore has sometimes become life-threatening, as I will explore in Chapter 3.

Since 1982, there have been several attempts to reach a negotiated peace agreement between the state and the largest and oldest guerrilla organization—the FARC. In 2012, peace dialogues between the FARC and the government of Juan Manuel Santos were unexpectedly launched in Havana, Cuba. After almost four years of negotiations, FARC leader Rodrigo Londoño—better known by his war name ‘Timochenko’<sup>19</sup>—and President Santos signed the peace accords in Cartagena, on September 26, 2016. Less than a week later, the plebiscite seeking popular support for the ratification of the final agreement was rejected, with 50.2% of the population voting against. This situation left Colombia in a political limbo from which the government came out weakened and the right-wing opposition—led by senator and former president Álvaro Uribe—strengthened. The government devised a quick fix to this unsettling situation by signing a revised version of the peace deal on November 24, 2016, which was ratified by Congress less than a week later. Finally, there was a peace agreement in place, but the popular and political support across society was—and still is—far from uniform. During the negotiations, peace became a highly contentious issue and, with the plebiscite results, the subsequent implementation of the peace agreements suffered even more from this polarization within Colombian society. Despite the fact that the FARC acronym no longer belongs to a guerrilla organization but to an unarmed political party,<sup>20</sup> and that the homicide rate in 2017 was the lowest in 42 years (El Espectador 2018), we are still struggling to build peace amidst continuing violence, insufficient political will to materialize the agreements, and the unresolved murder of 462 social leaders since January 1, 2016<sup>21</sup>—a number that, tragically, keeps growing week by week as I finish writing this dissertation (fall of 2019).

Between October 2016 and December 2017, in the midst of this uncertain transition period from war to peace, I followed connections between health regulations, healthcare practices, war strategies, and violence-shaped science and technology. The field research I have done to investigate the relationship between leishmaniasis and the Colombian war (Chapter 2) would not have been possible without the guarantees of the peace agreements. And practicing ethnography in such a context—negotiating access to a variety of field sites, travelling through conflict-ridden territories, conducting participant observation and in-depth interviews with victims and actors from different sides of the conflict—has shaped the modes of inquiry I adopted, the conversations I engaged with, and the broad spectrum of emotions I experienced as ethnographer in her homeland. In other words, my ethnography is both a product and a struggle of that transition. While I have been able to do ethnographic research because of the promises, imaginaries, and materialities of peace, I have also struggled to *see* peace, avoid violence, and open up spaces of hope for myself and others.

I started writing this dissertation just after candidate Iván Duque from the right-wing party led by Álvaro Uribe—ironically called the Democratic Center Party—won the presidential elections in June 2018. The return of the right to power has put at risk the peace agreements reached with the FARC ex-guerrilla and their implementation. Since Duque’s popular election, the murder of social leaders has intensified, as have death threats against many people who witness, criticize and fear the resurgence of paramilitary structures, right-wing discourses, and generalized repression. Violence tragically continues in Colombia, and some of the achievements of recent years seem to be fading before our eyes. However, peace continues to be a priority for me and for millions of Colombians who are convinced that it must remain an inspiration to the work that we do. As Francisco de Roux (2018, 76–77), President of the nascent Commission for the Clarification of Truth, says:

It is time to face the atrocious reality if there is still room for shame . . . Now is not the time to continue promoting ‘heroes of war,’ nor to praise the ‘armed revolution;’ it is not the time to insist that laws and regulations, which have been wartime laws and regulations, cannot be touched . . . After the war damaged everything it touched, including the laws and the sovereignty of justice, it is now when we have an obligation to tackle the appalling evil produced between and by us.

A phenomenon as multifaceted and persistent as the war in Colombia needs to be understood through equally complex lenses in order to be deciphered. Exploring how leishmaniasis and war are *enmarañadas* in Colombia adds to the effort of many others who, from the most various corners, have undertaken the task of understanding our conflict in its diverse complexity to open paths towards its transformation. In Colombia, this work remains largely unfinished, as it is in other parts of the world also devastated by warfare. But if peace is possible for some, it must be possible for everyone. That is and will continue being the goal for many of us. This dissertation aims to be a modest contribution to that colossal endeavor.

## Chapter Two: Tracing the entanglement between war and disease

What does it entail to document the social world of a scientific object called leishmaniasis in conflict-ridden Colombia? How do you trace the entanglement between leishmaniasis and the war? Where, when, and how is it possible to capture this sort of intersection and interaction between medicine and warfare? And what beings, discourses, and objects populate such a world of violence and disease?

In Colombia, the number of leishmaniasis cases reported to the state is much lower than the number of people affected by this disease in the country.<sup>22</sup> This is due to the lack of medical care for rural populations and the limited knowledge of the disease among physicians and health workers. In addition, the various ways in which leishmaniasis and the war are *enmarañadas* also prevent the public health surveillance system from capturing the actual occurrence of the disease. Even so, according to official figures, Colombia is considered one of the countries with the highest incidence of cutaneous leishmaniasis in the world. Nonetheless, due to its proportionally low occurrence, one can be consumed by boredom expecting to see a leishmaniasis case in any health center, even in those located close to *selva* areas. In fact, it would be an exaggeration to claim that it is a “common disease” or that everyone in Colombia knows what it is. Actually, knowledge and experiential narratives about leishmaniasis circulate mainly in a rural world inhabited by men and women with very few opportunities to make a living and sustain a dignified existence. Usually by necessity, these same people end up involved in illegal economies or swelling the ranks of the Army or another armed group. If you ask a city resident or a fairly privileged Colombian if she or he knows what leishmaniasis is, the answer will usually be no. But the reaction will often be the opposite if your interlocutor is a peasant or a working-class man whose family did not have enough money for him to escape the military service<sup>23</sup> or someone who came to the city as a victim of forced displacement.

War and illness are phenomena that unequally affect people worldwide. The burden of the Colombian armed conflict (Avila 2019) and leishmaniasis is also unevenly distributed geographically and socially, concentrated in rural areas where poverty,



inequality, militarized state presence, and violence attached to extractive industries, development projects, and illegal economies—such as cocaine production and criminal gold mining—are highly prevalent.

Among middle and upper-class Colombians, who usually live in the cities, leishmaniasis might ring a bell when they recall the health condition of kidnapping survivors once they managed to get out of the *selva*. Although the practice of kidnapping has not been stable throughout the history of the conflict,<sup>24</sup> in urban contexts, it is commonly remembered as one of the most dramatic experiences of violence characterizing the Colombian war, and a human rights violation that is particularly associated to the FARC guerrilla. However, all armed actors—guerrillas, paramilitaries, and state agents—have been involved in kidnapping (CNMH 2013b). Unlike other types of human rights abuses committed in the armed conflict context, kidnapping directly affected public figures, elites, wealthy people, and urban populations. During the 2000s, when people who were kidnapped by guerrilla organizations escaped or were liberated, they were often diagnosed with leishmaniasis in their immediate medical checkups. Since some kidnapping survivors received vast media visibility once they recovered their freedom, people in urban zones of Colombia, who had never heard the word “leishmaniasis” before, became more familiar with it, to the point that this illness is still today sometimes referred as *la enfermedad de los secuestrados* [the disease of kidnapping victims].

Although leishmaniasis comes up almost in every public discussion about the impacts of war on health in Colombia (see, for example, Aguirre Fernández, 2017; El Tiempo, 2017; Semana, n.d.; Villanueva, 2016), the mechanisms through which this disease and the armed conflict are linked together remain largely undocumented and poorly explored and conceptualized. Only Franco et al. (2006), Beyrer et al. (2007), Vélez and Zuleta (2014) and, more recently, the Colombian National Observatory of Health (INS and ONS 2017), have offered some insights into the relationship between these two phenomena. However, these works are not theoretically or empirically grounded in social science frameworks, and remain limited by the kinds of questions, methods, and data that epidemiology and public health are traditionally concerned with.<sup>25</sup> Moreover, as is often the case in scholarly works on morbidity, the literature exploring leishmaniasis in Colombia is

predominantly based on quantitative data and statistical analyses, which leaves little space for complex narratives, lived experience, and contextualized interpretations of what happens on the ground. This is also the case for explorations of leishmaniasis in other contexts, where in-depth ethnographic studies of this disease in its various forms are nearly absent.<sup>26</sup>

Sporadically, journalists have also raised concerns about leishmaniasis and its connections to the Colombian war. But, despite some valuable examples (see, for example, Acevedo Serna, 2012; Bedoya Lima, 2006; Guarnizo Alvarez, 2010; Molano Bravo, 2005), there has not been a systematic effort to unravel the complexity of the multiple relationships between the disease and the conflict, and neither scholars nor journalists have offered an in-depth analysis that is informed by the everyday experience, history, politics, and the social dynamics of war. Since the standard drug to treat leishmaniasis—Glucantime—is subject to restrictive controls by the state, the question about whether or not this medicine has been instrumentalized with war purposes has been raised.<sup>27</sup> However, it has remained unanswered and sometimes simplistically explained away as a myth—something that people believe in, but that does not reflect the free and timely distribution of the drug that the Ministry of Health and its subordinate institutions supposedly do.<sup>28</sup> Since it is a thorny issue that might be interpreted as a war crime under International Humanitarian Law, both journalists and scientists are rather reluctant to point fingers or make accusations when the issue is brought up. Despite being a *secreto a voces*—a well-known secret, what Taussig (1999) would refer as a “public secret”—the “facts” underlying the Glucantime restrictive control and its warfare uses cannot be found written in a state policy or public documents, and will hardly be verbalized as such by any public health officer or Army commander. This does not mean, however, that such reality does not exist or that it is untraceable.

For my major research paper (MRP) in STS at York University, I conducted preliminary work based on documentary evidence drawn from Colombian newspapers and magazines, government and military public documents, World Health Organization (WHO) and Pan American Health Organization (PAHO) reports, and formal access to information requests I made to the Ministry of Health and the Army’s health office. While this research

allowed me to outline the ways in which leishmaniasis is “officially” and “scientifically” understood and managed in Colombia, it also made me aware of the necessity to adopt ethnographic methodologies in order to register and follow the more surreptitious histories, meanings, experiences, and practices associated to the disease and the Colombian war.

To capture the various *secretos a voces* underlying the reality of leishmaniasis and war in Colombia, it was crucial to collect clandestine narratives and undocumented stories. Ethnography is very well positioned for this task. For its empirical grounding and concern with the contextualized ways in which social structures, practices and discourses shape and are shaped by cultural forms and subjectivities, ethnography is an adequate approach to develop a nuanced picture of the social reality of leishmaniasis in Colombia. Ethnographic methods such as policy and document analysis, participant observation, and in-depth interviews provide means to capture the complexities through which this disease and the armed conflict are associated. It also offers interpretative tools that move away from totalizing, disembodied, and delocalized theories, like those usually developed by biomedicine, epidemiology, and other approaches based on a positivist epistemology. Instead, ethnography is rooted in an embodied understanding that foregrounds interconnectedness, complexity, and contingency (Cerwonka and Malkki 2007), which constitute the kind of craft and texture needed to produce a rich representation of the relation between leishmaniasis and the Colombian war.

From the preliminary research I did for the MRP, I also realized that exploring the relationship between these two phenomena demanded me to move between multiple sites where significant, palpable, and everyday instances of leishmaniasis take place. To trace leishmaniasis and its war entanglements in the ordinary it was necessary to go to nonordinary places. Thus, I took a multi-sited approach to ethnography, which means that this work is not ingrained in a single locality or level of analysis, but it is rooted in multiple sites, taking into account a diverse arrange of actors, practices, temporalities, and scales (Fortun 2009; Marcus 1995). By placing emphasis on interconnectedness, multi-sited ethnography destabilizes “the embeddedness of social relations in particular communities and places” (Falzon 2009, 2). However, association is not randomly established. The multi-sited approach demands a specific logic behind the connections established by the

ethnographer, as well as sustained attention across sites that enables new field sites, subjects, focal points, and questions to emerge.

My object of study is leishmaniasis, which means that I *constructed* the multi-sited space of my research (Marcus 1995) by following the disease through locations where it is traceable in the everyday. As I previously mentioned, it is not common to see a case of leishmaniasis in any clinic or health center, even in those medical facilities located close to endemic areas. In addition, leishmaniasis remains a marginal disease in medical practice and training, even in places like Colombia, which makes the circulation of discourses about this illness also limited. As a result, I have pieced together a picture of Colombian leishmaniasis from data I have gathered in sites where leishmaniasis cases and narratives ordinarily concentrate. In Colombia, biomedical research and warfare work as “magnets” that attract, draw, and concentrate leishmaniasis experiences and discourses. I used these “magnetic properties” to design the path of my ethnographic inquiry, constructing the multiplicity of Colombian leishmaniasis from various sites, angles, and frames of reference that I will describe in more detail in the next section.

While I followed the disease, I rapidly noticed that it was impossible to observe and discuss the experience of leishmaniasis sufferers without observing and discussing their therapeutic itineraries and their (mis)encounters with antileishmanial treatments, particularly with Glucantime. Otherwise put, I was confirming the persistent interdependence of the natural, the social, and the material that Bruno Latour (1987, 1992) has persuasively documented. Understanding the fluid presence and absence of this drug became a constant element of my ethnographic trajectory. Thus, while I followed leishmaniasis, I also ended up taking a biographical approach (Van der Geest, Whyte, and Hardon 1996) to Glucantime, tracing the various paths through which this pharmaceutical circulates across different contexts, staging a diverse cast of actors, and enacting various regimes of values. Insisting on the observation that “pharmaceuticals are not only products of human culture, but producers of it” (Van der Geest, Whyte, and Hardon 1996, 156), I have used Glucantime as a useful “sampling device” (Charles Rosenberg, as quoted by Greene and Sismondo, 2015: 5) to understand the critical participation of pharmaceuticals in the co-production of war and leishmaniasis in Colombia.

## Field sites and access

I became interested in leishmaniasis and its war entanglements when, in 2012, I was working in the administrative team of a Colombian biomedical research institution dedicated primarily to the study of this disease. After some months working there, I was astounded to hear in a casual hallway conversation that the standard treatment for leishmaniasis—Glucantime—was restrictively controlled by the state as a means to harm guerrillas. To my surprise, I was also told that many of the patients who approached the institute’s clinical facilities were commonly involved in activities considered illegal. They were often guerrilla members or coca harvesters, known locally as *raspachines* (which literally means “scrapers” of coca plants). I became especially intrigued by the way in which the restriction of Glucantime was assumed by researchers as something wrong but somehow conceivable, imaginable, and *normal* in the context of everyday violence of Colombia.

During that time, I also heard perplexing stories like the one physician Teresa Gutiérrez told me. In the late 1980s, when she was leading the leishmaniasis research program of a scientific institution located in one of Colombia’s major cities, she and her colleagues were afraid that members of guerrilla organizations would show up one day demanding Glucantime ampoules. Teresa and her co-workers felt the risk was imminent because that was precisely what had happened a few days before in another institution in the city that, at that time, also kept stocks of this medicine in its facilities. The director and sub-director of the research institution Teresa worked for were not Colombians. Fearing the possibility that any of these two foreigners were kidnapped by guerrillas,<sup>29</sup> it was decided that if members of armed groups ever arrived, the most reasonable action was for a Colombian citizen to receive and talk to them. Teresa agreed to be assigned that role. The guards of the building were told that, if guerrilla members showed up, they had to let them in and call Teresa. She had the keys where the Glucantime ampoules were kept, and she was authorized to hand over all the medicines to the guerrillas. “We had everything prepared just in case, but guerrillas never came. They left us hanging,” she told me.

Conversations like that one immediately aroused my curiosity. My master’s in STS helped me to understand that the relationship between leishmaniasis and the armed conflict

had remained for the most part unwritten and undocumented. I also realized that the most suitable way to trace it was collecting stories through interviews and observing the experiences of people affected by leishmaniasis and living in close proximity to the war. Thus, I decided to embark on an ethnographic study of war and leishmaniasis in Colombia.

In mid-2016, when I wrote my dissertation proposal, the peace dialogues between the FARC and the government of the two-term President Juan Manuel Santos (2010-2014 and 2014-2018) were well underway. When the negotiations officially started in 2012 in Havana, few Colombians imagined they would last almost four years. Since attempts to reach a negotiated peace settlement had failed multiple times in the past, even fewer Colombians thought it would be any different this time. An atmosphere of optimism but also of mistrust towards both the FARC and the government maintained a high level of uncertainty around the peace talks. My thesis proposal talked about a hopeful and promising, but still hesitant, unpredictable, and yet-to-be-seen peace deal. My ethnographic fieldwork, however, began two weeks after FARC leader ‘Timochenko’ and President Santos signed the peace accords, and one week after the plebiscite seeking popular support for the ratification of the final agreement was rejected by a slim majority. In other words, my field research started at a moment marked by the unexpected plebiscite results—a rupture in time where Colombia entered into a very uncertain situation, felt by many as a political and historical limbo. Although the agreement was to some extent modified based on the suggestions of the conservative and right-wing opposition led by former President Álvaro Uribe, the final version, approved by the Congress on November 24, 2016, did not entirely help to compromise differences or achieve a national pact around peace.

The termination of the armed conflict between the state and the FARC has remained a very controversial issue that still keeps Colombian society deeply divided. So is the case with the peace negotiations with the ELN guerrilla, suspended indefinitely by current president Iván Duque after a deadly attack against a police academy in Bogotá in January 2019. What is more, the peace deal implementation has not received sufficient political will or funds to carry out a serious process of the necessary dimensions. This was true even in the last phase of the government that achieved the signature of the agreement—the political context in which I developed my fieldwork. With Iván Duque in power, the presidential

candidate supported by the group opposing the peace agreements, the situation has only worsened.<sup>30</sup> Carolyn Nordstrom (2004) writes that we lack a proper word to describe the political reality that follows the end of an armed conflict. “Not-war-not-peace” seems to be a suitable name to portray this state of affairs. “Essentially it is a time when military actions occur that in and of themselves would be called “war” or “low-intensity-warfare,” but are not so labeled because they are hidden by a peace process no one wants to admit is failing” (Nordstrom 2004, 166–67).

I conducted 14 months of field research between October 2016 and December 2017, in the early stages of the “not-war-not-peace” period that continues to unfold as I write this dissertation. I had written a project to study the entanglements of leishmaniasis and war, but I soon realized that my research was going to be about an illness and its becoming across an unfinished conflict and a nascent, partial, and still very precarious peace. Although peace had been signed with the oldest guerrilla organization in the world and the most important armed actor of the Colombian armed conflict, a small portion of the FARC (so-called “FARC dissidents”) refused to lay down the arms, and other armed groups and actors remained. Also, during that period, it became clear that the implementation of the peace accords was very disappointing, to say the least. Thus, my fieldwork turned into a daily and embodied corroboration that “peace is never clearly distinct from war” and “is not a separate end point to achieve in time or space” (Koopman 2017, 1). In each of my field sites, I experienced this ambiguous reality, a mixture of sober optimism and non-naïve pessimism that my research participants—most of whom had been living in close proximity to war—kept nurturing with their skeptical narratives, at times sweetened by sparks of hope (Pinto-García 2019).

When I started planning my field research, I dreamt of spending some months at the Army's Leishmaniasis Recovery Center (CRL), sometimes called the Leishmaniasis Rehabilitation Center. This one-of-a-kind clinical facility, located within the Silva Plazas battalion in the outskirts of Duitama (Boyacá<sup>31</sup>) (Fig. 2.1), was established in the mid-2000s for the exclusive treatment and recovery of soldiers affected by the disease. In a country that has been at war for more than 50 years, the Army is a large,<sup>32</sup> highly powerful, and rather impregnable institution. As Ana María Forero Angel (2017, 46) reminds us, "the state of siege, of exception and internal commotion was permanently declared in Colombia, which has resulted in the Army's stable enjoyment of exceptional powers." Until that moment, my relationship with the Army or any of its members had been completely nonexistent. However, through family connections, I was able to deliver a letter to a high-



**Figure 2.1** Political map of Colombia highlighting the capital city, Bogotá, and the most relevant locations for field research—the Pacific Region and the cities of Duitama, Florencia and San José del Guaviare.

ranking member of the *Fuerza Pública* [Public Forces]<sup>33</sup> explaining who I was, what my research was about, and why I was interested in conducting part of my ethnographic project at the CRL. Still, I was pretty sure that my request was going to be categorically denied.

Several days later, following up on that first communication, I was informed that I had to call a Police major. On the phone, he told me he wanted to confirm that my research was not a biomedical or clinical

study, making sure I was not expecting to evaluate any treatment or collect biological samples from the soldiers. My earlier training and work experience as a biologist and biomedical scientist was probably misleading in this regard. I reiterated that my doctoral project was rooted in the social sciences, and all I wanted was to visit the CRL facilities for an extended period, interviewing and hanging out with the staff and the



soldiers affected by leishmaniasis on a daily basis. The major then told me that it would be no problem. A few days later, I received through WhatsApp an authorization signed by the General Commander of the Armed Forces. I also received the contact details of one of the CRL physicians, with whom I was able to organize a preliminary one-day visit in December 2015 and three months of fieldwork starting in October 2016. The Public Forces and especially the Colombian Army have always been very respectful towards my work, never asked me for anything in return, nor demanded the research products to be reviewed by the institution before being published. The intellectual independence I have been afforded is something that I want to highlight and for which I feel deeply grateful.

During my field research at the CRL, I drove to the Silva Plazas Battalion almost every day. Some months before my arrival to Duitama, Glucantime treatments had been centralized at the CRL, which implied that during my time there, the vast majority of leishmaniasis cases in the Army were medically handled in this facility. At the CRL, I had the unique opportunity to accompany hundreds of soldiers through their Glucantime treatment and their subsequent recovery from the disease and the drug. I observed these young men putting up against the intoxicating effects of the medicine and grappling with their stubborn leishmaniasis lesions, while immersed in the daily dramas, humiliations, jokes, boredom, negotiations, and camaraderie of the military regime. I also shared my time with health workers, most of them women and civilians, who blended military and care practices in their daily work. Male officers responsible for disciplining soldiers and running most of the CRL's administration also shared their stories with me and taught me about the Army as an institution, the center's functioning, and its relation with other military departments.

From my many conversations at the CRL, I learned from soldiers that explosive-detecting dogs, handled by some of them, were also affected by leishmaniasis. Intrigued by this shared vulnerability between military human and non-human populations, I managed to obtain authorization from the Army's National Center against Explosive Devices and Mines (CENAM) to spend one week in October 2017 at the military canine training center inside the General Liborio Mejía Battalion, located in the outskirts of Florencia (Caquetá) (Fig. 2.1). I stayed in Florencia and daily visited the military facility. There, dogs of the

Colombian Army who safeguard the steps of soldiers by sniffing and detecting landmines in the *selvas* of Putumayo, Caquetá, and Amazonas are treated against several diseases including leishmaniasis. I had the opportunity to interview military dog handlers and the veterinarians in charge, as well as to observe skilled Labradors and Belgian Malinois Shepherds with leishmaniasis skin lesions.

My research also involved three months of fieldwork in a municipality that I will call Candelario, located in the Pacific Region of Colombia (Fig. 2.1). While both the rural and urban areas of this municipality have been heavily affected by the war, leishmaniasis constitutes a significant public health problem for Candelario's rurality. A biomedical research institution that I will call the Leishmaniasis Research Institute (LERI), whose offices and laboratories are located in one of Colombia's largest cities, established in the 1980s a permanent small clinical facility in the urban area of Candelario. People affected by leishmaniasis from remote and impoverished rural areas of Candelario and nearby municipalities come all the way to LERI to be diagnosed and treated. In turn, they end up enrolled in clinical and other research studies. At LERI's facility in Candelario, I had the opportunity to talk to several civilian patients affected by the disease, as well as with the staff who recruit patients for internationally and nationally-funded research projects on leishmaniasis. The regular paperwork, biomedical practices, and interactions with patients that develop within this small clinical facility, all of which enable the research LERI conducts, were of particular interest to my ethnographic exploration.

I have chosen to keep the name of both the research centre and its locations anonymous because my intention is not to particularize institutional or personal responsibilities, nor to disrupt valuable scientific projects and training currently taking place there. My aim is to discuss patterns that I know are not exclusive to LERI but shared by other institutions doing biomedical research on leishmaniasis in Colombia. With my work, I do hope to affect the technoscience and health policies that are produced around leishmaniasis and other public health issues in Colombia and similar contexts. But I am fully aware that such a complex process is beyond the reach of this dissertation and, though necessary, demands much more than a rigorous investigation, description, explanation, and analysis of what is problematic. Thus, I hope that this project triggers productive

conversations and constitutes a modest foundation for myself and others to collaborate towards the production of a different kind of technoscience, one capable of alleviating and addressing the conditions created and exacerbated by the war.

Once I suggested to LERI's Director that I would be interested in doing part of my research in the clinical facilities of Candelario, we concurred that it was desirable to sign a Memorandum of Understanding (MoU) to clarify the terms of the collaboration between LERI and myself, the researcher. Not legally binding, MoUs are documents that set out the ethical principles and the practicalities guiding the ethnographer and her interlocutors in the production of scholarship that recognizes both the value of academic independence and the informants' views, knowledge, time, and stories. Importantly, MoUs "are also attempts to level the traditionally unequal relations between the anthropologist and her participants in the field" (Elliott 2018, 23), providing them with opportunities to suggest modifications and/or have a say in the stories told about them. As such, the MoU LERI and I signed states that members of LERI staff would review written materials that are specifically about this institution before submission for publication. When points of disagreement emerge, the two parties attempt to find a fair solution that is respectful to LERI's work and trajectory and the intellectual and academic process of the researcher. To address areas of disagreement, the ethnographer might edit the text, add footnotes to include LERI's opinion, or remove the section(s) in question. However, the researcher has the final say on the content of publications, and LERI does not retain veto rights. Recent and forthcoming publications drawing on ethnographic data about LERI have passed and will go through this process.

Two scientific conferences—one national and one international—offered me further opportunities to learn about biomedical research on leishmaniasis, trace discourses, and map additional actors involved in making sense and dealing with leishmaniasis in Colombia and elsewhere. One of them, WorldLeish, is the largest and most significant scientific conference on leishmaniasis worldwide, taking place every four years in a leishmaniasis-endemic country. In 2017, the 6<sup>th</sup> version of this meeting was held between May 16 and 20 in Toledo, Spain, gathering around 1500 people from all continents, including biomedical scientists, clinical and public health researchers, and representatives from pharmaceutical companies and multilateral health organizations (WorldLeish-6 2017).

In Colombia, a joint scientific meeting on leishmaniasis and Chagas disease has been organized every year since 2016. I attended the 2017 meeting held at Universidad de Los Andes in Bogotá, where Colombian scientists and public health officials gathered to share their work and discuss the current status of leishmaniasis as a public health issue.

At the moment of writing the research proposal, it was clear to me that the voices of guerrilla (ex) combatants had to be present in my work. Although this was already my plan, to my surprise, during my fieldwork at the CRL, many in the Army suggested that I should talk to guerrilla members as well because they had the other part of the story. While I had already contacted people working for the state institution in charge of guerrilla members' processes of demobilization and reintegration into civilian life, authorization to conduct interviews with ex-combatants was a long and still uncertain process. Unexpectedly, while being on vacation in Cuba in August 2016, just a month before going back to Colombia to start field research, I unknowingly ended up at the hotel where the peace negotiations between the government and the FARC had been taking place since November 2012.<sup>34</sup> There, I met Francisco, a mid-rank guerrilla commander with FARC for 28 years. I felt tremendously fortunate when he told me by phone some days after our conversation at the hotel that it was possible to arrange a meeting in Colombia with FARC members to discuss their experiences with leishmaniasis. That meeting became possible half a year later, in February 2017, three months after the peace deal was signed.

During the early implementation of the peace deal, which started on December 1, 2016, 26 so-called Zonas Veredales Transitorias de Normalización (ZVNT, transitional zones for normalization) were established in rural areas of Colombia for FARC members to concentrate for months and lay down the arms. Two of these zones—Colinas and Charras—were located in Guaviare, a *departemento* in the south-central region of Colombia whose capital is San José del Guaviare (Fig. 2.1). In February 2017, I spent four days at the Colinas ZVNT, where approximately 500 combatants had gathered, most of them from the legendary FARC Eastern Block (see Verdad Abierta, 2013). I was able to discuss leishmaniasis with high, mid, and low-rank guerrillas and passed most of my time accompanying empirical nurses who had medical responsibilities within this guerrilla organization.

During my fieldwork, I had two opportunities to approach the *selva* or go deeper into it, staying quite a while among trees, vegetation, and vines. The first was during my stay in Colinas. The second was in Candelario when I visited the health center of the Awá people, an indigenous community that lives in rural areas of this municipality. On both occasions, I could not help but think that I might also get the disease. However, I also recalled many other occasions when I had entered the *selva* as a tourist or as a biologist without even having contemplated the possibility of getting leishmaniasis. Furthermore, I decided that there was no point in worrying as I was privileged to know very well the range of biomedical and non-biomedical options to treat this disease, the known consequences antileishmanial pharmaceuticals entailed, as well as the people who had access to these therapies and knew how to use them. This realization was also a confirmation of the inequitable distribution in the circulation of both knowledge about the disease and the therapies to treat it.

Although at least 14,000 people are affected by leishmaniasis every year in Colombia, a regular civilian with the disease does not receive medical healthcare in any of the places where I conducted my fieldwork. In fact, a large proportion of civilians have no access to a parasitological diagnosis nor to Glucantime or any other antileishmanial pharmaceutical. In other words, the clinical facilities where I had the opportunity to be are exceptional spaces for the medical management of leishmaniasis. Nonetheless, at these special locations, the war/disease intersection appears in ways that are both blatant and ordinary. “The sometimes uncanny ordinariness of such seemingly extraordinary circumstances” (Zoe H. Wool 2015, 3) is what has allowed me to trace the pervasive expansion of violence and the daily maintenance of inequalities for leishmaniasis sufferers both within and outside these sites.

### **Interviews, anonymity and *the other narrative* of leishmaniasis stories**

I conducted more than 70 semi-structured interviews with a diverse group of actors: soldiers, sub-officers, and officers of the Army, FARC guerrilla members, scientists, research staff, medical professionals, nursing assistants, peasants, fishers, woodcutters, representatives of multilateral health institutions, civil servants, and survivors of kidnapping. A few interviewees preferred not to be audio recorded. In some cases, I

realized certain people disliked or distrusted the audio recorder, so I decided to turn off the device or avoid using it altogether. Most interviews were recorded with a Zoom H1 Handy Recorder and later transcribed by a small Colombia-based transcription company. All transcribers involved in this work signed confidentiality agreements before having access to the audio files. While I offered all interviewees the possibility to receive a copy of their interview transcript, only one of them said she wanted to have it.

In the process of discussing with my research participants the entanglements of leishmaniasis and the conflict, I learned a great deal about the disease, but overwhelmingly more about violence and the pervasive, inescapable, and everyday nature of war. More than once, my eyes or my interlocutors' were full of tears. As I am usually unable to avoid crying, it was probably more often the former than the latter. After hearing heartbreaking and outrageous stories of sexual harassment within the Army, for example, a member of this institution told me she admired my ability to be touched and cry because she was incapable of doing it anymore. Interviews felt at times cathartic, confessional, and introspective, like opportunities my interlocutors had to reflect on their experiences and get frustrations off their chests. Now and then, the same interviews turned into epic and adventurous tales that recounted enigmatic and incredible experiences that no one or only a few people had ever heard. Some of these stories were about leishmaniasis but some of them were not. While writing this text, I ended up asking myself recurrently "does this exceed the scope of my research or does it not?" This simple question allowed me to feel the empirical weight of the data I gathered and helped me decide what to include and what to exclude from this dissertation.

Following the standard ethics procedures at my home institution, all participants through participant observation or interviews were guaranteed anonymity and offered a pseudonym. These guarantees allowed my informants to relax and talk more freely, particularly within the Army and especially when the audio recorder was off. As Mabel Carmona has pointed out (2016), members of the Armed Forces are taught not to speak. Within the Army, an atmosphere of collective paranoia and interpersonal surveillance is continuously suspended in the air, which is often articulated as the threat of a disciplinary process being persistently present. Within the FARC, anonymity was also key for them to

open up. More important, in my view, was the fact that I was not a journalist and had no interest in taking pictures of them. Since the beginning of the peace agreement implementation, journalists had visited Colinas several times, and photographs of some guerrilla members could be found online, something that created unnecessary risks for them and their families. In the eyes of some FARC members in Colinas, this was as an irresponsible act on the part of the journalists that they, naturally, did not want to see repeated.

Listening to all these people, I constantly oscillated between empathy, compassion, admiration, and hope but also between disdain, disagreement, resentment, and despair. I laughed and I cried with them. Sometimes I celebrated their stories. At times I felt it was safe and I was given the space to interpellate them and have my arguments contrasted with theirs. But from time to time I avoided overhearing or participating in certain conversations. I also opted for timid nodding or silence occasionally. In the field, I also asked myself iteratively about the empirical relevance of a given situation for my research. This practice eventually turned into a rule of thumb that helped me to decide whether being in a place (or not), participating in a conversation (or not), and sharing information (or not) was empirically valuable, ethically responsible, or safe. In any case, while conducting participant observation and interviews, only in a few instances—for example, in interviews with some public servants or high-rank members of the Army—I felt I was listening to rehearsed stories or pre-made narratives (Salamanca Garnica 2007; Tomaselli 2003). Perhaps because leishmaniasis is sometimes perceived as an apolitical or not necessarily controversial issue, people—especially (ex)combatants—tend to talk about the war in a less formatted and cautious way when they reflect about it in relation to this disease.

The identity of only two interviewees has not been protected through pseudonyms in this dissertation. This is the case of Clara Rojas and Luis Eladio Pérez, two survivors of kidnapping who are also widely recognized public figures of Colombian politics. Clara Rojas was the campaign manager of presidential candidate Ingrid Betancourt. While campaigning for the 2002 presidential elections, both of them were kidnapped by the FARC and remained in captivity for six years. After her liberation in 2008, Clara Rojas was director of the Fundación País Libre and worked on the prevention of kidnapping and other

deprivations of liberty in Colombia. In 2014, Clara Rojas was elected Congress member, a position she was occupying in 2017 when I interviewed her.

At the time of his kidnapping by the FARC in 2001, Luis Eladio Pérez was a member of Congress. Previously, he had occupied several political positions in the *departemento* of Nariño. After his liberation in 2008, Luis Eladio became the ambassador of Colombia in Peru and then until 2014 in Venezuela. At the moment of writing this dissertation he was running for governor of Nariño.

Although Luis Eladio Pérez and Clara Rojas' kidnapping and liberation experiences have received broad media coverage, their leishmaniasis stories are less well known. The authorization of Clara and Luis Eladio to use their names has been important to explore, through this work, the limits in the reconstructions made of our violent past so far and the possibilities opened up by discussing an issue such as leishmaniasis. I saw the importance of being able to discuss what is publicly known and unknown about their kidnapping narratives and to ask what difference leishmaniasis narratives make to our collective understanding of kidnapping. To my surprise, through the conversations I had with Clara and Luis Eladio about this disease, they were able to see themselves as victims of other, unsuspected forms of violence produced by the war they had not previously fully recognized as such.

Castaño, Jurado, and Ruiz (2018) talk about *the other narrative* to draw attention to what is not incorporated into the hegemonic account of the armed conflict. *The other narrative* refers to those versions that demand a constant reinterpretation of the dominant narrative, a space for other victims, and the recognition of different justice claims. Drawing on Frederic Jameson's notion of an *interpretative master code*, these authors also suggest that victimizing experiences of armed violence get to be interpreted through nearly static categories and references produced by the institutionalization of memory. I see the narratives of leishmaniasis and war that I present in this dissertation as capable of refining the interpretative master code that we Colombians have so far constructed to make sense of the conflict. In doing so, these stories activate *the other narrative*, providing altered accounts of the past that enrich or supplement what we have come to know. As noted by Michael Jackson, "in every human society, the range of experiences that are socially



acknowledged and named is always much narrower than the range of experiences that people actually have”(2002, 23). This dissertation is an example of how narratives with atypical entry points—like leishmaniasis—“push back and pluralise our horizons of knowledge” about the war (2002, 25).

Accounts about the ongoing armed and social conflict in Colombia have been routine for decades. Remarkably, with the 2006 establishment of the Historical Memory Group (GMH) and the 2011 Victims and Land Restitution Law, the voices and narratives about what has happened to us started diversifying and expanding significantly. In the context of an ongoing war, this law set out, among others, the recognition and reparation of the victims, as well as the establishment of the National Center of Historical Memory (CNMH). To date, the CNMH, which assumed the functions of the GMH, has produced around 80 reports on the most emblematic massacres and other patterns of violence (e.g., land dispossession, forced disappearance, kidnapping, forced recruitment, etc.) that have taken place for more than half a century. In addition, several civil society organizations have been established in many parts of the country to reconstruct historical memory and foster processes of reconciliation and peacebuilding within communities deeply affected by the war.<sup>35</sup> Although much more is needed, all these processes have introduced a remarkable change in the way the state and the Colombian society recognize the victims and the conflict, a development that was further intensified during the peace negotiations between the government and the FARC and is set to continue with the ongoing work of the Transitional Justice System (JEP) and the Truth Commission (CEV).

Still, in the conversations I had about leishmaniasis, I noticed that different or at least unconventional ways of narrating the conflict and its violences emerged. As I already mentioned, this probably reflects the fact that talking about a health issue such as leishmaniasis does not seem to speak directly of violence or is perceived to be less fraught with political tensions. Tackling the armed conflict through stories about this disease prompts people to see themselves as victims of other types of violence generated by war or to recognize that war is experienced in ways other than those usually described. It also provokes people to recall unusual experiences related to war and share stories that had

remained untold or had not been articulated in terms of violence. In other words, leishmaniasis constitutes an unusual way to approach the war (Pinto-García 2018).

### **A note on positionality**

I came to STS with a background in biology and experience in biomedical research. Part of the reason why I migrated to the social sciences was the constant frustration I faced when I had to come up with last words, with “a finite point of view” (D. J. Haraway 1988, 575), with confident explanations about lab-produced phenomena reflecting patterns of “nature” in a conclusive and universalizing way. At that time, I did not have the words to articulate it. Still, I felt very uncomfortable and was profoundly skeptical about the positivist approach of biology, especially of molecular biology. I was troubled not only by the unavoidable amount of black-boxing (Pinch and Bijker 1984; Winner 1993) I was required to practice but also by the daunting isolation from the social world I felt in the lab. Having grown up in war-torn Colombia, within a family where politics and the news were daily discussed at the table, I found myself misplaced having a job that felt beyond and disengaged from nearby realities I very much cared about. Although I never graduated with a formal degree in literature, I took many literature undergrad courses, explored creative writing, and was an avid fiction reader. Thus, within STS, I found in anthropology and ethnographic writing a suitable intellectual space to explore complexity, contingency, creativity, openness, and the messy nature of the world. Also, I came to realize that another type of objectivity—one that I felt much more comfortable with—was possible: a feminist objectivity, situated and embodied, “where partiality and not universality is the condition of being heard to make rational knowledge claims”(Haraway 1988, 589).

Starting from there, this dissertation cannot be separated from the fact that I am a woman, born and raised in Bogotá, the capital of a highly centralized country. I had access to high-quality education in Colombia and abroad, and I am currently pursuing doctoral studies at a Canadian university. The education and work experience I have had access to, as well as my background and the economic status of my family, have put me in a privileged position that in a country as inequitable as Colombia marks deep differences between many of my research participants and me. In part, I also owe to these privileged positions the possibility of accessing the sites where I developed my fieldwork and the fact

that I have been able to obtain scholarships to carry out my studies and research. While I cannot ignore my conditions of privilege, during this investigation, I have also been in positions that have been to some extent troubling or have implied some degree of vulnerability or disadvantage.

As a woman, doing field research at a male-dominated institution like the Army was far from simple. I did not go unnoticed despite all my efforts to merge with the landscape. Mestiza as I am, my skin is white, my eyes are green, and my hair is not entirely dark; that also makes a difference. I was often asked about my marital status, why I was not married, and when I was planning to get married. I was also asked if I had children, why not, if I was not too old not to have at least one, if someone was accompanying me, where he was, if it was possible to meet him, talk to him, and ask him questions about me. I heard sexist jokes continuously and was occasionally the subject of those not so funny gags. I had to refuse to give my cellphone number many times for safety. I learned how to do that kindly, while still marking unnegotiable boundaries. Although I felt vulnerable many times, I felt especially in danger when a soldier I was giving a ride did not want to get out of my car when we arrived at the point where I was supposed to drop him. I wish I had had more training and participated in more discussions about the hardships of being a woman doing ethnography, but this is something that, unfortunately, does not make part of curricula and still remains poorly institutionalized within academia, even in Canada.

While being a woman also played a role in the other field sites, being a person with many degrees and pursuing a Ph.D. abroad often proved to be protective and useful. Given my academic and work experience in biology and biomedicine, conversations with scientists, physicians, and public health officials involved more of a collegial chat than an interviewer-interviewee exchange. That position also allowed me to identify research questions that, from the point of view of biomedicine and epidemiology, could address important knowledge gaps that I hope would contribute powerful arguments to make the treatment of leishmaniasis for humans and non-humans safer.

This dissertation has been written in English while being in Colombia. Although a foreign language for me, English forces me to achieve a level of brevity and precision I am usually unable to attain in Spanish. But Spanish was the day-to-day language of my

fieldwork. I have jotted down words, verbatim quotes, names, impressions, and feelings in Spanish. At the end of (almost) each day, I expanded on these short notes to write long and more reflective paragraphs, also in Spanish. While sometimes I think in English, I generally feel in Spanish. Despite not being a guarantee of anything, I like to believe that if I write in Spanish, I am more likely to make the reader share my experiences, to transmit something of the fieldwork's viscosity, of that underskin sensitivity. Thus, when writing gets blocked or feels stiff I switch to Spanish and with the help of online translation tools<sup>36</sup> I find better ways to express myself in English. I am much more demanding with myself when I write in Spanish, maybe because I can sense when something is well or awkwardly written. I do not have that tacit sensitivity in English, and I may never acquire it, at least not entirely. Though not necessarily better, this dissertation would be different if originally written in the language I feel. Like Annemarie Mol, I regret that writing in a foreign tongue “not only brings a lot of extra hard work, but also helps to widen the gap between embodied and inscribed author” (2003, x).

I have decided to keep certain words, expressions, and concepts in Spanish because the translation impoverishes or does not do justice to them—there is something that gets lost there. Also, maintaining some of the conceptual categories of my research participants is a way of partially recognizing their crucial participation in the theorization work that underlies this project (see Mavhunga 2018). Sprinkling certain words in Spanish into this dissertation is also a way of reasserting and insisting on what Sylvia Molloy has said: “*la elección de un idioma automáticamente significa el afantasmamiento del otro pero nunca su desaparición*” [the choice of a language automatically means the ghosting of the other but never its disappearance] (2013, 24). The texts that have inspired and helped me write, think through, and make sense of what I picked up in the field have been written for the most part in English, but also, although to a lesser extent, in Spanish. However, to bring these last ones up, to make them participate in the dialogues that I have tried to generate or expand, I had to translate parts of them. There is also something that goes missing or disrupted in that process, something the Latin American authors of those texts did not entirely sign up for.

In doing so—also in leaving Colombia to pursue a Ph.D. in Canada—I might be seen as someone just “playing the game [of colonialism] for my contributions to be perceived as relevant” (Rita Segato, as quoted by Pérez-Bustos, 2017: 60). While I am mindful of the fraught geopolitics of knowledge production and the power inequalities underlying the constitution of English as the lingua franca in the academic world (Pérez-Bustos 2017), I also believe this criticism relies on a point of view that sometimes mistakenly insists in seeing culture through binary lenses of purity/impurity. Bounded or self-enclosed places do not exist, and radical difference or incommensurability in spatial, practical, and linguistic terms are very hard to sustain (see, for instance, Gupta 1998; Giles and Neale 2018). “At the juncture of cultures, languages cross-pollinate and are revitalized; they die and are born” (Anzaldúa, Cantú, and Hurtado 2012). Moreover, instances of encounter and translation where “two or more cultures edge each other . . . where the space between two individuals shrinks with intimacy” (Anzaldúa, Cantú, and Hurtado 2012) remain one of the most productive sites for ethnography. Although studying in Canada and writing in English allows me access to certain audiences and privileged (scholarly) spaces, I do not fit comfortably there and try to work through that discomfort. As such, I feel part of a project that wants to establish connections by writing (not only) in English, “to weave crossed dialogues, to negotiate, and thus reconfigure the exclusion of the [English] canon; a search that is not exempt from difficulties and frustrations” (Pérez-Bustos 2017, 62).

## Chapter Three:

### Leishmaniasis: A War Disease

Since the Colombian war has mainly taken place within the *selvas* where leishmaniasis-transmitting sandflies thrive, the disease has been especially harsh to combatants of the armed conflict—not only soldiers but also members of guerrilla and paramilitary groups. However, leishmaniasis similarly affects civilian populations involved either in legal activities that also take place within the *selva*, or in war-intertwined illicit economies—for instance, cocaine production and illegal mining—that remain confined and hidden deep inside these forested environments. Thus, peasants, indigenous peoples, *raspachines* (coca harvest workers), hunters, loggers, and miners who carry out their daily life and activities in relation to the *selva* may also suffer from leishmaniasis. The same goes for any other person who, for one reason or another, approaches or enters the *selva*, including tourists (see Hernández, 2019), photographers, biologists, and anthropologists.

A distinctive characteristic of leishmaniasis is that it leaves visible marks on the body. Painless skin sores that grow slowly and resist healing are the only physical manifestation of the disease.<sup>37</sup> These ulcers, when they heal, turn into scars that constitute permanent evidence that someone, at least once, entered the *selva*, was bitten by a sandfly, and ended up infected with the parasite. Despite the fact that guerrillas are far from being the only population bearing lesions and scars, many in Colombia consider leishmaniasis “the guerrilla disease.”<sup>38</sup> As I will show in this chapter, this label has been tremendously harmful because, in the Colombian context, being called a guerrilla member or a guerrilla collaborator is virtually a death sentence. Although in the political arena people are branded as guerrillas, narcoterrorists, terrorists, or *castrochavistas*<sup>39</sup> on an almost daily basis—especially by former President and now Senator Álvaro Uribe, as well as by members of his party, the Democratic Center—such accusations continue to pose a serious and even life-threatening risk to FARC ex-combatants, social leaders, activists, human rights defenders, journalists, scholars, political and opinion leaders, or anyone who opposes the social order that perpetuates inequality and violence. Being called *guerrillero* or *guerrillera* is one of the most dangerous accusations someone can receive. Perhaps, it is the worst stigma a person can carry in contemporary Colombia.

In this chapter, I set out to demonstrate that more than a guerrilla disease, leishmaniasis is *a war disease* in Colombia. This means that leishmaniasis is one of the ways in which the war affects and alters the lives of combatants and civilians in rural areas. First, the war has funneled people into the *selva*—soldiers, guerrillas, paramilitaries, kidnapped people, victims of forced displacement, coca growers, coca harvesters, etc.—who end up suffering from leishmaniasis ulcers and bearing leishmaniasis scars. Second, through the constant movement of these people across, and in and out of the *selva*, the war has also caused leishmaniasis to move to places and emerge in areas where there have never been cases before. In other words, the epidemiological behavior of the disease has been critically shaped by the armed conflict. Third, the stigmatization of leishmaniasis sufferers as guerrilla members is a perverse association that has engendered marginalization, discrimination, exclusion, and violence not only against guerrillas but also—and not incidentally or collaterally—against civilians affected by this disease.

I argue that describing the armed conflict as a *social determinant* of leishmaniasis has fallen short of representing the crucial, defining, but especially the nonlinear ways in which war and this disease shape and constitute each other in Colombia. This is not so much a problem of the terminology of social determinants as a shortcoming of the dominant public health model that privileges biomedical understandings and approaches (Marmot and Wilkinson 2006). While this model accepts that social conditions influence the incidence and prevalence of an infectious disease like leishmaniasis, it tends to focus on microbial agents, genetic markers, and specific risk factors as causes, and drugs and vaccines as responses (Waitzkin 2016). In marked contradiction to the longstanding tradition of social medicine in Latin America, which emphasizes the social and cultural determinants of health and disease (Franco et al. 1991; Waitzkin 2016), the dominant model relegates the armed conflict to the background and understands it only as a contextual reality that exceeds the scope of public health and biomedicine. In that way, public health institutions fail to capture the weight of the armed conflict for people affected by leishmaniasis and evade their responsibility to develop appropriate measures to address this problem.

Similarly, when leishmaniasis is grouped with many other illnesses under the label of *neglected diseases* or *diseases of poverty*, we are just pointing at health inequities that result from the uneven and unfair distribution of money, power, and resources in the world. I am not saying that structural inequalities are not significant to the suffering associated with leishmaniasis, nor that pharmaceutical innovation and its market-driven motivations do not (partially) explain why we do not have safe pharmaceutical treatments against this disease. But if we limit ourselves to the neglected diseases discourse, we fail to highlight the specificities of the context, which indicate that Colombian leishmaniasis and its consequences cannot be understood in disconnection from the Colombian armed conflict. Embracing the *war disease* terminology might help address these limitations. By using these words, we would be pointing at the multiplicity of ways in which leishmaniasis and the armed conflict have become *enmarañados*. More significantly, it allows us to consider how these two phenomena can be disentangled and even imagine ways of practicing scientific research and caring for leishmaniasis patients that open up opportunities for peacebuilding—for remembrance, reparation, and non-repetition.

My understanding of leishmaniasis-related stigma and discrimination draws on the conceptual framework developed by Richard Parker and Peter Aggleton (2003) in the case of HIV/AIDS. These authors argue that taking Goffman's classic work as a starting point has led to ineffective and problematic ways of understanding and, consequently, researching and addressing stigma. In their view, defining stigma "as something *in* the person stigmatized, rather than as a designation that others attach *to* that individual" (Parker and Aggleton 2003, 15) results in an individualistic interpretation of the problem. Thus, studies and interventions taking that approach end up focusing on the beliefs and attitudes of those who stigmatize and on the emotional response of stigmatized individuals. Moreover, it is assumed that stigmatization would disappear if stigmatizers were given access to the "right" information about modes of HIV transmission, risks of infection, and affected populations. Likewise, interventions aimed at developing coping skills for stigmatized people to better deal with the effects of stigmatization become valid and necessary under that individualistic framing. Parker and Aggleton challenge this sort of understanding and approach. For them, stigma and discrimination "are social and cultural phenomena linked to the actions of whole groups of people, and are not simply the



consequences of individual behavior” (2003, 17). In their view, making sense of stigma requires paying attention to the structural dimensions of discrimination that use stigmatization to produce and reproduce social inequality and exclusion. In taking this approach, this chapter pays attention to the specific historical, cultural, and power contexts in which the stigma associated with leishmaniasis has emerged and taken shape. It also provides an empirical basis for conceptualizing interventions that can challenge the processes by which individuals, communities, and the state reproduce the notion of “the guerrilla disease,” excluding certain groups of people in rural Colombia.

In what follows, I will first describe the spatial entanglement of war and leishmaniasis with the *selva*. Second, drawing on testimonies from scientists, I will show that a distinctive characteristic of Colombian leishmaniasis is that the armed conflict has significantly defined the epidemiology of the disease. Then, I delve into the stories of people whose leishmaniasis experiences remain entangled with the war despite being noncombatants. Finally, I show that the stigma associated with the disease has involved tragic consequences not only for guerrillas but also for civilians whose lives have been similarly but not equally *enmarañadas* with the *selva* and the armed conflict.

### **Leishmaniasis is more *selva***

“There is no peace in the *selva*,” wrote Luis Eladio Pérez in a memoir on his seven years of kidnapping by the FARC (2008, 73). He was not only referring to the inescapable noises and liveliness of this setting but also to the distinctive location of war in Colombia (Ospina 2014). Although the armed conflict comprises a myriad of phenomena that have manifested in many different scenarios and landscapes throughout the country, the *selva* is the ultimate space where the war has been fought. Since colonial times, imperial, state and nation-building projects have persistently failed at incorporating extensive geographies—more than half of the national territory—located beyond the three mountain chains that cross the center of the country from south to north. For reasons ranging from the organization of resistance blocks by peasant, indigenous or afro communities, to very challenging access conditions, difficult climate, and natural settings considered untamable, the *selvas* have remained peripheral, the inversion of civic and social order (Serje 2014).

According to conventional wisdom in Colombia, *selvas* are regarded as diseased, remote, and problematic lands, immersed in violence, occupied by marginal people engaged in illegal activities, and in need of order, development, and modernization (Serje 2005). With the protracted armed conflict Colombia has experienced for more than five decades, these spaces are still known today as “red zones” or “*zonas de orden público*” [public order areas]—war zones where different armed actors dispute the territorial control over strategic areas for cocaine production and trade, gold mining, oil exploitation, palm oil plantations, and other types of legal and illegal extractivism (see Molano Bravo, 2005). While the *selva* does not constitute a bounded space for the armed conflict, on a discursive, symbolic (Ospina 2014; Serje 2014), material, and experiential level (Betancourt 2010; Cárdenas and Duarte Torres 2016), it is the ultimate space of war in Colombia.

The ecological limits of the *selva* also demarcate the space of sandflies. These insects are tiny and hairy, with body lengths ranging from 1.5 to 4 mm. Their wings are large compared to their minute bodies. The whitish color of these little creatures is probably the reason why people in Colombia usually call them *manta blanca* [white blanket] or *manta*, for short.<sup>40</sup> Rock crevices, nests, the underside of leaves, animal burrows, and the uneven surface of tree trunks offer humid and dark dwellings for sandflies to pass most of the day. At twilight, however, females become particularly active seeking mammals to bite and obtain the blood they need to develop their eggs. Opossums, armadillos, sloths, anteaters, bats, wild rats, porcupines, pumas, and jaguars are attractive sources of blood for these insects. But so are two-legged *selva* mammals, many of them armed and dressed in camouflage. They represent just another source of blood for these hematophagous female sandflies, a source whose availability has become particularly high with the armed conflict.

Among 31,000 victims of kidnapping between 1958 and 2018 (Observatorio de Memoria y Conflicto 2019), Ingrid Betancourt remains the most famous survivor. In 2002, when she was campaigning for the presidency of Colombia, she and her campaign manager—Clara Rojas—were held captive by the FARC during six years of inhumane cruelty (Betancourt 2010; C. Rojas 2009). Due to her dual Colombian-French citizenship and high political profile, Ingrid Betancourt’s kidnapping received worldwide media coverage. It became a diplomatic priority for the then presidents of Colombia, Venezuela,

and France, Álvaro Uribe, Hugo Chávez, and Nicolas Sarkozy, respectively. In the memoir she published in 2010 about the tragic years she was forced to spend in the *selva*, she wrote this about one of her experiences with sandflies:

That night another plague lay in wait: the *manta blanca*. It covered us like snow, spreading over our clothes and into our skin, inflicting painful bites that we could not avoid. *La manta blanca* was a compact cloud of microscopic pearl-colored midges with diaphanous wings. It was hard to believe that these fragile things, so clumsy in flight, could inflict such painful bites. I tried to kill them with my hands, but they were insensitive to my efforts, because they were so tiny and light that it was impossible to crush them against my skin. We had to retreat and take the path to the river earlier than planned. We plunged with relief into its warm water, scratching our faces with our nails to free ourselves from the last relentless insects chasing us (Betancourt 2010, 405).

Ingrid Betancourt does not seem to relate her encounters with sandflies with the leishmaniasis outbreaks she witnessed among guerrillas and other kidnapping victims while she was held captive. But, for Luis Carlos, a seasoned FARC member I interviewed in the reintegration camp of Colinas, the memory of his first experience with leishmaniasis *is* a story about sandflies. He joined this guerrilla group almost 30 years ago. At the time, Luis Carlos was a town council member affiliated to the Unión Patriótica (UP) [Patriotic Union], a political party founded in 1984 by the FARC, as agreed in the peace negotiations between this guerrilla and the government of Belisario Betancur (1982 – 1986). Since the UP foundation, many of its members and sympathizers were assassinated, disappeared, or kidnapped. This tragic phenomenon, known as “the genocide of the UP,” left 3,122 people murdered between 1984 and 2002 (CNMH 2018). To preserve his life, Luis Carlos joined the ranks of the FARC. Within this organization, he served as commander of different guerrilla *columnas* in the center and the south of Colombia. He was also the founder of a FARC radio station, and part of the FARC team behind the peace negotiations during the government of Andrés Pastrana (1998 – 2002) and in the negotiations in Havana that finalized in 2016 successfully. This is how Luis Carlos recalled his first encounter with leishmaniasis:

Let's see. I got to know leishmaniasis between 1992 and 1993, on the Unilla River [located in Guaviare]. . . I remember very well that we were on the river and we had to sail for an hour with a canoe to cut wood. In the morning, we were dropped in certain area to cut a type of green firewood that's called *bizcocho*, which fires when it's green and does not smoke<sup>41</sup> . . . In that part of the *selva*, there was *manta*

*blanca*, as we call the little mosquito. You would lift the leaves with your fingers and you could find the insects there, during the day, orbiting [pointing upwards, he did a circular gesture with his finger]. I was cutting wood with an axe. I was sent there when there were already several cases of leishmaniasis in the camp. Indeed! A few days later I had a leishmaniasis sore on my hand!

Because of the strong ecological attachments between sandflies and the *selva*, leishmaniasis is virtually limited to this space. Unlike other diseases that also occur in this context, leishmaniasis is almost exclusively a *selva* disease. For scientists, “the dogma of leishmaniasis”—as they call it—is that in the American continent this disease is a zoonosis with a sylvatic transmission cycle. This means that leishmaniasis is understood as a disease transmitted by sandflies from animals to humans, with a parasite life cycle that primarily depends on wild mammals serving as typical blood sources for sandflies. When a sandfly bites an infected wild mammal and then bites a human, the human becomes infected with the *Leishmania* parasite and might develop an ulcer. Under that dogmatic view, wild animals are absolutely necessary for human infection to take place, and humans are just accidental hosts who become infected with the parasite when they enter the *selva*.<sup>42</sup>

The spatial entanglement of leishmaniasis and the *selva* makes such a significant part of the medical understanding of the disease that health workers tend to rule out leishmaniasis if the consulting patient denies having recently been in this setting. In fact, contact with the *selva* is regularly considered a condition for proceeding with the diagnosis of the disease (MinSalud and INS 2017, 9). On occasions, this principle means that some people do not even get to see a doctor when their sores do not seem to have emerged from the *selva*. I had the opportunity to witness this at LERI’s clinical facility, located in the urban area of Candelario.

One morning, a lady in her fifties or sixties knocked on the door. Ramiro, one of the nursing assistants, opened the door half-way and, without letting her in, asked her what she wanted. She asked him if that was the place where people get treated against *guaral*, as leishmaniasis is popularly called in that area of Colombia.<sup>43</sup> Ramiro asked her if she was the one with the sore. She replied that it wasn’t her but her dad. Before bringing him—she said—she had preferred to come alone and find out if that was the right place. “Where is he from?” Ramiro asked. “From here, from Candelario,” she replied. “Here in Candelario

[referring to the urban area] there is no *guaral*. What your dad has is not *guaral*.” He said these words as he slammed the door in her face. Thus, the lady’s father was not even given the opportunity to see the doctor because his case seemed to be disconnected from the *selva*.

In interviews with scientists, public health officials, and health professionals, I asked about the particularities of leishmaniasis, about those characteristics that make this disease different from other illnesses also transmitted by insect vectors like Chagas disease or malaria. I was repeatedly told that, although Chagas disease also affected poor people in rural areas of Colombia, the place of encounter between humans and the triatomine bugs that transmit Chagas is the domestic space—precariously built houses, with adobe walls or thatched roofs where these insects like to live. So, contrary to leishmaniasis, Chagas was definitely not a *selva* disease.

In the case of malaria, establishing a spatial difference between this disease and leishmaniasis was a little more complicated. Adriana Nieto is a microbiologist, specialized in epidemiology, who has worked for sixteen years leading the public health institution in charge of vector-borne diseases in Candelario. The rural area of this municipality has not only been heavily affected by leishmaniasis and the armed conflict, but also by malaria. Actually, for Adriana, controlling malaria is the absolute priority of her institution because Candelario is often among the five municipalities reporting most of the malaria cases in Colombia. For her, the main difference between these two diseases is that

leishmaniasis is more *selva*; the disease is really *selvática* [from the *selva*]. Instead, malaria has both peri-urban transmission and transmission in rural areas. We can say it is not so *selvática*. While leishmaniasis is clearly *selvática*, malaria is in both places, but primarily in areas a little bit more populated by people . . . In malaria’s case, *we* are the parasite’s reservoir<sup>44</sup>, and *we* carry the parasite with us . . . because the reservoir is the human. For leishmaniasis, the reservoir is not the human but the animal that is in the *selva*.<sup>45</sup>

It is the spatial encounter between the multiple species involved in leishmaniasis, the complex phenomenon of the armed conflict, and the metamorphic ecologies of the *selva* that have contributed to making this disease an illness of war in Colombia. Arturo Casas shares the same interpretation. He is a FARC nurse who joined this guerrilla group in 1998.

Only one year after his recruitment, he was trained as a guerrilla nurse through an 11-month medicine course periodically offered to a few members of the organization. Although he already knew this disease from having previously worked as a peasant and as a *raspachín*, it was during that training that he heard the word “leishmaniasis” for the first time. Since joining the FARC, he has had to deal with countless leishmaniasis cases within the guerrilla ranks. When I asked him to describe the relationship between the disease and the war, he used the following words:

Leishmaniasis and the armed conflict are connected through the conditions in which *la lucha* [the fight or the struggle] takes place. If the *lucha* was urban, there would be no leishmaniasis. But the *lucha* is rural; it is in the *selva*.

Both leishmaniasis and the war take place far away from the Colombian center, far away from the cities. It is also in peripheral and rural areas of Colombia where people have struggled the most to defend dignified ways of living that run counter to modernizing ideas and development projects brought by corporations and the central government. Leishmaniasis happens there where the armed and social conflict has traditionally occurred. Since the *selva* is the context of war, and leishmaniasis is the disease of the *selva*, leishmaniasis has acquired a powerful meaning as a disease of war in Colombia. In other words, as the *selva* has become an “inescapable ecology” of the conflict (Nash 2006), leishmaniasis has become an inescapable disease of the war.

### **Leishmaniasis and war move along**

“What do you think is particular about Colombian leishmaniasis? What happens here that doesn’t happen elsewhere?” I posed this question to Cristian Ortega, a veterinarian who has worked on leishmaniasis research for more than thirty years, twenty of them in Colombia studying how multiple species participate in the transmission of this disease. He explained to me that, unlike other places, the epidemiology of leishmaniasis in Colombia has clearly changed in relation to the armed conflict. “That’s something we’ve been commenting on for 20 years. And not only do we see it, other research groups have seen it as well,” he said. Cristian was specifically referring to the human migrations associated with the war, and the resulting and unexpected emergence of leishmaniasis cases in places where this disease was rare or nonexistent before.

I think that, for the moment, Colombia differs from other contexts because the process of violence and the confrontations between the military and the guerrilla cause changes in the different species of *Leishmania* in the country. It seems to me that this does not happen in other countries. I mean, generally speaking, the same species of *Leishmania* stays in the same place, it doesn't move as it happens here in Colombia.

Cristian mentioned the case of Chaparral as a good example of what he meant by that. Between 2003 and 2006, the largest leishmaniasis outbreak documented in Colombia took place in Chaparral—a town of nearly 60,000 people located in the south of Tolima. While the number of reported cases in Tolima until 2002 had been traditionally low (840 cases in the 1980s and 1,833 cases in the 1990s (Pardo et al. 2006)), 2,313 cases were reported in five years (2003-2007) alone in Chaparral (Valderrama-Ardila et al. 2010). Maria Luisa Alvarez, a nurse who has been part of the health professionals working at the Hospital San Juan Bautista in Chaparral for more than twenty years, told me that this institution went from seeing a couple of sporadic leishmaniasis cases in 2002 to suddenly diagnose, report, and treat an overwhelming number of patients in 2003 and the subsequent years of that epidemic event (see also Santaella et al., 2011). She explained that since that unprecedented outbreak, Chaparral had become an endemic municipality for leishmaniasis, a place where the disease is regularly found among people living in that area.

Scientists studying leishmaniasis in research institutions located in the major Colombian urban centers—Bogotá, Cali, and Medellín—saw in the Chaparral epidemic an important opportunity for research. One of the studies showed that the most probable parasite species responsible for the outbreak was *Leishmania* (V.) *guyanensis* (Rodríguez-Barraquer et al. 2008). Until that moment, this species had only been reported in the southeastern region of Colombia, in the Amazon River basin. Therefore, scientists were surprised to confirm the presence of *L. (V.) guyanensis* in a very different location, “strikingly different from the primary tropical rain forests of lower altitudes” where this parasite species was believed to be confined (Rodríguez-Barraquer et al. 2008, 279). A different article went further to claim that “[i]n the Chaparral outbreak, the dominant parasite species was *Leishmania* ( V. ) *guyanensis*, and its novel occurrence suggested that the origin of the outbreak may have been caused by the movement of persons, possibly

including armed groups, from the Amazon or Orinoco basin” (Valderrama-Ardila et al. 2010, 248).

Cristian explained what happened in Chaparral like this:

Several things came together. Fundamentally, there was a susceptible population for which leishmaniasis did not exist before, at least not significantly. There was also a species, *Leishmaniasis guyanensis*, which was not in that area before. Then, someone brought that *guyanensis* there. One of the things that people used to say is that that area was a resting place for the guerrillas. Then, those infected guerrillas served as reservoirs, as sources of parasites that enable for a cycle of leishmaniasis transmission to get established there . . . The [insect] vector was taking parasites from one human and passing them on to another.

More than a “resting place for guerrillas,” armed actors have traditionally been present in Chaparral and its neighboring municipalities in southern Tolima. In fact, in 1964, the now-extinct FARC guerrilla was founded by ‘Manuel Marulanda Vélez’ in that area. Guerrilla organizations and paramilitaries, as well as drug trafficking and the production of opium poppy, have left a historical legacy of violence in that region (see Verdad Abierta, 2015). In the late 1990s and early 2000s, the FARC “used to move large troop contingents; in a single march they could move up to a thousand guerrillas” (Avila 2019, 296), which might explain the movement of *L. (V.) guyanensis* from the Amazon to Tolima. Moreover, in the late 1990s, Tolima was one of the areas where the FARC exercised strong social and territorial control. Thus, with the Democratic Security Policy of Álvaro Uribe’s government, several Army operations focused on the south of Tolima (Fundación Ideas para la Paz 2013). This military offensive took place during the years of the leishmaniasis epidemic in Chaparral.

Adela Niño is a physician with doctoral studies in parasitology and tropical medicine, who has been working for more than 30 years researching tropical diseases at a Colombian public university. Adela shares Cristian’s interpretation. For her, the relationship between leishmaniasis and the war is most evident in the ways the epidemiological behavior of the disease has been shaped by the migratory movement of armed actors:

One of the things we’ve seen is that, if you look at the map of the distribution of the different *Leishmania* species, there were areas where there wasn’t a certain type of



parasite, and then it appeared. One of the things we started to see in Valle del Cauca was that, when there were guerrilla movements in Dagua or the Cañón de Garrapatas, leishmaniasis foci began to appear among the civil population where we had never had a record of that . . . I've seen the movement and appearance of leishmaniasis in areas where there was no leishmaniasis before . . . The evidence, at least the epidemiological evidence, seems to show that, where there have been guerrilla movements, where they arrive, where they pass, leishmaniasis begins to appear. In other words, they come infected. They infect the insects [sandflies] that are located there and establish outbreaks. That is the hypothesis some of us have, but we have not tested it, it has not been tested.

Roberto Quintero is another physician who has devoted more than 35 years of his life to leishmaniasis research in Colombia, primarily studying the ecological factors leading to leishmaniasis transmission. I met him at WorldLeish in 2017, and some months after that I visited Roberto's lab located at one of the main public universities in the country. Although Adela and Roberto have worked for different institutions and in different rural areas, he told me the following story to describe the same sort of phenomenon she had observed:

In 1986, in Montebello, Antioquia, two people from another region came to the *veredas* [villages] of Campoalegre and La Merced. Altogether, they had eleven active leishmaniasis lesions. Two months later, the first cases of leishmaniasis began to appear, and it quickly grew exponentially. . . The relationship between those who arrived and the establishment of the outbreak was clear, and that is what you commonly hear when you talk to the community. [People say:] 'There was no such disease here, but the Army arrived, the guerrilla arrived, no matter who it was, they settled here and brought us the disease.'

Despite the clarity and frankness of Cristian, Adela, and Roberto's words, no scientific article tells this story in such a straightforward way. Actually, in the articles scientists publish, they often refrain from naming the armed conflict and are extremely cautious about suggesting associations between the emergence of epidemiological events and the migration of military personnel, armed groups, and victims of forced displacement.<sup>46</sup> Differently put, the conflict is often omitted from scientific accounts of leishmaniasis in Colombia or is barely named as one of many factors—a social determinant—that could be significant in the disease epidemiology (for instance, Herrera et al., 2018). Sometimes, the armed conflict is mentioned as a barrier in the execution of research projects but excluded as a possible explanation of the results (see Santaella et al.,

2011). This is likely due to the positivist approach used to understand and explain relationships between diseases and other phenomena, which, despite scientists' observations and intuitions, limits the type of claims they feel comfortable making. When I asked Cristian how he could know what he was telling me, he said: "No, you can't know, you can only guess, hypothesize." That is probably why he and many others have not explicitly written that war prominently determines the epidemiology of leishmaniasis in Colombia. Also, based solely on the data collected by the public health surveillance system, it would be very difficult—and sometimes ethically questionable—to study whether the occurrence of leishmaniasis cases is linked to events related to the armed conflict or whether the disease predominantly affects combatants other than the military (i.e. members of guerrilla or paramilitary organizations) or people involved in economies considered illegal. While the report form used in the public health surveillance of leishmaniasis gathers information about the place where each case occurred, this data relies on information provided by the patient. This form also collects information about the occupation of the patient. However, as it has to be reported in the form of a code coming from a classification system of the International Labour Organization (ILO), "guerrilla member" and "coca harvester", for example, are not among the recognized categories.<sup>47</sup>

Despite this tendency to omit in scientific publications, several scientists I spoke with agree that the armed conflict has played a fundamental role in shaping and altering the spatial distribution of leishmaniasis. Many of them even consider that this particular association is the most distinctive aspect of Colombian leishmaniasis. If we take these views and interpretations seriously, it becomes clear that more than one of many factors affecting the epidemiological behavior of the disease, war has been absolutely central for the constitution of leishmaniasis in Colombia today. Then, it becomes possible to argue not only that leishmaniasis and war are deeply *enmarañadas* because they move along, but also that people who move leishmaniasis from one rural space to another are not alien to armed conflict. On the contrary, their lives are in complex and diverse ways entangled to the war. And finally, it becomes evident that any account of this disease—epidemiological, biomedical, or otherwise—that takes serious consideration of the war will be better positioned to elucidate and address the contemporary reality of leishmaniasis in Colombia.

Michael Taussig has defined *the public secret* as “that which is generally known, but cannot be articulated” (1999, 5). When people are not able to say what they all know, he argues, power is at work. The absence of “hard facts” to prove or disprove the epidemiological association of war and leishmaniasis, as well as the fear towards uncertainty in science,<sup>48</sup> have downplayed how this disease and the armed conflict remain entangled. Also, acknowledging publicly that science does not take place in isolation from the war can be detrimental to researchers themselves. Under such circumstances, it may become difficult to obtain funding, ongoing research projects may be affected, and the work of scientists may be interpreted as “contaminated” by political issues. But maybe we have reached a moment where the lack of scientific evidence—in the traditional sense—should not stop us from articulating, writing, and discussing how important and central war has been for leishmaniasis in Colombia. Moreover, this intricate association, as we will continue seeing in this and the following chapters, goes well beyond the epidemiological pattern of leishmaniasis. Thus, if we expect war to be disentangled from the experience of leishmaniasis, we need to start articulating the problem in a manner that is more explicit than what we have produced so far (see Moore 2013), even if this involves acknowledging, accepting, and also embracing uncertainty (Wasserstein et al., 2019).

### **Leishmaniasis: A mark from war**

One of the first people I met in Candelario was Ernesto Mina, an Afro-Colombian social leader who belongs to a group of people that helps LERI recruit leishmaniasis patients for research projects and clinical studies. Ever since Ernesto and I met, he insisted I make a trip to his village in the rural area of Candelario with the purpose of showing me his daily efforts to persuade other peasants not to give up growing cacao trees despite the price fluctuations and the difficulties of selling cacao beans. Based on his example, his achievements with cacao beans, and his growing interest in a little-explored crop in that area—pepper—Ernesto wanted to convince other members of his community not to replace cacao trees with highly stigmatized coca plants. Put another way, Ernesto was determined to gather a significant number of people in an effort to compete against coca cultivation for cocaine production. In Candelario and other rural and remote areas of Colombia, this is a dangerous and challenging task because it is relatively easy to find buyers of coca leaves through drug trafficking networks who are ready to pay a much better price than that of any

other agricultural product, cacao beans and pepper seeds included. Cocaine producers and traders also pressure peasants to grow coca plants. Despite this, Ernesto wanted to prove to his neighbors that sticking to the cultivation of cacao trees and trying new legal products was worth it because it could bring some economic stability but, most importantly, independence from the armed actors and some peace.

The weekend I decided to visit Ernesto,<sup>49</sup> I took a sort of taxi that drove me from the urban to the rural area of Candelario. After an hour drive, at some point, the car veered off the main road and, amidst cacao trees and oil palm plantations, it reached the edge of a large river. Ernesto and his youngest son were waiting for me in a motorboat. We went up the river for about 30 minutes. When Ernesto said we had arrived, besides lots of vegetation, the only thing I could see from the boat was a FARC flag hanging from a wooden pole. I was tempted to take a picture, but I preferred to avoid the risk that that action might have involved. Ernesto's house was one of nearly twenty scattered dwellings. He showed me the school and the *puesto de salud* [health station]. It was a little house with a couple of stretchers, a desk, a basic medicine cabinet, and nothing else. A nursing assistant was the only person working there. Beyond Ernesto's cacao and pepper crops, I could see the coca plantations at his neighbors.

While we were walking, he told me that in his opinion leishmaniasis had arrived in Candelario in the early 2000s along with the coca plants and the armed actors—first guerrillas, then paramilitaries, then guerrillas again. “It’s not that the disease didn’t affect us before,” he explained. For instance, he had had his first and only lesion 25 years ago; a scar between his eyebrows still reminded him about that episode and the painful injections of Glucantime—he told me—he would never accept again. However, for him, war and its associated cocaine business have made leishmaniasis into a more frequent and notorious problem in that area. “All that came more or less at the same time,” he said.

This is particularly evident within LERI's facilities. During the months I spent there, I noticed that most of the leishmaniasis patients visiting the clinic were not originally from Candelario. Traditionally, the population of this part of Colombia is black, descendants of Africans who were brought to the American continent in the transatlantic slave trade. However, most of LERI's patients are *mestizos*. They belong to peasant

families who used to work in the production of coca plants in Caquetá and Putumayo. As a result of the so-called War on Drugs waged in those regions since the 2000s (see Lyons, 2016, 2018), several peasants and a large portion of the coca business—violence included—moved to the Pacific coast, including Candelario.

Cecilia was born in Candelario and has worked for LERI for more than thirty years. Although she does not have a college degree, she completed a couple of semesters of medicine at a university, which was useful for her to get a job as a nursing assistant at LERI in the 1980s. For more than three decades, she has participated in multiple research projects on leishmaniasis and has accumulated tremendous experience and knowledge in the transmission, distribution, diagnosis, and treatment of the disease. Also, her work has allowed her to observe that leishmaniasis is a phenomenon that, over the years, has not remained stable in Candelario. In her opinion, this health problem became particularly prominent in the early 2000s:

The conflict arrived in Candelario when the drug trade came in. At that moment, leishmaniasis also increased, because that brought the *raspachines* [coca harvesters], the anti-narcotics police, all that, so there was a noticeable increase in leishmaniasis. For example, a police brigade was going to eradicate coca plants and, from there [the areas where coca plantations are located], many came out with leishmaniasis. Sometimes we saw up to 15 patients a day. Leishmaniasis and coca plants have been closely linked.

When I was a child, my father used to take me to *el monte* [the bush] to work for the day. In the afternoon, we went back to the house, I took a shower, played football, and, at night, I slept in the house underneath a mosquito net. In contrast, *raspachines* sleep directly there, in that zone, in the forest, next to the coca plantations. So that's why you see that most of the patients here [at LERI] are *raspachines*. Leishmaniasis increases the most in the areas where there are more *raspachines*.

For both, Ernesto and Cecilia, the coca plants, the armed actors, the coca growers, the *raspachines*, the cocaine traffickers, and the antinarcotics police arrived simultaneously in Candelario, turning both leishmaniasis and violence into prominent local issues. Moreover, in Cecilia's view, the fact the *raspachines* remain day and night inside the coca plantations, in areas surrounded by the *selva*, is what has made this population particularly vulnerable to sandfly bites. For her, that specific practice has turned coca harvest workers into the most common sufferers of leishmaniasis in Candelario.

Daniela and her father were advised to approach LERI when at only 12 she developed two leishmaniasis lesions on her right foot. The largest ulcer was on top of her foot and the smallest on her ankle. The previous month she was forced to wear only flip-flops so that the oozing ulcers would not bother her so much or get her socks dirty. Daniela's family had arrived from Caquetá to Candelario three years before. Several relatives of her father's partner had already migrated to Candelario, which had made things a bit easier for them. As she was not going to school, she would often accompany her father to work in the coca fields as *raspachín*. That was probably where she became infected with leishmaniasis, she told me. Daniela cried heartbrokenly when a sample was taken from one of her sores to diagnose the disease. The procedure is painful. Without any anesthesia, the ulcer is scraped with a scalpel to obtain a bloody fluid that is placed on microscope slides. Some minutes later, when the diagnosis was confirmed, Daniela cried again when she learned that the treatment involved twenty consecutive days of injections.

Children like Daniela, also from Caquetá, are the students of María Dolores Peña in the rural school of San Jacinto,<sup>50</sup> a small village located three hours away from Candelario's urban area. She is a 47-year-old woman, black and tall, and the only person in charge of teaching all the children in San Jacinto. Except for two boys from indigenous families, all her students belong to peasant families who came from Caquetá to Candelario to work in the production, harvest, and processing of coca leaves. The mother of one of her students had told her that there were several cases of leishmaniasis in San Jacinto. Somewhat frightened by that comment, she decided to go to the LERI and find out if an ulcer that had appeared a couple of weeks ago on her knee was leishmaniasis or not. Leaving the village also gave her the chance to temporarily avoid the conflict that was affecting San Jacinto at that moment. Some days before, members of the Army had arrived to eradicate coca plantations by force. Thus, coca growers—the parents of Maria Dolores' students—were opposing these authoritarian actions that went against the peace deal signed in Havana. The government and the FARC had agreed that the state would offer peasants the economic resources, infrastructures, and technical assistance required to substitute coca with other agricultural products. But the government was not keeping its word. At LERI, María Dolores' leishmaniasis test came back positive. She decided not to go back to San Jacinto until the 20-day Glucantime treatment was over. I saw her again when she was seven days

away from finishing the treatment. She told me the drug had made her feel very sick. “Pain all over my body, as if I’d been beaten up. I feel nauseous. I also had to stop the treatment for one day because my buttocks [where Glucantime is always injected] hurt too much”.

During my fieldwork, I met all sorts of people with leishmaniasis lesions and scars. I encountered an overwhelming number of soldiers, some guerrilla members, and also many peasants like Ernesto, children like Daniela, and workers like María Dolores. While all of them had stories about their ordinary entanglements with both the *selva* and the armed conflict, only some of them were part of guerrilla organizations. The leishmaniasis experiences of these three people are just a few examples showing that more than a guerrilla disease, leishmaniasis is a disease of war in Colombia. The suffering attached to the disease is entangled with the daily miseries and dynamics of the armed conflict. Just as war cannot be subtracted from the epidemiological behavior of leishmaniasis, neither can it be subtracted from the experience of leishmaniasis in the Colombian rurality.

### **A war disease**

In my childhood, especially when we were on a road trip, my parents used to tell my sister and me that if we were ever stopped by men dressed in camouflage, we had to look at their feet to know if they were Army soldiers or guerrillas. If they were soldiers, they would be wearing leather boots. If they were guerrillas, they would be wearing rubber boots. This association between rubber boots and guerrillas has circulated extensively in Colombia (Betancourt 2010, 44; García 1994; Molano Bravo 2001, 172; Palacios Rivas 2019). Since this bloody conflict has pitted Colombians against other Colombians, it is very complicated to know who is who, and whether a person belongs, has affinities, or has been forced to relate to one side or another of the conflict. As Timothy P. Wickham-Crowley has noted, in guerrilla warfare, “the political enemy is no longer a foreign devil, but armed forces composed of one’s own countrymen [*sic*]” (1992, 4). As such, often arbitrary mechanisms to distinguish between friends and foes have emerged.

But, of course, not only guerrillas wear rubber boots in Colombia. “They are also the boots used by the immense rural country, made up of peasant workers, farmers, *corteros* [sugar cane cutters], indigenous peoples,” and many others (V. Quintero 2009). Thus, the connotation attached to rubber boots has had violent and even deadly

consequences for both civilians and guerrilla members at the hands of the Army and paramilitary groups (CINEP, 2010; Ibañez Sarco, 2015). The situation is so dramatic and widespread that many people in rural areas refuse to wear these boots for fear of being singled out as guerrillas (La Nación, 2005; Ruta Pacífica de las Mujeres, 2013).

Leishmaniasis has played a similar role to rubber boots in the Colombian context. Although the disease and the marks it leaves on the body are not specific to guerrillas, for many, leishmaniasis is an illness that is linked to guerrilla organizations. Thus, this illness bears a double stigma in war-ridden Colombia. It involves not only the fleshy and visible body marks that characterize the disease, but also the social stigma that establishes a perverse association between the illness and demonized guerrilla groups. The leishmaniasis-related stigma has contributed to deepening the degradation to which people belonging to guerrilla groups have been historically subjected in public discourse. The association between this illness and insurgent groups is nothing different than the cultural production of “negatively valued difference . . . as central to the establishment and maintenance of the social order” (Parker and Aggleton 2003, 17) that originates in the logics of the protracted armed conflict.

The stigma attached to leishmaniasis and the involvement of the state in the production of this stigma is not necessarily exceptional or recent in the history of Colombia. In fact, as Diana Obregón (1996, 2002) has shown, the Colombian state and physicians played a decisive role in the production of the stigma associated with another disease that also leaves distinctive and visible marks on the body—leprosy. At the turn of the 20<sup>th</sup> century, physicians and scientists advocated for a bacteriological understanding and control of leprosy that, based on exaggerated figures and a strong image of repulsion and aversion towards the disease, materialized into severe and inhuman measures to segregate lepers. The image of leprosy as a highly contagious disease that inflicted inferior people, which emerged from the imperialist expansion of Europe and the United States, was embraced by Colombian physicians as a means to professionalize medicine in the country, establish a “national medicine,” and be included in the European and North American scientific communities. In the 1920s and 1930s, seeking the participation of Colombia in the world market, physicians adopted a more relaxed attitude towards leprosy to change the



international picture they themselves had previously created of Colombia as a leprosy country. However, the cruelty involved in the policies established for lepers and their families still resonates in the minds of many Colombians for whom the name Agua de Dios—Colombia’s most famous Leprosarium—continues to be the title of a horror story (Plataarrueda Vanegas 2008). Leishmaniasis is heir to this historical legacy. After all, “epidemics frequently serve to illuminate divisions within a society” by revealing deeply rooted power inequalities and antagonisms between social groups (Espinosa 2009, 3). The disease is also known as “the leprosy of the *selva*” (see Betancourt, 2010: 374; Emanuelsson, 2012), a name that indexes correspondences between the bodily marks and the social stigma that both illnesses entail, as well as the discriminatory effects on populations seen and constructed as inferior and deserving of misfortunes.

In the conversations I had with scientists and health professionals who have worked on leishmaniasis research for several years, all of them agree that this disease is stigmatized as a guerrilla illness. Luciana Pérez, for example, is an epidemiologist who has been involved in research projects on infectious diseases for the past twenty years. During the last ten years she has primarily focused on leishmaniasis. For her, a formulaic relation has been maintained between leishmaniasis and subversive actors. In her words, the disease carries

a key punishing label: that Leishmaniasis = Guerrilla. And that label works here and in any corner of Colombia . . . Leishmaniasis = Guerrilla, that is one of the aspects that, in the last three or four decades, has characterized the disease in our country.

For other health professionals involved in leishmaniasis research, however, the stigmatization of leishmaniasis patients is not equally widespread across the country. Adela Niño—one of the scientists I mentioned before—thinks that “the myth that leishmaniasis only affected guerrillas and those who got into the *monte*”<sup>51</sup> circulates especially in the cities, in central areas of the country, and also in places like Caquetá, Meta and Putumayo where the FARC used to have a very strong presence. In her opinion, this stigmatizing notion is not as dominant in settings where leishmaniasis affects people who are clearly not directly involved in armed conflict—small children, for example. Thus, the construction of leishmaniasis as a guerrilla disease has primarily worked in areas where the constitution of

a social regime that marks guerrillas as inferior people needs to be constantly reinforced in the public imaginary. As Parker and Aggleton note, stigmatization should not be understood “as isolated phenomenon, or expressions of individual attitudes or of cultural values, but as central to the constitution of the social order” (2003, 17).

Roberto Quintero—whom I previously mentioned—is convinced that the association between leishmaniasis and guerrillas has prevented people with ulcers from seeking medical help. Beatriz Rojas, one of his co-workers, shares the same opinion. As a microbiologist with postgraduate studies in biomedical sciences, she has worked for almost thirty years investigating leishmaniasis in Colombia. According to her,

the truth is that many patients remain silent, thinking that they are going to be branded as guerrillas, right? In the case of an actual guerrilla member, the same thing happens because he thinks he’s going to get arrested, right? And that’s real, many people remain hidden or have remained hidden, suffering alone from the disease, or getting treated however they can, because of fear, because of that social stigma of being associated with one side or the other.

Similarly, Maria Luisa Alvarez, the nurse working for the Hospital San Juan Bautista in Chaparral, told me that, in the rural areas of this municipality,

there were many civilians who complained that, if they went [to the health center] and showed that they had a sore in some part of their body, it was as if they were classifying themselves, self-proclaiming they were people outside the law. They preferred to keep quiet, and use another type of medication such as herbs, plasters, multiple things, sometimes very drastic and very aggressive, and not go to see the doctor because there was so much taboo. Whoever had a sore suggestive of leishmaniasis was as if s/he were, in fact, a guerrilla member.

FARC members I had the opportunity to talk with confirmed that the stigma linked to leishmaniasis has had real consequences for them during the war. Francisco, the FARC mid-rank commander who had facilitated my access to the ZVNT in Colinas (see Chapter 2), brought up the story of “el caleño” when I asked about the ways in which the stigmatization attached to leishmaniasis had affected members of this guerrilla organization. “El caleño” was a young FARC member who got infected with *Leishmania* in Medellín del Ariari (Meta) in 1991. Although he had been given several injections of the medication at the guerrilla camp, his skin lesion showed no improvement. At that time,

Francisco said the FARC had not established systematic procedures to address the health problems affecting their troops. According to Julián Orjuela (2018) this situation began to change around 1993 when the FARC leaders established a permanent budget allocation for the healthcare of guerrilla members. Thus, the commanders decided to take “el caleño” out of the *selva* and bring him to Bogotá to seek medical attention. But, when he was in the hospital he was arrested. “El caleño” spent almost five years in prison because of the association made between his leishmaniasis marks and his guerrilla affiliation. “That was the way it was in the war,” Francisco said. If a young man had leishmaniasis sores, or marks on the body from the military equipment, the cartridge belt, or the boots, he used to be detained. It was common for guerrillas with leishmaniasis to be arrested when they sought medical assistance. That is why, eventually, FARC leaders decided to forbid any guerrilla member affected by leishmaniasis to leave the *selva* and approach regular healthcare facilities.

Of course, the stigma of “the guerrilla disease” has not only targeted combatants of the FARC and other guerrilla organizations but also civilians who have been unjustly and dangerously singled out as guerrillas. That was the case of Manuel Arias, an anthropologist who, in 1998, was accompanying a peasant organization in the highly conflictive area of the Middle Magdalena region. Their joint effort was to generate a development plan that peasant organizations could present at the negotiations taking place at the time between them and the government. During this fieldwork time, Manuel felt very ill and was diagnosed with malaria at the nearest health center of that rural area. Fortunately, it was easy for him to access treatment there and recover in just a couple of weeks. Two months later he returned to the community to learn about the clandestine cocaine production. For this he had to go deep inside the *selva* and stay there for a week, hoping to understand each step of the process. Once back in Bogotá, he noticed two small sores—one on his hand and the other on his arm. Instead of healing with ordinary disinfectants, these ulcers became bigger and bigger as time passed. Manuel then saw a general practitioner who prescribed him antibiotics, but the lesions continued to increase in both size and depth. Then he saw a dermatologist who diagnosed leishmaniasis: “It’s the famous *pito* that bit you, and that’s what you have,” she said. “But now, you need treatment, and that’s where the problem begins.” She then told him to get a proper diagnosis—a biopsy—and make a request to the

medical board of Manuel's health insurance company, called Saludcoop, to obtain Glucantime for him.

A month passed, the lesions got bigger, and Manuel had still no answer from Saludcoop about his medicine. Desperate he talked to a Saludcoop nurse who explained to him that this was "almost a political problem . . . because we all know that leishmaniasis only affects guerrillas." Enraged by these accusations, Manuel complained and even threatened to sue Saludcoop for slander and for not fulfilling its institutional mission. "I'm just one among who knows how many suffering from leishmaniasis and if you don't give me the drug, I will sue", Manuel said to the nurse. After enduring additional days without treatment and verbal accusations from members of Saludcoop's medical board that he was a guerrilla member, Manuel opted to seek help from a relative who was an Army Colonel. When entering the Army's offices in Bogota to see his relative, while going through security, a lieutenant saw Manuel's bandage on his sores and asked: "What is that?" "A disease," Manuel replied. "That's leishmaniasis, isn't it?" "Yes, sir." "And why do you want to see my colonel?" "It's a family affair," Manuel replied. "*Guerrillero*, son of a bitch!" the lieutenant started shouting and continued to swear. Manuel's relative came out to see what was going on, and after scolding the lieutenant for the misunderstanding, he let Manuel in. Manuel's relative was able to call the Federico Lleras Acosta Dermatological Center (a state research institute in Bogota) to request healthcare and medication for Manuel. The next day he went there and received the ampoules of Glucantime. The only condition in exchange for the drug was to return the empty ampoules to the institute every four days until he finished treatment as proof he had not sold or given the medicine to anyone. As he reflected on this torturous episode, Manuel said the following to me:

Just imagine, a 23-year-old young man with leishmaniasis: he is a *guerrillero*, there's no way out of that . . . I began to reflect on what the actual consequences of this war are, and it really sucks. The story you hear that the problem is only forced displacement, deaths, murders... Yes! Of course! But it's not only that. It's how the very everyday life gets fucked up . . . War is lived from the smallest.

As the testimonies of Francisco and Manuel show, leishmaniasis ulcers and scars have been used to make distinctions amidst the Colombian population. It is in a guerrilla warfare context where anyone can be considered a potential enemy that the characteristic

skin lesions of leishmaniasis have been instrumentalized to discern—not unambiguously—between state enemies and civilians. The assumption employed here is that someone has leishmaniasis because he or she has penetrated the *selva*. And if someone has penetrated the *selva*, it is believed that this person is a guerrilla member, a guerrilla collaborator, or participant in an illegal activity. In other words, a leishmaniasis sufferer is almost always stigmatized as being involved in criminal activities that deserve punishment from the state, a person against whom violence is not necessarily legal but always justified.

Paramilitary forces have followed the same rationale. This is evident in the testimonies of Jhon Jairo Esquivel Cuadrado (alias ‘El Tigre’) and Arnover Carvajal Quintana (alias ‘Poca Lucha’), two ex-members of the largest right-wing paramilitary group that has existed in Colombia—the United Self-Defense Forces of Colombia (AUC). As I mentioned in Chapter 1, the AUC were established in 1997 as an armed force to end leftist guerrillas and any expression of leftist ideology in Colombia. Álvaro Uribe’s government launched a controversial demobilization process with the AUC coalition of paramilitary organizations in 2003, legally framed under Law No. 975 of 2005, better known as the Law of Justice and Peace. These documents reveal that the detection of leishmaniasis marks was part of the procedures paramilitaries would rely on to identify alleged guerrilla combatants and assassinate them.

‘El Tigre’ operated in Cesar in northeastern Colombia. He was found responsible for 13 massacres, 491 forced displacements, cases of rape, torture, kidnapping, and homicide, among other crimes (Verdad Abierta 2010). Two of the many people ‘El Tigre’ murdered were Engilver García Pallares and Rafael Enrique Martínez Orozco. In the town of Codazzi (Cesar), Engilver and Rafael were widely known for selling fruits on the street. One day, very early in the morning, these two men were on their bikes looking for guavas in a farm located on the Verdecia road. On their way back to Codazzi, at least two men heavily armed and on an SUV stopped them and took them to an unknown place. These men were ‘El Tigre’ and another AUC member known as ‘Kevin.’ According to ‘El Tigre,’ “alias ‘Kevin’ told him that they were not guava sellers but [guerrilla] militia, that one of them had been bitten by a *pito* [leishmaniasis], and that they were doing intelligence on the Army and the AUC” (Verdad Abierta 2009b; “Engilver García Pallares” 2019). Based on

this information, ‘El Tigre’ ordered ‘Kevin’ to kill Engilver and Rafael. When the dead bodies were found, two bikes were next to them and four containers full of guavas. Their bodies had firearm wounds.

‘Poca Lucha’ operated in Magdalena, on the Caribbean coast. He was directly involved in the murder of Simón Efraín González Ramírez, on May 21, 2002, under the orders of José Gregorio Mangones Lugo (alias ‘Carlos Tijeras’), who has been found responsible of this and many other crimes and human rights violations (Verdad Abierta 2009a). Simón was a 22-year-old Colombian-French citizen who had decided to travel to Colombia to study at a university in Bogotá. Before beginning his classes, he decided to make a trip to the Sierra Nevada to practice meditation. On his way back, he was robbed and left without any money. While waiting for a truck that would help him get closer to Bogotá, he was kidnapped by men in an SUV. He was murdered and his body was left in a banana waste dump in the municipality of Ciénaga (Magdalena). For Simón’s parents the tragedy did not end there. They had to face multiple obstacles to recover the body as it had been buried as *NN* [John Doe] in a mass grave (Verdad Abierta 2011). According to ‘Poca Lucha,’ the mission of the AUC was “to combat common crime, our main enemy the guerrillas, their collaborators, muggers, *viciosos* [drug consumers], rapists and *jíbaros* [drug dealers]” (Avila Guarnizo 2010, 2). He also said that a common procedure that paramilitaries follow to identify their targets is “to look for [guerrilla] traces on people, such as boot traces, such as leishmaniasis, such as backpack or rifle marks on the shoulder.” For ‘Poca Lucha’ that was what probably happened before members of the AUC decided to kill Simón (Avila Guarnizo 2010, 5).

As I mentioned earlier, painless and growing skin lesions constitute the only physical manifestation of leishmaniasis. People can live with them—and some do it for weeks and even for months or years—until the sores start pushing others away out of disgust, until disabilities undermining labor and everyday activities arise, or until they heal. Leishmaniasis sufferers seek popular or pharmaceutical treatments for their lesions to heal and turn into scars. As such, leishmaniasis is usually described by health professionals and scientists as a benign, non-deadly disease. But, as the tragic stories of Engilver, Rafael, and Efraín show, in the Colombian war context, leishmaniasis can also lead to violent death due

to its deep stigmatization as a guerrilla disease. It is the long-term war context that has allowed for the social construction of non-deadly leishmaniasis as a life-threatening disease in these rare circumstances. The *enmarañamiento* of leishmaniasis and the war in Colombia has been such that a seemingly harmless disease has become a death threat for all sorts of people, not only for guerrilla members. As a war disease, leishmaniasis stigmatizes all kinds of people, leading not only to their exclusion from medical and health services, but also to their stigmatization, persecution, and death.

María Teresa Uribe de Hincapié explains that, during the Cold War, a discourse about the dangers of communism took enormous force in Colombia. Based on this narrative, governance strategies were established “that were not specifically aimed at defeating a guerrilla enemy—otherwise diffuse, confused with society, ambiguous, mobile—but rather to control alleged guerrillas’ support bases represented in the rise of social movements” (Uribe de Hincapié 2001, 226). Indeed, the stigmatization of leishmaniasis, as well as the restrictions on access to leishmaniasis drug that I will explore in Chapter 5, do not end up exclusively harming guerrillas but also people in the Colombian rurality that is exposed for one reason or another to the *selva*—a group of people the state sees as threatening for the political and social order as it is. While the entanglement between leishmaniasis and the *selva* has contributed to making of it as “the guerrilla disease,” this narrative and its sometimes deadly consequences have worked as biopolitical weapons to damage a wider group of people in rural Colombia that the state and paramilitary groups have conceived as menacing for development projects, modernizing plans and the perpetuation of political elites in power. Parker and Aggleton draw attention to the larger trajectories and power structures in which stigma and stigmatization are culturally produced. They write that “[i]t is vitally important to recognize that stigma arises and stigmatization takes shape in specific contexts of culture and power. Stigma always has a history which influences when it appears and the form it takes” (Parker and Aggleton 2003, 17). Under this approach, it becomes necessary to challenge the notion of “the guerrilla disease” every time it is invoked not only because of the devastating consequences this stigma involves, but also because this language limits how we understand that the damage caused to civilians has not been simply incidental, but part of broader war logics that consider certain people threatening to the status quo. To disentangle

the association between leishmaniasis and the war means “to untie the threads of stigmatization and discrimination that bind those who are subjected to it.” This demands “call[ing] into question the very structures of equality and inequality” (Parker and Aggleton 2003, 18) that have existed in Colombia for more than five decades and are still there despite the peace agreement between the FARC and the government.



## Chapter Four:

### Glucantime: A scarring poison

Glucantime is a drug produced by the French multinational pharmaceutical company Sanofi. It is a slightly yellowish and translucent liquid looking very similar to water. It is vialled in transparent 5ml ampoules, arranged in cardboard boxes containing either five or ten ampoules (Fig 4.1). *Meglumine antimoniate* is the name of the antimony-containing active ingredient in Glucantime. In Colombia, this is the first-choice drug to treat leishmaniasis. The standard treatment is systemic, which means that the drug is injected intramuscularly or intravenously and travels through the bloodstream, reaching all the cells of the body and affecting it entirely. While physicians in other countries such as Brazil have a marked preference for the intravenous administration of Glucantime, the standard practice in Colombia is to deliver this medicine intramuscularly. The therapy involves a once-a-day administration of two injections, given in the buttocks over 20 days (28 days in the case of mucosal leishmaniasis). Not every patient receives the same volume of Glucantime because the daily dose is calculated based on the patient's weight: 20 mg of antimony per kilogram. For instance, a person weighing 70 kg would daily require 17.29 ml of Glucantime divided in two injections, which corresponds to 80 ampoules of Glucantime for 20 days of



Figure 4.1 Glucantime ampoules.

treatment.<sup>52</sup> For heavier patients, however, the administration of the drug cannot be higher than four ampoules per day (20 ml of Glucantime). In those cases, the recommendation of the Ministry of Health is to increase the number of days to complete the overall dose (see MinSalud 2010, 2018).

In most countries where leishmaniasis is endemic, the public health strategy against

leishmaniasis is primarily a therapeutic, pharmaceutical intervention. In Colombia, that approach is almost exclusively centered on Glucantime. There is no preventative or therapeutic vaccine against any form of leishmaniasis, and its development is unlikely to materialize in the near future (Kamhawi 2017). In addition, vector control strategies to avoid or minimize the contact between humans and parasite-carrying sandflies are not part of the state management of leishmaniasis for non-military populations. Among the collective actions and educational strategies recommended by the Ministry of Health to control and prevent leishmaniasis, the 2010 protocol for public health surveillance that was in force until 2017 established that:

[i]t is useful to provide information on individual protection mechanisms such as the use of protective clothing, soaps, topical repellents, appropriate bednets, as well as preventing penetration into heavily forested and infested vector areas, especially after dusk (MinSalud 2010b).

However, regional public health authorities do not promote these educational strategies or make any of these preventative technologies available. Moreover, the most recent protocol does not even mention pedagogical approaches or the use of preventive instruments like repellents or bednets (MinSalud and INS 2017). In contrast, the provision of mosquito nets, clothing impregnated with insecticide, and repellents for members of the military have been standard since the mid-2000s (PECET and Fuerzas Militares de Colombia 2005). This prophylactic approach has shown poor results, nonetheless. Although all these technologies are part of every soldier's equipment, Army members do not necessarily use them (González, Solis-Soto, and Radon 2017) and they continue to be one of the populations that suffer the most from leishmaniasis in Colombia (I explore this in Chapter 6).

While preventive technologies have not been equally available for Army members and civilians, expanding its use towards *all* rural populations at risk of leishmaniasis would demand significant investments and unrelenting efforts from public health institutions, authorities, and on-the-ground workers, as well as from the communities that would benefit from these interventions. Also, there are very few studies showing that a particular intervention can effectively contribute to preventing new leishmaniasis infections and most of the existent evidence has been described as insufficient, poor, and inconclusive (González et al. 2015; Stockdale and Newton 2013). Kelly et al. (2017) remind us that the

introduction of repellents as a public health measure is particularly challenging because the efficacy of these substances depends on continuous reapplication. Thus, in humid and hot geographies like the Colombian *selvas*, where human bodies are permanently covered in sweat, supporting sufficient protection through repellency would be costly, impractical, and logistically demanding (Kelly, Koudakossi, and Moore 2017, 467; see also Rojas et al. 2006). Making bednets accessible to all does not look very promising either. While these physical barriers constitute a valuable public health strategy to keep blood-sucking insects at bay, sandflies are *selva* beings that people encounter not necessarily in their sleep,<sup>53</sup> but while they are active outside the domestic space.<sup>54</sup> Actually, the strong entanglement between leishmaniasis and the *selva* defies the demarcation of domestic spaces as the conventional sites to deploy public health interventions, an approach that is commonly seen in other vector-borne diseases like dengue and malaria (Nading 2014; Kelly, Koudakossi, and Moore 2017; Beisel 2015). This also explains why altering “spaces of biting” (Beisel, Kelly, and Tousignant 2013) through the extensive use of insecticide spraying seems unlikely in the case of leishmaniasis.

Marcia Otero is a biologist with almost thirty years of experience investigating when and under what circumstances sandflies and mammals exchange *Leishmania* parasites. Her work has allowed her to become a specialist in the leishmaniasis transmission cycle, engaging with vector insects and mammalian reservoirs in the *selva*, as well as with parasites and patients’ biological samples in the lab. For her, Glucantime has taken center stage in the state management of leishmaniasis because diminishing the population of sandflies or getting rid of these insects is hardly attainable:

You know that reducing the population of vectors in the field, in the case of leishmaniasis, is so unlikely because we would have to fumigate all the *selva*, all the forests. Then, it is impossible. It would be ridiculous to try to fumigate everything. So, whom are we going to focus on? On those who suffer from the disease.

For Marcia, the massive employment of insecticides to break the ties between the sandfly and the *selva* sounds like an unimaginable and ridiculous idea—a highly destructive, unfeasible, and doomed-to-fail strategy (Rojas et al. 2006). It is not possible to intervene in this immense space, with its own cycles and dynamics, to eliminate one of its parts, while

at the same time expecting to leave it unaltered. Tons and tons of Monsanto's glyphosate sprayed indiscriminately over Colombian *selvas* for more than twenty years to rid them of coca crops have taught us that such a thing is simply impossible and highly detrimental (Lyons 2018).<sup>55</sup> Similarly, fumigating these spaces with insecticides to rid them of sandflies or other vector insects would translate into widespread ecological damage and other unforeseen consequences. Sandflies are just one of countless entities making up these complex and dynamic ecologies. The dimensions and biological diversity of these forested environments overwhelmingly exceed the scope of technological interventions directed to sandflies. The *selva* nature of the disease, as well as the constant influx of people into the *selva* due to the social and armed conflict constitute significant challenges for scientific aspirations to control, eliminate, or eradicate leishmaniasis in Colombia (Stepan 2015).<sup>56</sup>

Thus, reproducing a state practice that is common in most leishmaniasis-endemic countries, Colombian public health authorities have narrowed down the management of this illness to the administration of drugs, particularly Glucantime. Otherwise put, “[t]reatment is the pillar of disease management and control” of leishmaniasis in Colombia (Blanco et al. 2013, 362).

Drug-based approaches to disease management in tropical medicine have a long history. For example, Deborah Neill (2009) has documented how, in the early 20th century, German immunologist and Nobel Prize winner Paul Ehrlich established a transnational network of French, British, and Belgian collaborators to advance a drug therapy research agenda in several African colonies (see also Mertens and Lachenal 2012). Ehrlich's research played a significant role not only in the use of chemical agents as part of the European colonial administrators' response to a major sleeping sickness epidemic in Africa but also in the death and blindness of Africans who were subjected to his experimental drugs. Since the 1920s, medicines were massively employed in colonial Africa, especially as preventative tools against the spreading of diseases such as malaria, sleeping sickness, yaws, leprosy, syphilis and other venereal diseases (Lachenal 2013). The rationale behind this strategy was that mass diagnosis and treatment of germ carriers, including infected but healthy individuals, was essential to control and eradicate infectious diseases. Guillaume Lachenal (2013) explores how the use of drugs as prevention tools was made into a major

public health intervention of colonial medicine. In ways that continue to resonate with current public health approaches, each of these programs focused on a specific disease and relied on “wonder drugs.” “The low reliability of diagnostic procedures and insistence on complete coverage frequently meant that some individuals were over-treated” and exposed to high levels of toxic and often ineffective compounds (Lachenal 2013, 78). By the mid-20<sup>th</sup> century, “[f]or tens of millions of African subjects, then, ‘prophylaxis’ meant compulsory treatment” (Lachenal 2013, 77).

An illustrative example of this development is the compulsory administration of Lomidine to entire African populations for the prevention of sleeping sickness after 1945 (Lachenal 2017). As I will explain later, this pharmaceutical, also known as pentamidine, continues to be used for the treatment of leishmaniasis in contexts like Colombia, especially among soldiers for whom the Glucantime treatment did not work. Although it was seen as a miracle drug throughout the 1950s, a symbol of imperial medicine and the promises of biomedicine, this image drastically changed in the 1960s after two decades of mass campaigns caused disastrous therapeutic “accidents” and several deaths in colonial Africa. As a result, a series of studies were conducted to test the efficacy of the drug, its safety, and its mode of action. They concluded not only that Lomidine did not have preventive effects, but also that it exposed people to unacceptable risks, especially to the heart. Lomidization “had to be erased from official histories of tropical medicine” (Lachenal 2017, 6).

In anthropology, the notion of *pharmaceuticalization* was initially introduced to draw attention to the expansion of a “drug culture” that encourages the consumption of pharmaceuticals in ways that seem excessive or unjustified (Nichter 1996). Relatedly, João Biehl (2007) has taken up this conceptual resource to describe a model of public health that favors the provision of drugs and other pharmaceutical products over strategies focused on prevention, medical care, and improvements to healthcare systems and infrastructures. This *pharmaceuticalization of public health*, as he calls it, makes access to health equivalent to access to medicines, which results in a very narrow understanding of the scope, concerns, and interventions of public health. In a similar vein, Stefan Ecks (2005) has argued that biomedical discourses tend to speak of “marginalized” people when individuals have no access to pharmaceutical products. Ecks coined the term *pharmaceutical citizenship* to

explain how pharmaceuticals often constitute “a promise of demarginalization” in contexts where these technologies are not equally available to everyone (2005, 241). Under those circumstances, providing pharmaceuticals to treat underserved people promises to be the best way to overcome social marginalization and bring individuals back into society (Ecks 2005).

Although Ecks has a critical stance towards pharmaceuticals, he emphasizes that we need to frame the solution of health problems in a way that “neither reduces it to proper distribution of medicines, nor simply rejects medicines as fetishized commodities” (Ecks 2005, 245). This type of analysis demands paying attention to ambivalent feelings towards medicines and how the state is often confronted with diverse and often contradictory desires and rejections concerning medical care and pharmaceuticals (Camargo and Ojeda 2017). As Murguía et al. (2016) have noted, this ambivalence is especially prominent in Latin America, a region where it is possible to observe the over-prescription and overuse of pharmaceuticals, alongside numerous cases of people dying from preventable and curable diseases.

In Colombia, a *pharmaceuticalized* approach to public health prevails in the state management of leishmaniasis. While the dominant and persistent use of Glucantime has similarly translated into the relegation of non-pharmaceutical strategies to address leishmaniasis, the effects of this pharmaceuticalization process do not stop there. In this chapter, I show that the standard employment of this drug also results in harmful and toxic effects for those who manage to access it, involving bodily damage and detrimental consequences that remain poorly acknowledged, understood, and communicated to leishmaniasis patients today. By documenting the experience of Glucantime as a scarring but also poisonous drug, I aim to explore the effects of a state that relies so heavily on pharmaceuticals and specifically on a single, highly toxic drug for the control of a non-fatal skin disease. Specifically, I reflect on the bodily consequences of the pharmaceuticalization of leishmaniasis management in Colombia for those who manage to access Glucantime. I conclude that access to this drug does not necessarily involve the relief of leishmaniasis symptoms, a better health status, or a pharmaceutical way out of marginalization. Although Glucantime injections may help a body to form a scar over leishmaniasis lesions, this

systemic treatment also involves poisonous bodily effects that translate into a difficult and hardly generalizable risk-benefit analysis. Put differently, often the benefits of Glucantime do not outweigh the risks. Thus, while the accessibility of Glucantime *for all* is necessary, this pharmaceuticalized “one-size-fits-all” approach has been harmful and continues to represent dangers for those affected by leishmaniasis in Colombia. A new public health strategy to manage this disease would benefit from ambivalent and circumspect feelings towards Glucantime and diverse, even contradictory demands towards the state.

The problems related to the biomedical treatment of leishmaniasis in Colombia are strikingly similar to those that characterized “Lomidinization,” the mass administration of Lomidine (pentamidine) in colonial Africa (Lachenal 2017). By taking a biographical approach to the historical study of Lomidine, Lachenal has portrayed this drug as a ruin of modernity that lays bare the colonial logic behind “the determined and enthusiastic implementation of Lomidinization, which indeed grew even more determined and enthusiastic as contradictions, problematic incidents, and resistance arose” (Lachenal 2017, 7). *Bêtise* is the French expression that Lachenal chooses to account for the scientific practices and narratives that, in their messianic and utopian attempt to discipline bodies, order the world and produce certainties, end up creating messy realities, plagued by doubts, contradictions, errors and ethical questions. This word captures the relentless production of trust in medicine despite deep uncertainties surrounding the use of a pharmaceutical technology. “*Bêtise* is reason at its most arrogantly assertive. . . . It manifests when reason, anchored in its evidence base and in logical, scientific procedures, gains a mineral and monumental confidence” (Lachenal 2017, 13). In this chapter, I invite the reader to take a step back and ask if the ways in which Glucantime has been persistently employed in Colombia is not just a contemporary instantiation of the “empire of *bêtise*” that Lachenal talks about. Paraphrasing him (2017, 6), I wonder how it is possible to understand the obvious success of Glucantime, doctors’ enthusiasm for it, and its routine use in the systemic treatment of the non-deadly form of leishmaniasis, when we know it is highly toxic, does not guarantee the elimination of *Leishmania* parasites, does not prevent mucosal leishmaniasis, and that it is very painful when injected intramuscularly.

As stated in the introductory chapter, the supremacy of Glucantime over other public health technologies and actions has also enabled the instrumentalization of this pharmaceutical for war. In other words, the *pharmaceuticalization of public health* in the case of leishmaniasis that I start problematizing in this chapter is a fundamental element of the *pharmaceuticalization of war* that I develop more extensively in the next chapter.

### **A brief history of Glucantime**

Antimony is a toxic chemical element and the fundamental curative agent in Glucantime. It occupies the 51<sup>st</sup> position in the periodic table and is identified with the symbol Sb (from the Latin *stibium*). Most of the antimony in the world (84%) comes from 114 mines located in China, where antimony pollution in soils, sediments, water and plants in the proximity of mining and smelting areas constitutes a major environmental problem and a significant threat to health (He et al. 2012). Today, this chemical is mainly used as a flame retardant incorporated into textiles, papers, adhesives, tires, brake linings, and plastics (He et al. 2012). Although the current use of antimony in medicine is marginal compared to this industrial application, the therapeutic history of this chemical element is much longer.

In 17<sup>th</sup> century Europe, the ability of antimony to provoke sweating, vomiting, and purging was seen as a valuable alternative to bloodletting, capable of expelling unwanted humors from the body (McCallum 1999). At that point in history, however, the toxic nature of this substance was already the subject of intense dispute among medical practitioners—particularly between Galenists and iatrochemists—who heatedly debated whether antimony should be accepted as a medicine or rejected as a poison (Debus 2001). The latter view prevailed, which is the reason why the use of antimony in medicine declined in the 18<sup>th</sup> and 19<sup>th</sup> centuries (McCallum 1999; Debus 2001). Despite the centuries-old recognition and warnings of antimony's toxicity, in the 20<sup>th</sup> century, antimonials (antimony compounds) started to be employed for the treatment of two parasitic diseases: leishmaniasis and schistosomiasis (J. Duffin and René 1991; Greenwood 2008, 305). While less toxic and antimony-free alternatives were developed for the latter in the 1970s, the only medical application of this chemical element that persists in present-day is in the pharmaceutical treatment of leishmaniasis (Sundar and Chakravarty 2010; C. J. Duffin, Moody, and Gardner-Thorpe 2013, 68).



The 20<sup>th</sup>-century history of the use of antimonials against leishmaniasis originated in Brazil. In 1905, an antimony-containing substance known as tartar emetic<sup>57</sup> was shown to act against parasites producing sleeping sickness in Africa (Haldar, Sen, and Roy 2011, 2), leading Brazilian physician Gaspar Vianna to think that it could also be useful to deal with similar parasites causing leishmaniasis.<sup>58</sup> In 1912, he reported that tartar emetic injections were successfully used for the treatment of leishmaniasis in his country (Kirk 1947, 461; Vianna 1912). Since then, antimonials have been the first-choice therapy against this disease despite their toxicity and severe poisonous effects primarily to the heart, the liver, the kidneys, and the pancreas. While less toxic antimonial compounds were developed in the 1920s (Goodwin 1995, 339; Greenwood 2008; Haldar, Sen, and Roy 2011, 2), significant improvements have not been achieved, and toxicity remains the main problem of leishmaniasis pharmaceutical treatment today. This highlights the need to use other currently available therapies and to develop new therapeutic alternatives (DNDi 2014, 1; Organización Panamericana de la Salud 2013, vii).

Today, antimonials continue to be standardly used as first-line therapy against all kinds of leishmaniasis in most endemic countries. Sanofi and GlaxoSmithKline produce these drugs, commercially known as Glucantime and Pentostam, respectively. Although they are considered to have similar therapeutic efficacy, the current worldwide distribution of these pharmaceuticals is not uniform but mirrors a geopolitical division inherited from World War II. During that war, about 1,500 cases of leishmaniasis were reported within Allied Forces (Pehoushek, Quinn, and Crum 2004, 198; Weina et al. 2004). According to one of the scientists who participated in the development of Pentostam in the UK, “[w]ar broke out in 1939 and there was a race to replace the essential drugs no longer available from Germany,” including an antimonial drug called Solustibosan for the treatment of leishmaniasis (Goodwin 1995, 340). This led to the development of Pentostam by the British, and Glucantime by the French (Davis Marsden 1985, 187; Rath et al. 2003, 551).<sup>59</sup>

Traditionally, countries that were under British influence have used Pentostam, and countries influenced by the French have preferred Glucantime (Barbeitas 2020, 19). In a similar vein, French- and Spanish-speaking countries like Colombia have conventionally used Glucantime, while Anglophone countries have traditionally chosen Pentostam

(Wortmann et al. 2002, 261; Berman 1996, 519). In Brazil, the preference of Glucantime over Pentostam was also the result of the establishment in 1919 of a branch of the Rhône-Poulenc company—Sanofi’s predecessor—close to Sao Paulo. This probably helped facilitate the export of Glucantime to other Latin American countries and to standardize the use of this drug to treat leishmaniasis in places like Colombia (Barbeitas 2020, 19–20).<sup>60</sup>

In 2005, following a volume-oriented policy that claimed to “substantially reduce the cost of the drug to certain countries so that a greater number of sufferers [could] be treated” (Sanofi-Aventis 2005), Sanofi decided to centralize its worldwide Glucantime production in Brazil. This process was completed in 2009, and since then, all Glucantime ampoules available in the world would come from the Sanofi plant located in Suzano, Brazil, 34 km west from São Paulo (Sanofi-Aventis 2007b, 2007a). Then, in 2018, Sanofi decided to move the production of Glucantime to France (Mady Barbeitas, personal communication, June 20, 2019).

Claiming that both drugs have similar efficacy and are available in the country, the 2010 leishmaniasis clinical practice guideline that was in place in Colombia until very recently<sup>61</sup> recommended the use of either Glucantime or Pentostam to treat the disease (MinSalud 2010a). In contrast, the new guideline, issued in 2018, does not mention Pentostam as a pharmaceutical option (MinSalud 2018a). In any case, the Colombian state has historically purchased Glucantime, not Pentostam (Soto 2009). In fact, the use of treatments different from Glucantime in Colombia is the exception, not the rule. In practice, it takes place only under specific patient conditions such as therapeutic failure (the persistence of skin ulcers despite Glucantime treatment). The Colombian Army, which represents the Colombian population with the best access to antileishmanial drugs (see Chapters 5 and 6), has always employed Glucantime as the first-line therapy.

Besides antimonials, there are other pharmaceuticals currently available for leishmaniasis treatment: an oral drug called miltefosine, a cream called paromomycin, and two additional drugs that are systemically delivered called pentamidine and amphotericin B (conventional and liposomal). Each of these medicines has its own drawbacks, mostly related to the long duration of the treatment, high prices, and high levels of toxicity. In other words, antileishmanial drugs that do not contain antimony are not necessarily better

than either Glucantime or Pentostam (see Didwania et al. 2017; Carvalho et al. 2019). Also, biomedical scientists consider that the emergence of drug-resistant parasites represents a major challenge and a growing problem for the pharmaceutical treatment of leishmaniasis today (Didwania et al. 2017; Chakravarty and Sundar 2010). Thus, one of the statements I heard over and over at the 2017 WorldLeish conference—the major scientific meeting on leishmaniasis worldwide—was that there is currently no satisfactory drug for leishmaniasis, and the situation will be the same for another 5–7 years, if not longer.

In Colombia, miltefosine, pentamidine, and liposomal amphotericin B are second-line therapies for cutaneous leishmaniasis, which means that their use is recommended only when Glucantime does not work (MinSalud 2010a, 2018a). As I will explain in the following chapter, the access barriers to Glucantime in Colombia are highly difficult to overcome. If this is the situation for the first-line therapy, the use of second-line therapies is even more marginal. This means that the people who manage to access medical care and treatment for leishmaniasis are generally treated with Glucantime, and hardly ever with miltefosine, pentamidine or amphotericin B. In particular, the current guideline recommends the use of miltefosine as second-line therapy for adults and as first-line therapy for children (MinSalud 2018a). Yet, this drug is rarely prescribed in Colombia because it is usually unavailable and too costly for the state. According to MinSalud officials, miltefosine costs six times more than Glucantime. As the first oral medication for cutaneous leishmaniasis, many biomedical scientists are miltefosine enthusiasts. However, this pharmaceutical product remains a very toxic drug and a systemic treatment affecting the whole body. While the development of miltefosine for the treatment of leishmaniasis was the result of a 1995 public-private agreement between the WHO and a pharmaceutical company called Asta Medica, the drug's ownership rights have been exchanged many times among four pharmaceutical companies through business mergers and acquisitions (Barbeitas 2020).<sup>62</sup> As a result, miltefosine's "public vocation" has gone almost completely lost. Its price is now very high, the current owner (Knight Therapeutics) is not keen on making it accessible, and many leishmaniasis-endemic countries—like Colombia—have not been able to sustain the availability of this drug (Barbeitas 2020; Pinto-García 2016).

The case of the Army, as I have mentioned, is exceptional. Within this institution, pentamidine is always employed after a failed Glucantime treatment. If pentamidine does not work, soldiers are systemically treated with amphotericin B. Unfortunately, these two drugs are highly toxic as well, and, like Glucantime, have led to fatal outcomes among servicemen (Caycedo Zabarrain and Valbuena Pinzón 2017; I. Vélez et al. 2007; López et al. 2012). The historical analysis developed by Guillaume Lachenal (2017) constitutes a critical cautionary tale in this case, as he showed that the massive use of pentamidine marked an embarrassing and tragic episode for biomedicine and colonial public health in the management of African sleeping sickness in the mid- 20th century. While no one has reported the exact number of deaths caused by Glucantime in the Army, a 2012 publication mentions that twelve fatalities related to the use of this therapy have been documented by this institution, “which is unacceptable for a form of the disease that is not fatal” (López et al. 2012, 5). In conversations I had with leishmaniasis researchers and medical professionals within the Army, they also admitted that deaths caused by Glucantime and other antileishmanial pharmaceuticals had occurred more than a few times (see also El Tiempo 2007).

### **More a poison than a medicine**

“What are the biggest challenges faced by leishmaniasis patients?” I asked this to Silvia Rozo, a biomedical scientist who has been studying leishmaniasis for more than 15 years in Colombia and abroad. Silvia has a deep trust in molecular biology techniques to study the encounters between *Leishmania* parasites and the immune system of patients suffering from the disease. She has also been exploring how the drugs available to treat leishmaniasis circulate throughout the human body and the ways in which these pharmaceuticals affect that interspecies relationship between the human and the parasite. This was Silvia’s answer to my question:

Well, in Colombia, I think the biggest challenge is the relationship with the armed conflict because it generates stigmatization of people who have the disease. Access to diagnosis and treatment through the health system also represents a difficulty. And also the goddamned treatment which is like shit, it’s a really, really toxic treatment. I tell you, if I ever get leishmaniasis, I would never get Glucantime, I would never let myself get injected with Glucantime. I would only accept this drug if it is administered intralesionally. I would ask for miltefosine, or I would go to the *selva* and ask a *mamo* [indigenous traditional healer] to make a *rezo* [prayer]. But I would never get Glucantime.

This kind of answer surprised me when I heard it for the first time while talking to Silvia in the early stages of my fieldwork. It became less and less surprising as I kept obtaining similar responses every time I asked other scientists and health workers what they would do if they would ever get leishmaniasis. In general, people who have done research on this disease for several years, health workers who have extensive experience treating leishmaniasis, and public officials who are in charge of leishmaniasis bureaucracy in state offices have seldom suffered from this illness. However, if the disease hypothetically affected them, the vast majority told me they would not be willing to receive the systemic treatment with Glucantime that the national guideline recommends as first-line therapy. If they were in the position they rarely occupy, on the other side of the desk, they would not follow the national guidelines for treatment. In some cases, they would consider using this pharmaceutical *only* if it is locally injected directly into the lesion. MinSalud's clinical practice guideline, however, only recommends this therapeutic alternative for children weighing less than 10 kg or for adults over 65 who have a single small leishmaniasis lesion located in areas of the body other than the face, ears or joints (MinSalud 2018a, 12).

With more than 30 years of experience investigating the eco-epidemiology of leishmaniasis at a Colombian university, Julia Gómez has purposefully encountered sandflies countless times in her life, not only in Colombia but also in other endemic contexts. Yet, she has never had a leishmaniasis lesion, and her Montenegro test results—a test capable of showing if parasites have ever been inoculated into the body in the past<sup>63</sup>—have always come out negative. If Julia ever gets leishmaniasis, she told me, she would accept intramuscular injections of Glucantime only in the extreme event that the lesion was compromising her eyes or if she was affected not by cutaneous leishmaniasis but by the deadly form of the disease, visceral leishmaniasis. And even in that scenario, she said, she would prefer miltefosine over Glucantime. However, if she were not in that sort of extreme situation but had a regular leishmaniasis skin ulcer, she would employ Glucantime. Still, she would administer it locally to the lesion as she once did to her husband.

When I was on my honeymoon with my husband, who's an entomologist, we went to Capurganá and Sapzurro [northwestern Colombia]. At night, we went into the *selva* to catch lutzomyias [sandflies]. Then, a small nodule appeared on his left arm.

I took a sample, we cultivated it, and it turned out to be *Leishmania*. So, I injected a little Glucantime directly into the lesion, and that was enough to cure him.

Unlike Julia and her husband, their colleague Carlos Guerrero would not even consider using Glucantime as a local treatment. He has worked on leishmaniasis research since 1985, initially on projects exploring the immune response to the *Leishmania* infection, but more recently in the development of new treatments based on natural products isolated from plants. “If I ever get leishmaniasis,” he told me, “I would treat myself with one of my *menjunjes* [the plant extracts he was testing].” “Would you ever use Glucantime?” I asked. “No, I’d never use it because I think it’s a poison.”

At the military Leishmaniasis Recovery Center (CRL), I witnessed how that “poison” was injected to dozens of soldiers affected by leishmaniasis every single day. In fact, soldiers with leishmaniasis who went through the arduous experience of Glucantime treatment usually used the same word, “*veneno*” [poison], to refer to this drug. Alfredo Trejos is one of the CRL physicians who had to prescribe Glucantime to each of these young men on a daily basis. During the 20 days of treatment, he was also in charge of helping soldiers to get through symptoms considered common signs of intolerance to the drug—fever, chills, vomit, headache, muscular and joint pain, cough, skin rashes, and pain at the injection site. However, when Glucantime’s toxicity provoked more serious effects, he was also responsible for suspending or discontinuing the treatment completely, as well as referring soldier-patients to second or third level hospitals if necessary. Alfredo told me he had never had leishmaniasis in his life. I asked him what he would do if he or someone in his family would get the disease.

That would be tough. Since I know there is another type of medication that is not as painful [oral capsules of miltefosine], and just as effective as Glucantime or better, I would fight to get that. Yes, I would not accept Glucantime injections. I mean, as a physician who has closely followed the experience of these sick boys [soldiers], which involves many health complications, and knowing about the drug’s toxicity and the effects it can cause, it would be absurd not to fight for something less toxic and aggressive for my family or me. Yet, I know that would be difficult.

If she were in that situation and had the option, Ester Mendoza would also favor miltefosine over Glucantime. She is one of the state officers at the Ministry of Health in charge of

coordinating the production of the clinical standard and other documents regulating how to manage leishmaniasis and other vector-borne diseases in Colombia. Even though the national guideline recommends always to employ Glucantime as the first-choice drug, if she were the one affected by leishmaniasis, Ester would prefer miltefosine:

If it were available, I would go for miltefosine. Of course, obviously, I would go for miltefosine. Now, if I were told that there is no miltefosine, then I would have to start the therapeutic scheme, and the scheme would be with Glucantime, there is no other choice.

In contrast, Erika Zambrano would not even consider using miltefosine. She is a biomedical scientist who has been involved in leishmaniasis research for more than a decade. Through her experience coordinating several clinical studies and trials to test and compare most of the pharmaceuticals currently available for leishmaniasis, she has concluded that local therapies would be the safest option:

I would do any treatment with some degree of scientific evaluation, thermotherapy for example, anything that is local, as many times as needed. If that would not work, I would opt for traditional [pharmaceutical] treatments, but Glucantime I don't think so. Neither miltefosine, nor pentamidine, nothing like that. I would rather use liposomal amphotericin B. That's a good drug, but it's very expensive. It is less toxic than Glucantime and very effective, but it's very expensive.

Confronted with the hypothetical scenario of experiencing leishmaniasis firsthand, scientists, physicians, and public officials who know very well Glucantime and what it does would refuse the systemic administration of this drug in their own bodies. While some would prefer other medications (miltefosine and liposomal amphotericin B), most would favor the use of local therapies, including the intralesional administration of Glucantime. Adriana Petryna (2007) has documented a similar situation in her study on the globalization of clinical trials and the increasing movement of this enterprise from the United States and Western Europe to low- and middle-income countries in Eastern Europe and Latin America. She found that one of the reasons behind this phenomenon is the widespread mistrust of the clinical trial process in the United States and the ensuing shortage of patients willing to participate. Notably, she documented that health personnel directly involved in conducting clinical trials were unwilling to put a loved one in one of those experiments if it was not a matter of life or death. If those having the knowledge invariably say “not in my

body,” it becomes highly problematic to convince others to say yes. Likewise, if people who are cognizant of Glucantime’s toxicity would not accept it as a therapeutic option for themselves, what does this tell us about this drug and the way it has been conventionally used for the treatment of all people with leishmaniasis in Colombia? If patients had the same knowledge, would they also reject Glucantime? And if they do, would they have access to alternative options?

**“That is very strong; it was killing me”**

It had been a rainy morning in Candelario. Despite this, four people with leishmaniasis had visited the LERI’s clinic before noon. One of them was a man in his 50s, wearing a red shirt, jean shorts, and flip-flops. His name was Ricardo Carabalí. He came from a rural area of Candelario that could only be reached by going up one of the main rivers in the municipality. During the medical consultation, he told the physician that he got bitten by sandflies and infected with leishmaniasis while working in *el monte* [the *selva*]. He had two lesions on his left wrist, both slightly scarred but still open and swollen. Although he had received several Glucantime injections, the drug had not entirely worked for him. “I showed the ulcers to a pregnant woman,” he said, trying to explain the unsatisfactory outcome in a way that seemed to make sense to him. “It should be healing by now,” said the doctor disappointedly.

She also explained that the lesions were still open, possibly due to his failure to comply with the prescribed treatment. Ricardo had not been injected with Glucantime for 20 consecutive days, as the doctor indicated. Instead, he had received Glucantime injections for ten days, then suspended the treatment for five days, and finally resumed medication for a couple of days. However, he did not complete the 20 days of Glucantime therapy. Ricardo had decided to interrupt the treatment because he was feeling very sick. “That’s very strong, it was killing me,” he said with a serious tone and troubled look in his face. Then, trying to be more explicit about it, he began to list all the symptoms he experienced: weakness, dizziness, joint pain, bone pain, fever, chills, headache, and loss of appetite. “I wasn’t eating anything anymore,” he said.

The physician told Ricardo he had to repeat the entire treatment with Glucantime. He refused. “A 10-year-old boy came here and got all the injections without protesting,”



she said, insinuating that if a child had been capable of enduring the whole treatment, he, an adult man, had to be capable too. “Are there no capsules?” Ricardo asked. She explained that, unfortunately, no oral treatment—no miltefosine—was available at that moment. “If I had capsules, I would give them to all patients because I know that you all adhere to the treatment in that way,” she said. Ricardo asked if he could buy the capsules elsewhere. She told him that was not an available option.

The doctor measured Ricardo’s lesions with a caliper. She took pictures of them with a cellphone and uploaded them to the computer for them to be included in Ricardo’s clinical record. While she was doing that, he reiterated he preferred not to get the injections again and said he was tempted to seek the help of a traditional healer. “That’s not what we recommend here, but it’s up to you, and I can’t force you to accept the injections,” the doctor replied. Then, she warned him that leishmaniasis could spread to his nose or mouth if he did not repeat the systemic treatment with Glucantime. “And, if that happens, you would have to get the injections for sure,” she concluded. He maintained his position and said he would come back a month later if the lesions had not healed.

Ricardo’s story shows how hard it is for patients to stick to a treatment that is highly toxic, long, and painful. He could have benefited from oral capsules of miltefosine or a smaller dose of Glucantime (15 mg/kg/day, for example) if these therapeutic alternatives were available or recommended in the MinSalud clinical practice standard. This was not possible, however, because the approach to managing leishmaniasis in Colombia is centered on the systemic administration of Glucantime at the highest possible dose of antimony: 20mg/kg/day. As a result, Ricardo had to leave LERI’s clinic feeling sick, helpless, and still very worried about his open lesions. In this case, access to pharmaceuticals did not amount to the relief of leishmaniasis symptoms or better health status. Having received the pharmaceutical solution to this disease that the state standardly provides neither fulfilled the promise of demarginalization behind discourses that equate access to medicines to social inclusion. Ricardo’s situation is crucial here because it reminds us that lurking in every pharmaceutical “is a version of the *pharmakon* analyzed by Jacques Derrida—a thing that is both cure and poison” (Greene and Sismondo 2015, 1). Ricardo’s experience with Glucantime forces us to question the limitations of a public

health model that, on the one hand, is drug-centered and, on the other hand, is based on a single pharmaceutical product that is highly toxic to the body. His story invites us to think about leishmaniasis medications in an ambivalent way that recognizes and celebrates their healing abilities but also warns and disdains about their poisonous potential.

### **The cure is much worse than the disease**

As I have previously mentioned, the only physical manifestation of leishmaniasis is a growing and usually painless ulcer on the skin. In most cases, it is considered a benign disease because it is not life-threatening and tends to resolve after a few months, sometimes even without using any type of treatment. According to Fernandes Cota et al. (2016), in the Americas, this so-called “spontaneous self-healing” occurs in 6 - 26% of the people and varies depending on the parasite species. Being a relatively minor illness, usually causing neither death nor pain, it is puzzling how public health institutions ended up naturalizing the systemic use of such a toxic drug like Glucantime to “help” the body forming a long-lasting scar. The fact that Glucantime is potentially fatal and has actually caused the death of some leishmaniasis patients in Colombia—especially within the Army—has not been enough for public health authorities to acknowledge that this cure could be much worse than the disease. The clinical standard that was issued in 2018 by the Ministry of Health was, in that respect, a missed opportunity to introduce urgent changes based on these antecedents.

In defense of this pharmaceutical, public health officials and representatives of multilateral health organizations often claim that this is the most effective and affordable drug available. However, as I have already indicated, Glucantime does not always work. In Latin America, its efficacy is relatively high but still limited—76.5% for all pentavalent antimonials including Glucantime (Tuon et al. 2008). How can we predict if getting intramuscular injections of this toxic drug will do any good to the body? Biomedical scientists claim that a satisfactory scarring process depends on a long list of heterogeneous factors ranging from the parasite species, the geographic location and the environmental conditions, the size, number and location of lesions, the duration of the disease, the patient’s age, nutrition, health status, and immune response (see Castro et al., 2017; Conceição-Silva et al., 2018). In sum, it is very hard to predict if the benefit of using

Glucantime will compensate for the risks. Even if Glucantime does lead to the formation of a scar, it is questionable that this particular outcome offsets the toxic effects of the drug that stay with the body beyond the treatment.

Many people fear the possible development of mucosal leishmaniasis if the cutaneous lesion is not treated systemically with Glucantime. Nevertheless, those ideas, which still circulate widely in Colombia among soldiers, some scientists, and also in medical settings and public health institutions, have been scientifically challenged for some time. In fact, only 1-4% of leishmaniasis cases in Colombia correspond to the mucosal form of the disease (MinSalud and INS 2017, 5). In 2010, the WHO published a report that resulted from a meeting of the WHO Expert Committee on the Control of Leishmaniasis in Geneva. According to that document

[I]local therapy was considered unsuitable for the treatment of New World cutaneous leishmaniasis caused by *L. braziliensis* or *L. panamensis* because of the potential risk of metastasis [meaning mucosal leishmaniasis]; however, as systemic treatment does not guarantee prevention of later mucocutaneous leishmaniasis, which is found in < 5% of the cases, local treatments should be explored. It is now considered acceptable to use topical therapy in selected cases of New World cutaneous leishmaniasis (WHO 2010, 62).

This means that, at least since 2010, it is widely accepted that systemic treatments do not necessarily prevent the subsequent development of mucosal lesions and that public health authorities, scientists producing evidence, and physicians should seriously consider the use of local therapies for some cases. Nonetheless, the Ministry of Health recently reiterated the systemic administration of highly toxic antimonials at a dose of 20 mg/kg/day as the first-line therapy in Colombia (MinSalud 2018a).

Cristina Suárez is a physician who obtained a doctoral degree in tropical medicine in the 1980s. For more than three decades, she has been affiliated to a Colombian public university where she continues to research leishmaniasis and other parasitic diseases. In her view,

Glucantime is definitely not the best way to treat leishmaniasis. In addition, this drug does not assure you that after treatment you will not develop mucosal leishmaniasis. A professor at my university had leishmaniasis, and we treated him

with Glucantime, following all the recommended doses and so on. However, five years later, he had mucosal leishmaniasis, which means that having received the treatment and having a scarred lesion does not represent an absolute guarantee that there will be no problems later.

The fact that going through the hardships of Glucantime treatment does not guarantee the prevention of mucosal leishmaniasis is only made worse by the recognition that this drug is also incapable of ensuring the complete elimination of *Leishmania* parasites from the body. In other words, when Glucantime does work, it is helpful to achieve the clinical healing of leishmaniasis (the formation of a scar) but not necessarily the parasitological cure (the elimination of parasites from the body), leading to the possible reactivation of the disease (Martínez-Valencia et al. 2017; Schubach et al. 1998). This means that the systemic administration of Glucantime can neither prevent mucosal lesions, nor leishmaniasis relapses.

In the Army, soldiers often say that the blood remains “contaminated” with the disease despite treatment with Glucantime. This is their way of explaining why leishmaniasis recurrently comes back after having endured one or more complete treatment cycles with Glucantime. In their view, the fact that people once affected by the disease are not allowed to donate blood reinforces the idea that “leishmaniasis does not die but remains in the blood for life,” as a soldier affected by the disease told me.<sup>64</sup> When Army members say that their blood remains contaminated with leishmaniasis for life, they are expressing their feelings of fear based on their shared experience that, at any time and for almost any reason, there is the latent possibility that leishmaniasis ulcers will reappear on their skin.

While Brazilian scientist Silvia Carvalho and her colleagues have expressed their worries regarding this upsetting situation for the treatment of leishmaniasis in their country, their words are also valid for other endemic contexts:

It is notable that some NTDs [neglected tropical diseases] are more neglected than others, and this would certainly appear to be the case for ATL [cutaneous leishmaniasis] in Brazil since treatment relies almost exclusively on a drug that has been around for 80 years, exhibits high toxicity with adverse and potentially fatal effects and may not attain clinical and parasitological cure (Carvalho et al. 2019, 381).

Despite the valid concerns of these biomedical researchers, it is important to mention that the health authorities of Brazil—the country with the highest incidence of leishmaniasis in Latin America—have implemented important changes in the therapeutic management of the disease based on the aforementioned WHO report and other documents and scientific studies (e.g., PAHO 2013). First, the Brazilian clinical standard includes maps to help medical practitioners understand the geographical distribution of different *Leishmania* parasites. Since not all parasites respond equally to Glucantime, this information allows them to make better decisions regarding the treatment that should work for a particular parasite species depending on the epidemiological situation of a specific place. In Colombia, everyone who manages to have access to diagnostic and treatment receives Glucantime regardless of the geographical location where the sandflies bit the patient and transmitted the parasite. Second, the Brazilian guideline explains that the dose of 20 mg/kg/day is highly toxic to the human body:

Particularly at a dose of 20 mg Sb<sup>+5</sup>/kg/day, the antimonial [Glucantime] can reach its toxicity threshold, resulting in cardiac, hepatic, pancreatic or renal alterations, leading to the modification or interruption of the treatment (Ministério Da Saúde 2017, 73).

The document says that Glucantime can be systemically delivered at a dose ranging between 10 and 20 mg, but recommends the 15 mg dose and emphasizes that no more than three ampoules should be daily administered (2017, 91). In contrast, as I mentioned before, the 20 mg dose, with a maximum of four ampoules per day, is administered to everybody in Colombia. Third, Brazilian health authorities indicate that Glucantime can be either intramuscularly (IM) or intravenously (IV) delivered. However, they recommend the IV route because that avoids painful reactions at the injection site (2017, 72). While the Colombian guideline also recommends IM and IV drug delivery, during my fieldwork I never had the opportunity to observe Glucantime treatment intravenously. The standard practice in Colombia is the administration of this drug through IM injections, causing unnecessary pain that only gets worse and worse throughout the many days of treatment.<sup>65</sup> Fourth, the Brazilian standard recommends the intralesional administration of Glucantime for people having only one lesion that is less than 3 cm in diameter. This means that

patients with one small leishmaniasis sore can receive low doses of Glucantime (5 ml) directly injected into the lesion, administered every 15 days in 1-3 sessions (2017, 74). Thus, a patient with such characteristics would only need three Glucantime ampoules and maximum three sessions of injections for his/her treatment to be completed. Needless to say, this local therapy dramatically reduces the number of ampoules employed and the adverse effects of systemic Glucantime delivery. Nonetheless, in Colombia, intralesional delivery of Glucantime is only recommended for pediatric patients weighing less than 10 kg or for adults older than 65 years with a single lesion less than 3 cm in diameter (MinSalud 2018a, 12). Soldiers, for example, never meet those inclusion criteria.

Like in Brazil, in Colombia, we are still employing a very old pharmaceutical that, despite its poisonous effects on the body, is not always effective, does not guarantee prevention against the reappearance of leishmaniasis sores, nor the development of mucosal lesions in the future. But—and this is a big but—in Colombia, we are still using that drug in what seems to be the worst possible way. Regardless of where the *Leishmania* infection occurred or the size of the lesion, a patient is typically treated with Glucantime, administered intramuscularly, at a dose of 20 mg/kg/day for 20 days, with a maximum of four ampoules per day. As the Brazilian clinical guideline suggests, every time we treat a leishmaniasis patient in Colombia we are reaching the toxicity threshold.

In a conversation I had with a WHO officer, I brought up a counterfactual: if a drug like Glucantime were developed in the present, not in the 1940s, would it pass a clinical trial with the safety requirements that apply today? Would it be approved as a medicine? “Well, that’s something we’ve discussed at several meetings. And, in fact, many of those drugs for leishmaniasis—just like Melarsoprol for sleeping sickness—would not pass those tests today,” she said. In her view, the risk-benefit assessment would point at the paradox of using a systemic and highly toxic, potentially deadly drug for the treatment of a relatively benign skin disease. “If it came to the point where a patient died because of the treatment, you would have to see what the ethics committee [supervising the hypothetical trial] would do, wouldn’t you? Well, the trial would possibly stop,” she said. Supporting this view, Coelho et al. (2014, 98) have noted that “[t]he safety of [pentavalent antimonials like Glucantime] was not thoroughly evaluated prior to their introduction into clinical practice

in the mid-1940s, and since then, major gaps in their safety profile have remained unfilled.” As such, the detrimental effects of these drugs are still unclear and remain understudied.

For another official working at a different multilateral health organization, the problem is not whether we systemically use Glucantime or not. For him, the point is to have well-trained medical practitioners with sufficient knowledge about leishmaniasis and the available therapies so they can make a good risk-benefit assessment and make an informed decision about the treatment that would be more convenient and safer for a particular patient.

I always reiterate that there must be a balance between having access to the medicine but also guaranteeing the quality of the treatment. Precisely, that quality means having professionals trained to manage the treatment, along with the patients, and doing a good follow-up, so they are able to suspend the treatment when necessary, able to intervene when necessary. Ultimately, they would be able to avoid more serious adverse events and even deaths, right?

However, the clinical experience of leishmaniasis that medical practitioners have, even in places like Colombia, is very reduced. Moreover, the training they receive on leishmaniasis at the university and elsewhere is minimal because the disease is not that common or widespread and remains a health problem affecting neglected populations in remote rural areas. You would expect that at least the clinical practice guideline produced by the Ministry of Health would be a comprehensive, pedagogical and didactic document, firmly based on locally produced evidence that would help medical practitioners fill their training gaps and acquire a better sense of the disease complexity and the range of medical and therapeutic decisions they can make (MinSalud 2018a). However, this is not the case. Also, since the recommendations of organizations like PAHO and WHO recognize the benefits of local treatments but continue to overemphasize the use of systemic treatments and antimonials over other therapies (see for instance OPS and OMS 2019), institutions like the Colombian Ministry of Health do not feel compelled to make therapies different from Glucantime available. Thus, second or third-line therapies are even harder to obtain than Glucantime and remain marginal and sporadic, rarely employed in medical practice. In fact, the alternatives physicians have at their disposal are almost entirely reduced to Glucantime.

Medical professionals should be able to do an adequate risk-benefit assessment for each particular leishmaniasis case. But we can only rely on these contextual evaluations if all the therapeutic alternatives remain available and open. Also, if the patient would be carefully and adequately informed about all the possibilities s/he has, and the known and unknown risks s/he would face if Glucantime or any other therapy would be used. Unfortunately, this is not the case either. As such, an appropriate risk-benefit assessment is precisely what cannot take place under the current state of affairs. This, however, does not necessarily hinge upon ill-trained medical practitioners. It is primarily the consequence of structural conditions that foreclose evaluating and deciding, with the patient, what is best for him/her, as well as having all the necessary means available to materialize that concerted decision.

### **We do have alternatives to Glucantime**

When I met Tania Bayona, she was still working as a non-formally educated guerrilla nurse at the ZVNT in Colinas. Although she did not finish high school, she received two years of medical training within the FARC as soon as she joined the organization in the late 1990s. While she treated all sorts of diseases for more than two decades, she told me she felt particularly skillful in the field of traumatology, surgically repairing wounds and injuries that, in the past, resulted from the armed confrontations between the FARC, paramilitaries, and the Army. As a guerrilla nurse, Tania also clinically diagnosed and treated countless cases of leishmaniasis. She told me that Glucantime had always been the first-choice drug within the FARC. Although she remembered having had the opportunity to employ sodium stibogluconate (Pentostam) and Impavido (miltefosine) in a couple of cases, she said the FARC traditionally used Glucantime ampoules.

What we have used the most is Glucantime, fundamentally Glucantime. It works essentially in all cases. Glucantime is made in Brazil, and it is the best treatment we have been able to obtain. Once, we also had access to a medicine called sodium stibogluconate [Pentostam]. We used this stibogluconate in some patients. While it worked for some, it did not work for others. On one occasion, I used some tablets called Impavido [miltefosine]. That drug is good, but the cost is extremely high, very expensive. That drug is very good for resistant leishmaniasis, especially mucocutaneous leishmaniasis.



When Tania first started in the FARC, she used to administer “a lot of ampoules, even a hundred ampoules for the treatment of a single patient.” However, the health of people treated in this way deteriorated dramatically due to the toxic effects of the drug. She also explained to me that, in the mid-2000s, in response to the intense military offensive during Álvaro Uribe’s government, FARC members were forced to concentrate in the *selva* and stay there for three or four years. “I mean, we had to retreat deep into the *selva*. The problem of leishmaniasis became particularly serious for us and the conditions for obtaining medicines were very difficult,” she said. Since the FARC did not have enough ampoules, and guerrilla nurses like Tania wanted to avoid the adverse events of Glucantime, they decided to do two things. First, they reduced the treatment to 30 ampoules, injected into the buttocks over 15 days—one ampoule in the morning, one ampoule at night. Then, they interrupted the administration of Glucantime for one month and evaluated the evolution of the lesion. If the ulcer had not healed, the same course of treatment was repeated for another 15 days. Second, they implemented the administration of Glucantime directly into the lesion. “We started doing something called infiltration [injecting the drug directly into the lesion] once a week,” she said. In each case, the therapeutic approach they decided to take depended primarily on the lesion size. “When the leishmaniasis lesion was small, it was possible to eliminate it simply by doing infiltrations,” Tania explained. “If the lesion was large, we did both things: intramuscular injections for 15 days and infiltrations to accelerate the healing process.”

As Tania’s testimony reveals, injecting Glucantime directly into the lesion has been a common practice in rural areas of Colombia affected by the conflict. People with medical responsibilities within the FARC opted for smaller Glucantime doses and the intralesional delivery of this drug, both of which involved a reduction in the use of ampoules. This worked well for them because they managed to overcome the shortages of Glucantime imposed by war logics and dynamics (see Chapter 5), as well as significantly reduce the toxic effects of the drug. As medical anthropologists have shown for quite some time, patients usually have very good reasons to take medicines in ways that depart from the prescriptions from the medical establishment (Trostle 1988). Significantly, the intralesional delivery of antimonials has begun to receive increasing attention from biomedical

scientists. Recent studies have found that the efficacy of intralesional infiltration is similar to that of antimonials (Castelano Brito, Rabello, and Fernandes Cota 2017).

The administration of Glucantime directly into the lesions has not been the only therapeutic resource people have found in rural and conflict-ridden areas of the country. Parallel to Glucantime, FARC guerrilla members have also employed a great variety of popular treatments. Tania explained it like this:

Since we are children of peasants—most of us, members of the FARC, those of us who make up this movement, have always been from the peasant social class—there are many, many theories coming from that peasant culture and many myths about how to cure a disease like leishmaniasis. Guerrilla members have even used chemicals to try to put an end to leishmaniasis. They have burned themselves, cauterizing the lesion with hot irons, spoons, and machetes. They have used chemicals such as sulphuric acid to burn the lesions. Also many plants and leaves, fats of all sorts, lots of things. I have seen all that here, inside the movement.

In fact, rural populations affected by leishmaniasis have traditionally sought all sorts of popular treatments that might help the lesions to scar and heal. These include a wide variety of plant preparations, *rezos* [prayers], chemicals, antibiotics, melted and grated *panela* [whole cane sugar], urine, veterinary drugs, common household chemicals, battery acid, petroleum by-products, and cauterization with very hot or cold objects or substances (see Vazquez et al. 1991; Acevedo Serna 2012). While some of those therapies are harsh, harmful, and ineffective (see Ramdas 2012), many work for them and result very helpful to circumvent the difficulties in accessing anti-leishmanial drugs, as well as the aversion to the injections and toxic effects associated with Glucantime.

In 2014, journalist Nelson Matta Colorado documented a leishmaniasis outbreak that took place in Remedios (Antioquia), a town that has been profoundly affected by the armed conflict since the mid-1980s (Verdad Abierta 2018b, 2018a). His article, published by *El Colombiano* newspaper, showed that many people rejected the medicines offered by the state and preferred to turn to *yerbateros* [herbalists] and traditional healers (Matta Colorado 2014). The journalist visited the house of Olga Patricia Giraldo, a 23-year-old woman, and mother of four children. He found her very sick, “pale, with cold sweat running down her neck,” suffering from “fever, dizziness and bone pain” caused by Glucantime. Another woman told the journalist that she was doing everything she could to

avoid “getting the injections because they hurt so much.” She saw a healer who gave her a black powder containing battery acid, a plant called “*maruchenga*,” the content of a radio battery, and additional stuff. Although this preparation had not worked for her, she did not want to get the 80 ampoules of Glucantime the doctor had prescribed either. According to the article, the community also rejected Glucantime because, five years before, an elderly woman with leishmaniasis had died “from an overdose of the drug.” “I would be very afraid to take my children [to the hospital] for them to get that [medicine],” said the granddaughter of the deceased woman to the journalist.

It is common for some scientists, physicians, health workers, and public health officials to look down on non-biomedical remedies and condemn their use as ignorant, retrograde, or culturally flawed. While this is also the case for the employment of caustic substances and red-hot machetes or spoons to burn leishmaniasis ulcers, biomedical researchers are now seeing the cauterization practices that rural people have been employing for decades in Colombia and other Latin American contexts in a different light (Weigel et al. 1994; Weigel and Armijos 2001; Cuevas 2008; Velez et al. 2001). In the 1980s, it was already clear that *Leishmania* parasites are thermosensitive at temperatures above 39°C, especially those species found on the American continent (Sacks, Barral, and Neva 1983). However, it was not until recently that Colombian scientists started doing studies that compare Glucantime and other antileishmanial drugs to thermotherapy—the application of heat at 50°C on leishmaniasis lesions with a machine called ThermoMed (López et al. 2012; Cardona-Arias et al. 2018; López et al. 2013).<sup>66</sup> For example, a clinical study conducted within the Colombian Army showed that one single session of thermotherapy worked for 86 (64%) of the 134 soldiers that were treated in this way. Twenty days of injections with Glucantime was effective for 103 (85%) of the 121 soldiers treated with this drug. While soldiers treated with thermotherapy only experienced local pain, especially during the four days after initiating the treatment, those who received Glucantime faced fever, muscular and joint pain, and headaches and all of them had renal, hepatic, pancreatic and hematologic alterations in the laboratory tests conducted during and after the treatment (López et al. 2012). In addition, thermotherapy does not demand the frequent laboratory monitoring required by systemic treatments and is more cost-effective than Glucantime (Cardona-Arias et al. 2018).

In the best-case scenario, the vast majority of leishmaniasis sufferers that approach health institutions looking for medical help to heal their stubborn skin lesions receive 40 injections of a scarring poison called Glucantime. Most of them do not know that that cure is much worse than the disease. Most of them do not know either that many could be treated with intralesional infiltrations, thermotherapy (Blanco et al. 2013),<sup>67</sup> or even with smaller doses of Glucantime. People have greatly suffered from unnecessary intoxication because of that. People have died because of that. How many intoxicated bodies constitute strong evidence to implement a change? How many dead bodies are enough for us to radically challenge the standard way in which we treat people affected by a skin disease that is not life-threatening and not even serious in most cases? How many more dead soldiers do we need to count before doing something about it, with the alternatives we currently have at hand?

A new public health strategy to address leishmaniasis in Colombia would have to focus strongly on preventive strategies that have been displaced by the pharmaceuticalized approach that has prevailed in the management of the disease. There are simple actions that people in rural and remote areas of the country can easily adopt. Wearing pants and long-sleeved shirts to enter the *selva*, for example, is a simple measure that can help avoid sandfly bites. People who live near the *selva* can also minimize contact with sandflies by using bed nets and mosquito screens on their windows and doors. Applying lime to tree trunks around houses, up to one meter high, is another simple strategy that can help keep sandflies away because of the white color and the reduction in moisture lime produces (Cossio et al. 2019).

Nonetheless, a modified therapeutic strategy that seriously considers introducing more ambivalence toward Glucantime should be implemented as well. Opting for a standard cure, regardless of the patient's clinical status, has been highly detrimental to Colombians who have managed to access diagnosis and treatment, soldiers for example. Individualized treatment schemes for leishmaniasis that privilege local therapies should be the rule, not the exception. Introducing regulations that favor the use of thermotherapy and intralesional injections of Glucantime instead of promoting systemic administration of drugs should be a priority for the Ministry of Health. In cases where systemic injections

with Glucantime are absolutely necessary, intravenous instead of intramuscular administration of the drug needs to be encouraged, and consideration should be given to whether it is possible to lower the daily dose of antimony.

Additionally, state strategies to improve and sustain the training of medical personnel on leishmaniasis, preventive measures, available therapies, and the multiple ways the disease has been entangled with the war are also necessary actions that can help change the reality of this illness in Colombia. Moreover, building on the knowledge and experience that people in rural areas have accumulated in coping with the disease is a promising approach. In terms of peacebuilding, it is especially timely and important to involve peasants, indigenous and black communities, guerrilla ex-combatants and soldiers (not only high-ranking officers of the Army) as central participants in the modification of policies that regulate the public health management of leishmaniasis.

However, all the recommendations I have made in the preceding paragraphs are insufficient to *desenmarañar* the entanglements between health and war in Colombia—those links that are particularly conspicuous in the case of leishmaniasis. João Biehl (2007) warns that the pharmaceuticalization of public health is particularly hard on the most vulnerable people because drug-centered approaches leave intact and usually sustain the social relations of inequality and power that create health disparities. Therefore, more pharmaceuticalization or redistributed or less harmful pharmaceuticalization is not enough to solve the problem, as it often reproduces the patterns of inequality through which pharmaceutical products are used and delivered. It is by addressing the deep-seated conditions of inequality and discrimination, imbued with a complex history of warfare and criminalization of rural communities, that it is possible to give way to the disentanglement of the *maraña*. The previous and the following chapters shed light on the processes that must be given the utmost attention in order to achieve a genuine and transformative unraveling between leishmaniasis and armed conflict. They show that a pharmaceuticalized solution might be useful but far from enough.

## **Chapter Five:**

### **The pharmaceuticalization of war**

The sun had risen a while ago. It was almost 6:30 am. That was my first morning at the Transitional Zone for Normalization (ZVNT) in Colinas, where about 500 members of the FARC had gathered after the signature of the peace agreement to lay down their arms. A month before my visit, in the last week of January 2017, the media had documented a major event in the history of Colombia. Conforming to the peace deal signed in Havana, the FARC completed what was called “*la gran marcha*” [the great march], a large migration of thousands of members of this guerrilla organization from all corners of the national territory to the 26 zones—15 km<sup>2</sup> in total—that had been designated for their disarmament (Colombia2020 2017; Semana 2017).<sup>68</sup> FARC members carried a few belongings with them, some animals, and the anxieties and hopes of a transition period marked by an unfinished war and a burgeoning peace. In coordination with the Colombian Army, United Nations representatives monitored this remarkable transit along rivers and highways, on foot, in buses, vans, boats, and canoes. Images charged with symbolism, like those of guerrillas and soldiers exchanging smiles and shaking hands, filled many supporters of the peace deal with optimism.

However, while these encouraging scenes unfolded, the Army had not regained control of the territories the FARC had abandoned, and other armed actors were already occupying them. In addition, the state had not been diligent in creating or adapting the necessary infrastructures in the ZVNTs so that FARC guerrillas could settle in those areas and prepare their reintegration process into civilian life (Semana 2017). These were some of the first signs of noncompliance and lack of political will on the part of the government towards the implementation of what was agreed in Havana (see, for instance, Verdad Abierta, 2017; Zamudio Palma, 2017). Since right-wing President Ivan Duque took office in August 2018 the situation for former FARC members has become even more precarious and uncertain. As I write this dissertation, in December 2019, 173 FARC ex-combatants have been assassinated since the signature of the peace agreements (Semana 2019b). In addition, the implementation of the peace deal is further delayed, obstructed with all sorts of political and legal instruments (Colombia2020 2019; Kroc Institute 2019).

When I arrived in Colinas, at the end of February 2017, this ZVNT was far from ready or equipped for the guerrillas and their families to live there under adequate conditions. Notably, suitable living spaces were not yet available. Even though FARC members were still armed at the time of my visit,<sup>69</sup> they had already begun their transition process to civilian life. During the day, about 300 (ex)combatants and 100 civilians hired by the state worked hard in the construction of a small town. A few FARC commanders had carefully designed this village in a way that would meet the demands of a self-sufficient community inhabited by families who were supposed to start living in separated houses while maintaining a strong sense of political unity and collective life beyond the end of the conflict (De Abreu, 2017). In the meantime, (ex)guerrillas were inhabiting makeshift houses made of wood poles, black plastics, and green tarp, which they had raised in a forested area of the ZVNT, protected from the sun by thick foliage (Fig. 5.1). Although the leafy location and temporary aspect of these dwellings were reminiscent of wartime FARC camps I had previously seen on television, guerrillas told me they had built them under another mindset and with a different material quality—thinking more of durability than impermanence. While most of those constructions were on the upper side of the ZVNT, my *caleta* [sleeping area in FARC’s jargon] was in the lower area. It was one among roughly twenty other “houses” and *caletas* that belonged to the mid-rank commanders and guerrillas designated to be the protective guards of ‘Mauricio Jaramillo,’ the FARC’s Eastern Block commander and leader of the Colinas ZVNT.<sup>70</sup>



**Figure 5.1** Makeshift houses built by FARC (ex)guerrillas in the Colinas ZVNT.



Despite having spent a night of insufficient rest, I started that morning full of energy and curiosity. I got my little backpack ready, came out of the mosquito net, and left the *caleta* I had been assigned. I walked towards the “house” of ‘Mauricio Jaramillo,’ who I had met the day before. After seeing him many times on the news, mostly because he participated in the peace dialogues in Havana, it was very strange to be in front of him, shake his hand, and talk to him. Peace allows unlikely, never-imagined things to happen. On my way, I found Francisco, the mid-ranking commander who had facilitated my

access to the Colinas ZVNT (see Chapter 2). He asked Carlos, another guerrilla member, to accompany me to the *rancha* [cooking area in FARC’s slang] to have breakfast. Still protected by the shadow of the trees, Carlos and I did a short walk, crossed a stream making use of a huge trunk, and passed by makeshift storehouses where piles of mattresses and tons of nonperishable food were being kept (Fig. 5.2). When the mass of trees ended—right on the *selva*’s edge—we sat next to a table where a female guerrilla served me an abundant plate of noodle soup, an *arepa*, and a chocolate cup. From there, we could see civilians and guerrillas working under the burning sun on the construction of the town.

Carlos’ marked *paisa* accent was undeniable proof that he had grown up in Antioquia. He told me he had become part of the FARC nineteen years ago when he was still a minor. He asked what the purpose of my visit was. After explaining it to him, we engaged in a conversation about leishmaniasis. During all those years, he had been infected



**Figure 5.2** Infrastructures made by FARC (ex)combatants in the Transitional Zone for Normalization (ZVNT) in Colinas, Guaviare.



with the disease about three times, maybe more—he could not remember well anymore. All his leishmaniasis skin lesions had been treated with Glucantime ampoules that were injected into his buttocks. He recalled that each of those treatments involved very unpleasant sensations such as chills, headaches, weakness, dizziness, and vomit. But his last Glucantime treatment was the toughest. The drug's toxicity made him so sick that he had to divide the daily dose into smaller ones, injected throughout the day, which helped him feel a little better. I asked Carlos how the FARC had managed to maintain relatively consistent access to the treatment during the war.

There's always someone selling it. Sellers come by from time to time offering Glucantime. It's always a different seller, and I don't know exactly where they get it from. We don't ask them, and the sellers won't tell us either because that's how they make money.

As I previously discussed, in Colombia, the leishmaniasis public health strategy has been completely pharmaceuticalized and centered on Glucantime. Thus, this is the antileishmanial drug that typically circulates in the country. All legal ampoules of this medicine are purchased and imported by the Ministry of Health (MinSalud). Then, through a highly bureaucratized and long process, MinSalud distributes the drug via state health institutions to clinics and hospitals providing healthcare services. In the case of the Army, the Police, the Navy, and the Air Force, collectively known in Colombia as the Public Force, the ampoules move directly from MinSalud to the health offices (*direcciones de sanidad*) of each of these institutions; each one autonomously decides how to deliver the drug to its members affected by the disease. However, Glucantime also moves along an underground circuit that works through various clandestine mechanisms to meet the demand from guerrillas, paramilitary organizations, and people in rural Colombia who have not been able to access the treatment by legal means. This is the Glucantime access route that had made possible the treatment of people like Carlos through the many years of war.

In this chapter, I trace the different circuits through which Glucantime moves in conflict-ridden Colombia. I explore this drug's trajectories from the moment it enters the Colombian territory until it reaches populations of soldiers, guerrillas, and civilians affected by leishmaniasis. I pay attention to the scientific, material, and discursive bases on which health authorities have established the legal paths along which Glucantime is supposed to

move. I also delve into the surreptitious, *extra-legal* routes through which the drug circulates in conflict zones. Drawing on Carolyn Nordstrom (2009), and Alan Smart and Filippo M. Zerilli (2014), I abstain from using the term “illegal” to talk about the Glucantime routes that fall outside legality. I prefer the term “extralegal” as a broader category that “avoids a dichotomy between legal and illegal, encourag[ing] attention to fuzzy or contested boundaries between these domains” (Smart and Zerilli 2014, 222). Given the participation of the military and state officials in the Glucantime black-market, *extralegality* is useful to examine “activities beyond the strictly legal carried out by rulers as well as the more common focus on the illegalities of the ruled” (Smart and Zerilli 2014, 222).

In this chapter, I show that the Glucantime ampoules entering and circulating legally in Colombia are distributed through a complex control scheme that serves to manage populations and produce therapeutic distinctions between state allies (members of the Army) and state enemies (guerrillas and civilians with uncertain affiliations). Alex Nading’s work is useful here to think of Glucantime as a *leaky thing*—a pharmaceutical with the capacity to “drift from spaces of biomedical control and bureaucratic surveillance to ones of situated social and political interaction” (2017, 142), developed and sustained by the war in Colombia. I argue that the restrictions applied to the circulation of Glucantime have turned this medicine into a biopolitical instrument of war, capable of reproducing a social order generated by the armed conflict. Following wartime logics, the circulation of legal Glucantime stipulates who are the subjects of inclusion (state allies) and who are the subjects of exclusion (state enemies). Thus, any person who seeks institutionalized medical attention to alleviate his/her leishmaniasis symptoms ends up facing a pharmaceutical regime (Williams, Martin, and Gabe 2011) that is simultaneously a biopolitical war regime where some lives are fostered and others are left to die (Agamben 1998; Fassin 2008). Consequently, this drug is the channel through which a health regime and a war regime come together. Such a process of co-production (Jasanoff 2004) between war social orders and a pharmaceutical regime is what I have defined as the *pharmaceuticalization of war*.

## A war strategy

While I was in Colinas there were six suspected cases of leishmaniasis among the nearly 500 guerrilla members who had concentrated in this ZVNT. Although smear samples had been collected a month prior by healthcare practitioners working for the public hospital in San José del Guaviare, these six *guerrilleros* and *guerrilleras* had not received the diagnostic test results. Without a parasitological confirmation of leishmaniasis—the observation of parasites under the microscope—Glucantime could not be provided by the hospital. Thus, these six people were still expecting to have some news from the hospital staff.

Two scruffy and dusty boxes of Glucantime, one with five and the other with three ampoules, was all that was left in the FARC infirmary in Colinas (Fig. 5.3). Both boxes came from Venezuela, were manufactured in January 2013 in Brazil, and would expire in less than a year (Fig 5.4). If one were to follow the clinical protocol recommended by MinSalud, they were not even enough to treat one of the six suspected cases of leishmaniasis in Colinas.<sup>71</sup> Despite the fact that the implementation of the peace agreements between the government and the FARC had started, at least on paper, three months before, state health institutions had not provided these Glucantime vials. On the contrary, they were remnants of the black market that had met the FARC's demand for this pharmaceutical throughout years of war. The lack of state-supplied Glucantime in Colinas was another element that showed insufficient efficiency and



Figure 5.3 FARC infirmary in the Colinas ZVNT.



Figure 5.4 Front and back surfaces of one of the Glucantime boxes at the FARC infirmary in Colinas in February 2017.

commitment on the part of the state institutions to provide what was necessary for guerrilla (ex)combatants to start making the transition to peace.

Alexandra Molina was one of the guerrilla nurses in Colinas. Although she was born in a town located in Meta,<sup>72</sup> Alexandra and her mother moved to Bogota when she was a few months old in search of better life opportunities for both of them. Once she graduated from high school, she started bacteriology studies at a university. However, soon after, her mother lost her job, and Alexandra did not have the financial means to pay for the second semester. This, she said, was one of the reasons why she went back to Meta and ended up joining the FARC in the late 1990s. Because of her interest in health issues, she was offered the opportunity to be a guerrilla nurse within the organization, a responsibility she very much enjoyed. When we spoke, she was hoping her substantial experience would be at least partially validated in order for her to continue having a similar job *en la civil* [in civilian life]. “Why do you think access to Glucantime is so difficult?” I asked Alexandra.

Because the armed struggle exists. It was simply to force us to suffer the needs and consequences of the disease. The state did it more as a method of war than as a method of control. It was a strategy of war. Anyone can see that, *mi reina*. Look, when the Army came here [to the *selva*], they left infected with the disease. Then, they imagined that we [guerrillas] were doing much worse than them [soldiers]. They imagined that the health problem we had with leishmaniasis was a truly

complex one, so they thought that restricting and hogging all the medication would make us get out of the *selva*. The military thought we were going to exasperate and feel the urgent necessity to get out and expose ourselves. And, in that way, it was much easier for them to arrest us.

According to Alexandra, when she became a FARC member in the late 1990s and during the 2000s,

many of our people who went out [of the *selva*] for treatment were apprehended. And not only because of leishmaniasis, but also because of different health problems such as cancer, heart problems, or other skin issues. When we couldn't solve a particular health situation here, sick guerrillas would go out and get caught. During the so-called 'democratic security' [referring to the Democratic Security Policy (PSD) during Alvaro Uribe's government], there were many *enlaces* [military liaison personnel], and they used to investigate who was each person visiting a hospital. So, the FARC decided it was better not to let anyone out, and instead, we tried to meet all health needs ourselves. That's precisely why. Because of the fear that our people would be imprisoned. And getting imprisoned is one thing, but people who were caught were abused in many ways. Whatever the case might be, we are human beings; we are not animals.

Not only Alexandra saw it in this way. In a conversation I had with some guerrilla commanders soon after my arrival, these men defined Glucantime as the link connecting the disease with the war. They were specifically referring to the state's restrictive control over this treatment which, echoing the words of sociologist and journalist Alfredo Molano Bravo (2005b), they described as a perverse anti-subversive strategy. Francisco, the FARC mid-rank commander I had met in Havana and re-encountered in Colinas, said the following:

[Leishmaniasis] itself has no relation to the armed conflict, the relationship with the armed conflict is the medicine to cure a tropical disease that affects the military, peasants, guerrillas, all the inhabitants of the Colombian rurality. The involvement of leishmaniasis with the armed conflict is fictitious. It is the medicine [Glucantime], the way in which the disease is treated that, in an irregular conflict like ours, like all irregular conflicts, is full of traps, trickeries, feints.

Francisco pointed at Glucantime as the crucial link holding the *maraña* of leishmaniasis and war together. For him and for the other members of the FARC I had the opportunity to talk with, there was one single way to interpret the restrictive control and access barriers applied to Glucantime: it has been a war strategy employed by the Colombian state to affect guerrilla organizations.

People in Colombia who have some notion about leishmaniasis sometimes know that accessing the drug is difficult, and tend to interpret the restrictive access to Glucantime as a war practice to affect insurgent groups and pressure them out of their dens (see, for instance, Acevedo Serna 2012). Some kidnapping survivors, for example, agree with this understanding. Luis Eladio Pérez is a Colombian politician who was kidnapped by the FARC between 2001 and 2008 and suffered twice from leishmaniasis during this period. For him, the limited access to Glucantime resulted from the idea that leishmaniasis “is a characteristic disease of guerrillas.” In his view, the restrictive control over the drug “was like another weapon the state had against guerrillas; that’s why they [state authorities] limited the sale of Glucantime.”

It is also relatively common to hear people saying that Glucantime is a controlled drug in relation to intelligence work undertaken by the military to monitor the dispensation of the medication. I repeatedly heard that this practice allowed the Army to have some clues as to who a guerrilla member might be. Clara Patiño is a professor at a public university who studied medicine, earned a doctoral degree in tropical medicine, and has done research for more than three decades on leishmaniasis and other parasitic diseases in different areas of Colombia. She confirmed that the military had carried out intelligence work concerning Glucantime delivery in some areas of the country:

We know that this was done in the center of the country, I don’t know if they continue doing it, but they did it. They did it in Cundinamarca. The doctors and staff of the San Juan de Rioseco [a municipality in eastern Cundinamarca] health service had to inform the local garrison [of the Army] who had been given Glucantime. So, there are areas of the country where we know that, indeed, the Army controlled the delivery of medicine. But this doesn’t happen everywhere.

Significantly, members of the Army have sporadically confirmed that these war logics have operated behind Glucantime’s controlled circulation.<sup>73</sup> In a short documentary produced by TeleAntioquia in 2012, entitled *Leishmaniasis, ¿Una Marca de la Guerra?* [Leishmaniasis,

a Mark of War?], the then Chief of Health Operations of the Army, Major Omar Arturo Cabrera, said the following:

Why is the medication controlled? In the past, the drug's price was high and the need in other areas and by other kind of people was immense, so people used to trade the drug illegally. [That happened] because the NTOs [narco-terrorist organizations, i.e., guerrillas] that are out there, many times they don't go out [from the *selva*] to ask for the medicine because they don't want to expose themselves, they don't want to be seen by the Health Secretariat, the Police, or the Army. Since they [guerrillas] don't have easy access to health, what do they do? They need someone to get the medicine for them in any possible way (Acevedo Serna 2012).

While restrictions on access to Glucantime have diminished the health of guerrilla members remotely, this strategy has also been employed to single them out, as well as to exasperate them and force them out of their hideouts. However, as I have reiterated, guerrillas are not the only people in rural Colombia with leishmaniasis ulcers. Thus, this war strategy has ended up affecting all kinds of people whose daily lives are linked in one way or another with the *selva*, either because they live in or very close to this forested environment, or work in there.

While I was in Colinas, besides the six suspected cases I mentioned, there was one more person affected by the disease. Javier was not a guerrilla but a civilian—a young peasant who approached his guerrilla cousin to ask for help in getting Glucantime. Appealing to the legitimacy I supposedly had from having seen hundreds of leishmaniasis lesions during my fieldwork, one of the FARC commanders asked me if I could have a look at this young man's ulcer. Javier took off the hat he was wearing with some shame. He gently grabbed his left ear with the tip of his fingers and moved it a little bit forward. The lesion was huge, very infected, and was about to perforate his cartilage. Worried, I thought Javier could lose his ear and told the FARC commanders that the young man needed antileishmanial medicines as soon as possible. This peasant told us he had been diagnosed positive for leishmaniasis several weeks before in downtown San José, the main urban center in the *departemento* of Guaviare. In Colombia, one of the excuses you often hear when Glucantime is nowhere to be found in public healthcare facilities is that they are located in rural, remote, or dispersed areas. But this was not the case for San José. Nevertheless, Glucantime was not available in the public hospital of this municipality and Javier had not received the treatment he so urgently needed.

Javier's case is not an isolated one. People in many parts of the Colombian rurality confront multiple obstacles in accessing both diagnosis and treatment for leishmaniasis, even after the signature of the peace agreement between the state and the FARC (see Pinto-García 2019). Approaching guerrilla organizations to obtain Glucantime ampoules is a desperate action many civilians in rural Colombia are forced to make. This became rather normal in the war context, because, as I will show below, if anyone has had medicines for leishmaniasis in this country, it is either the Army or the guerrillas. Now and then, civilians used to approach the FARC asking for the drug. Since people knew this armed organization regularly had Glucantime stocks, it became common for civilians to look for help inside the FARC. That first morning at the Colinas ZVNT, while I had breakfast with Carlos, he also told me that giving Glucantime to civilians is part of the solidarity gestures the FARC used to have towards peasants—an act among others that allowed them to build collaborative and reciprocal relations with people.

Peasants are very grateful and always likely to repay favors such as giving them Glucantime ampoules. Then, when you see them again, the peasant tells you 'take that bunch of bananas with you,' or 'why don't you come in and have lunch?' The downside is that assisting or collaborating with guerrillas is a crime that puts people in jail.

The use of Glucantime to create, maintain, or manipulate relationships between guerrillas and civilians in rural Colombia is a reflection of the complicated relationships and exchanges between civilians and armed actors in these areas. In that context, lines dividing friends from foes are blurry, especially because combatants and civilians have often shared a sense of belonging to a particular territory, or a long and intertwined history of friendship, solidarity, and kinship. While hatred, resentment, and fear have also marked such bonds, these are not the only kind of affective links between civilian populations to armed actors (Arjona 2016; Idler 2019). Importantly, Glucantime's participation in shaping relationships between civilians and guerrillas would not be possible if accessing the treatment through state health institutions was a barrier-free practice, a simple and straightforward process. Actually, this particular use of Glucantime is a reflection of the cumbersome and obstructed system that civilians encounter every time they approach healthcare institutions that are supposed to provide free leishmaniasis diagnosis and treatment in a timely and efficient manner.



In an article by Lucy Suchman on the War on Terror, she shows how the practice of differentiating “enemies” from “friends” in current military operations in the Middle East has become increasingly problematic, resulting in a continuous expansion of the hostile terrain of attacks that amplifies the networks of those injured through forms of “violence at a distance” (2015, 6). Drawing on Joseph Masco’s *Nuclear Borderlands* (2006), Suchman argues that technologically-mediated violence has become crucial to achieving this “ever-expanding apparatus of networked warfare” (2015, 8). Although Suchman grounds her analysis on remotely operated warfare machines such as drones, I see medicines like Glucantime as another set of technologies that become useful to actualize violence at a distance. In a guerrilla warfare scenario like the Colombian one, where the political enemy is not a foreign group but armed forces made up of local people (Wickham-Crowley 1992), discriminating between friends and enemies is not only challenging but one of its most characteristic features. While “boundaries of the battlefield are no longer clearly designated, and the sympathies of others are complex and difficult to discern” (Suchman 2015, 12), the restriction applied to the access on Glucantime has been used as a war strategy to harm enemies who are likely in need of this drug. However, this highly unethical strategy has affected not only guerrilla members but also civilians who do not make part of the conflict but coexist with it in rural areas of Colombia. War is not only a matter of weapons, deaths, and injuries. War is not only an organized collection of the cruelest expressions of direct violence. War is also the multiple forms of biopolitical warfare that emerge to control bodies in a reticular and dispersed way, to make them live and let them die (Agamben 1998; Fassin 2008). The exclusionary paths through which Glucantime moves in the Colombian territory, affecting both guerrilla members and civilians, are an explicit instantiation of this.

### **The bureaucratic barriers to Glucantime access**

As I previously mentioned, MinSalud is the institution in charge of purchasing all legal ampoules of Glucantime available in Colombia. Before 2010, this Ministry used to buy antileishmanial drugs through tender offers. Since 2010, MinSalud acquires Glucantime vials through the participation of the Colombian state in the Pan American Health Organization (PAHO)’s Strategic Fund, created in September 2000. Currently, thirty-three countries are members of the Strategic Fund through cooperation agreements, including

many Central American and Caribbean countries, and all South American countries except for French Guiana (PAHO 2018a). The list of medicines that can be purchased through the Strategic Fund “utilizes the World Health Organization (WHO) Essential Medicines List (EML) as a foundation” (PAHO 2016, 7; see Greene 2011). It includes hundreds of drugs employed for the treatment of a great variety of diseases (HIV, tuberculosis, malaria, cancer, leprosy, neglected diseases such as leishmaniasis and Chagas, among others), as well as medical devices, equipment, and supplies such as insecticides, mosquito nets, and diagnostics reagents. Meglumine antimoniate (Glucantime) is one of the five antileishmanial drugs on the list, which also includes pharmaceuticals recommended as second and third-line therapies for leishmaniasis in Colombia (MinSalud 2018a): amphotericin B, miltefosine, paromomycin, and pentamidine (PAHO 2018b).

Once Glucantime ampoules enter Colombia, they are placed under the custody of MinSalud. Then, the drug is distributed exclusively to the health secretariats of each of the 37 territorial divisions<sup>74</sup> (from here on referred to as Departmental Secretariats or DSs) and the health offices of the Public Force, as mentioned above. Nonetheless, the Glucantime ampoules that Departmental Secretariats receive do not continue moving to hospitals and other healthcare facilities located in the urban center of each of the 1,122 municipalities that exist in the country.<sup>75</sup> Instead, a long and grueling process has to take place before healthcare institutions receive the drug to treat a patient with leishmaniasis.

Initially, a person with a skin sore in a remote rural area of Colombia will probably approach the nearest *puesto de salud* [health station]. There, s/he will not find a doctor or a nurse, but a nursing assistant with a basic medicine cabinet who does not have the education or the credentials required by MinSalud to diagnose or treat leishmaniasis medically. Glucantime ampoules are never delivered to this kind of facility. Thus, most likely, the person will be told to go by her/his financial means to the closest public hospital or clinic in the *cabecera municipal* [the municipality’s urban center]. Although a relatively efficient road network connects several areas of Colombia, 68% of the national territory lacks a minimum of transport infrastructure (Narvaez 2017). Thus, traveling from a leishmaniasis-endemic area—geographically remote and dispersed—to the nearest urban center typically demands a substantial amount of money and unwaged time that a poor

person can hardly afford (Arteta 2018; MinSalud 2018b). This situation is even more complicated for women who are commonly in charge of children and cannot leave them unsupervised or with just any friend or relative for one or several days (Vélez et al., 2001). Upon arriving at the *cabecera municipal*, the healthcare staff will initially ask her/him some questions to confirm that s/he comes from an endemic area and that s/he has recently been in the *selva*. Then, if the physician happens to be familiar with leishmaniasis, which is not often the case, s/he will visually examine the sore and decide if it looks like a leishmaniasis lesion. If it does, a smear sample will be taken with a scalpel blade, and the sample will be spread onto microscope slides. When *Leishmania* parasites are visible under the microscope—which demands a skilled practitioner and trained eyes not always available in hospitals or clinics—the patient will be reported to the national public health surveillance system (SIVIGILA) as a new leishmaniasis case. Then, one of the slides and a summary of the patient’s medical record will be sent to the respective Departmental Secretariat, which is located in the *departamento*’s capital. Once the Departmental Secretariat staff receive the slide and confirm the diagnosis, the Glucantime dose is calculated based on the patient’s weight. Only then, the exact number of Glucantime ampoules needed by this particular patient is released by the Departmental Secretariat and sent to the healthcare facility where the patient was initially diagnosed. Several days might go by between the sample retrieval and the arrival of the ampoules to the healthcare facility. If the patient manages to stay in the municipality’s urban center for that period or to come back once the ampoules arrive, several laboratory tests (eight, according to the official guidelines) will be required to make sure that s/he is healthy enough and likely to endure Glucantime’s toxicity. If the patient is able to obtain the authorizations from the health insurance company to which s/he is affiliated, known in Colombia as *Entidades Promotoras de Salud* (EPS), laboratory tests can be performed. If the results are satisfactory, and if s/he can afford her/his stay in the urban center for another twenty days, s/he will be daily injected with Glucantime at the hospital under medical supervision. As a rule, no patient will be given the ampoules to take them home.

The amount of Glucantime purchased by MinSalud responds to the number of leishmaniasis cases reported to the state in the previous years, and the more recent weekly reports that should reflect the up-to-date epidemiological behavior and spatial distribution

of the disease. This is possible because, in Colombia, the notification of all forms of leishmaniasis to the public health surveillance system is mandatory. Even though MinSalud buys enough drugs to supply the national demand—the cases reported to the public health surveillance system—the bureaucratic and geographic distance that separates leishmaniasis patients from Glucantime is experienced as a huge access barrier in accessing treatment. The multiple difficulties and obstacles to obtaining Glucantime in Colombia contravenes the primary aim of the PAHO Strategic Fund, whose purpose is to allow member states to obtain low-priced and high-quality drugs for their timely and continuous delivery to the populations in need (PAHO 2018a).

***“Glucantime is a controlled medication.”***

But does it have to be so hard to be legally treated with Glucantime in Colombia? Why does it have to be so challenging to access this pharmaceutical, even in places where leishmaniasis occurs in large numbers, year after year? “*El Glucantime es un medicamento controlado*” [Glucantime is a controlled medication]. This is the reply I regularly received and a sentence I often heard in conversations with some public health officials, Army members, physicians, nurses, civilian patients, guerrillas, and scientists when I queried them about the hardships to obtain Glucantime in the country. It is a well-known fact that this drug is not easily accessible in hospitals and clinics, let alone in rural areas where only precarious *puestos de salud* [health stations] might be available. Some of these people frequently say that the only way to obtain this drug is through the Army, and many find it very odd that Glucantime is not on sale at pharmacies. This happens because buying almost any type of drug at pharmacies without a medical prescription is commonplace in Colombia. Actually, the practice of going directly to a pharmacy to buy medicines without first consulting a doctor is widespread. In urban areas, it is also common to call a pharmacy and get all sorts of pharmaceuticals delivered without any prescription. Similarly, getting injections administered in a pharmacy without a medical prescription is common (Vacca et al. 2005).<sup>76</sup>

Alicia Valencia has worked for more than thirty years in the public sector, always in the area of public health. For the last ten years, she has been part of a group of professionals working for MinSalud, in charge of the national programs for surveillance and control of

vector-borne diseases. This team is responsible for developing, evaluating, and updating policies related to the management of these diseases at the national level. Buying antileishmanial drugs through the PAHO Strategic Fund and sending them to Departmental Secretariats and the health offices of the Public Force is also one of their duties. “Why is it that people often say that Glucantime is a controlled medication?” I asked Alicia. For her, that was a misleading way to describe Glucantime’s situation in Colombia because it implied that the state or the Army have implemented restrictions to access the drug as a way to harm guerrillas. In her view, the procedures established for the healthcare of leishmaniasis patients are designed through a universalist approach, capable of assisting all Colombians in an impartial, apolitical, and non-discriminatory manner, and work regardless of the patient’s affiliation to a guerrilla or a paramilitary group. Thus, according to Alicia, this idea of “control” should be understood and dismissed as a myth:

That is a myth, it is a myth. In Colombia, it is a myth and it is a myth for one simple reason: because, in Colombia, the medicines are acquired by the Ministry [of Health] and the Ministry distributes it to the regional [health] institutions [Departmental Secretariats], and also to the Military Forces. Civilians, including all those who belong to armed groups outside the law,<sup>77</sup> they all access the medicine as civilian population at any IPS [healthcare institution] for free. This means that the medication is not controlled, there is no control scheme.

Alicia’s words resembled the perspective documented by anthropologist Sjaak van der Geest when the WHO’s Action Program on Essential Drugs was evaluated for the first time in the late 1980s. According to van der Geest, the resulting report “implicitly suggested that if the essential drug program existed on paper it existed in reality, that it was both available and used by sick people in local communities” (2006, 305). Realizing that the word “control” would not get me very far in my conversation with Alicia, I told her that I had been doing fieldwork in Candelario. This, I explained, gave me the opportunity to learn that a network of community members—the so-called *microscopistas* or *malarios*—have been trained to diagnose malaria and dispense antimalarial drugs in rural areas, even in places located very far from the urban center of the municipality. “Why doesn’t that happen in the case of leishmaniasis? What is the reason why leishmaniasis medicines don’t circulate more freely, as in the case of malaria medicines?” I asked Alicia. For her, the answer to that question had three parts. First, the reason why MinSalud was the only entity allowed and

responsible for buying and distributing antileishmanial drugs rested in the definition of leishmaniasis as an *event of public health interest*:

In the world of disease surveillance and control, there are events that are of interest to the entire world population. An event of public health interest is an event that could potentially cause a pandemic. So, the interesting thing is that if we control these kinds of events we are decreasing the risk that they will be transmitted to the entire world population. It's up to us to do surveillance and control to avoid the spreading [of these diseases]. Leishmaniasis is part of those events of public health interest. So, since it is an event of public health interest, the state has an obligation to supply the medicine, let's say, to prevent this type of disease expansion.

Alicia also told me that this terminology came from the International Health Regulations (IHR), which constitutes the legal framework that has governed infectious diseases globally since 2005.<sup>78</sup> Whereas the 1969 version of the IHR was concerned with a few concrete diseases (cholera, plague, and yellow fever) (Fidler and Gostin 2006; WHO 2009), the current 2005 IHR focuses on “the much more broadly conceived notion of *events* that may constitute a public health emergency of international concern” (French and Mykhalovskiy 2013, 178, emphasis in the original). According to Alicia, leishmaniasis was one among other diseases and health conditions considered events of public health interest in Colombia. “So are tuberculosis, leprosy, malaria, all those communicable diseases for which notification to the national public health surveillance system is mandatory,” she said (see also MinSalud 1998; INS 2019). Thus, for various diseases and medical conditions so defined, MinSalud assumes the responsibility for purchasing and distributing the drugs.

She also told me that leishmaniasis and tuberculosis (TB) were comparable in terms of the risks associated with the toxicity of the pharmaceuticals and the necessity to ensure treatment adherence to avoid the emergence of drug resistance. Thus, in Alicia's view, the second reason explaining Glucantime's restricted circulation was the fact that this drug was highly toxic, which forced health authorities to take strict precautions regarding the distribution and administration of this pharmaceutical, as well as for drugs against TB. Those precautions are not necessary in the case of malaria, she said, because the medicine to treat this disease is oral and nontoxic.

For these cases [leishmaniasis and TB], we [MinSalud] provide the medications, but the idea is to supervise the treatment strictly. This need for supervision forces

the medications to be delivered only to those institutions able to guarantee that the patient will adhere to the treatment and that the treatment will be followed up.

Thus, for Alicia, the ways in which legal Glucantime ampoules circulate are not that different from those of similarly toxic drugs employed for other events of public health interest like TB. In these two cases, she considered it necessary to monitor the movement and administration of the medicines in order to ensure their safe and responsible use, under strict conditions of medical supervision and treatment adherence. These conditions, she said, unfortunately could not be guaranteed in all places, which for her also explained why the drugs were not available everywhere.

Interestingly, in conversations I had with an anthropologist, a public health official and a biomedical scientist who were working on TB, they all confirmed that TB drugs are also exclusively purchased by MinSalud. However, MinSalud continuously delivers these medicines via Departmental and Municipal Health Secretariats to clinics and hospitals (IPSs), which means that these healthcare facilities have permanent stocks of TB medicines. They also agreed that, in the case of TB, this type of state control has resulted in better treatment access, adherence, and supervision. In Valle del Cauca (a *departemento* in southwestern Colombia), for example, the Departmental Secretariat and the Municipal Secretariats work in a coordinated manner with healthcare facilities so that TB patients have consistent access to TB medicines. In the city of Medellín, shortages rarely occur, and various clinics work with a network of *pares comunitarios* [community peers] who bring the medicine to patients on motorcycles and supervise the treatment.

The situation for leishmaniasis is radically different. As I mentioned, hospitals and clinics never have Glucantime stocks.<sup>79</sup> Moreover, the state restrictive control over this drug has not translated into better access to treatment but quite the opposite. As previously explained, the therapeutic itinerary (Augé and Herzlich 1983) that a leishmaniasis sufferer is expected to follow to be diagnosed and treated against leishmaniasis is a major ordeal, full of pitfalls and contingencies that can easily and frequently go wrong. In addition, there is no community support in rural areas to improve healthcare access or treatment adherence.

While discussing this, Alicia brought up a third reason for the limited access to Glucantime: the risk that groups outside the law steal or appropriate the drug by force. For her and other MinSalud public officers I interviewed, this risk, which results from guerrillas' and other armed actors' need for antileishmanial treatments, plays an important role in explaining the unavailability of the drug:

The Ministry of Health acquires the medicine and delivers it to the Departmental Health Secretariats. Although we have been telling Departmental Secretariats to *desconcentrar* [decentralize] the drug to the health provider network [healthcare facilities] since 2013, they are not doing it. Instead, they keep distributing it according to the demand. Why do they do that? Because of the armed conflict. The provider network does not accept to have a stock [of Glucantime] because this drug is usually stolen. Armed groups show up and steal it or threaten them [health workers] to get the medicine. So, in order to avoid these problems, they prefer the medicine to be kept by the Departmental Health Secretariats and, according to the demand, they request them [the specific number of ampoules needed]. But that is a gigantic barrier for the population to have access to the drug.

Thus, for Alicia, another explanation for Glucantime's inaccessibility is related to "security conditions, not in relation to the *seguridad* [safety]<sup>80</sup> of the drug as such, but the security of the drug as a public good that can be stolen." Since this drug is considered a public good desired by enemies of the state, it becomes necessary to protect it and keep it as far away from their criminal hands as possible.

The story of Marcela Parra is very illustrative in this regard. She is a bacteriologist who has led for more than fifteen years the vector-borne disease division within a Departmental Health Secretariat. While leishmaniasis is endemic to Marcela's area of influence, she told me that her work is mainly focused on malaria—a disease that takes priority for being more prevalent than leishmaniasis and potentially deadly. While malaria treatments circulate and are always available in that part of the country, even in remote and dispersed rural zones, Glucantime ampoules are carefully stockpiled in the building where Marcela works. This restricted mobility of Glucantime ampoules was established because "guerrillas used to steal the medicine," she said. Marcela told me that, in the early 2000s, such a thing happened in the hospital of one of the largest municipalities under her responsibility. "They [guerrillas] came to the hospital pharmacy and took all the medicine," she said. For that reason, Marcela and her colleagues decided that they would concentrate all Glucantime in the Departmental Secretariat facility and dispense the exact number of



ampoules required for each patient only after receiving a microscope slide where parasites were visible. That measure, however, was not entirely effective.

Still, and I'm going to be honest with you, there was more than one attempt [of armed actors] to demand the medication here [at that particular Departmental Secretariat]. However, I never consented to do that. I always asked them to please not do that. I told them this: 'I don't care if you tell me your real name or not, or if you make up your ID number. I'm only interested in having your smear taken, confirming that you're positive, measuring your weight and, if you can, have your lab tests results. Otherwise, I can't give you that medication, please be understanding.'

In this way, Marcela skillfully managed to convince armed actors not to take the medication by force on several occasions. However, at one point, a colleague of hers who had recently been hired and had no experience handling such matters did give Glucantime ampoules to guerrillas. "She told me she had been pressured," Marcela said with regret. After that, every time one of those unwanted visits arrived, Marcela handled the situation personally. In this way, she managed to make such episodes less and less frequent.

Now, let's come back to Alicia's explanations. Each of the rationales that Alicia exposed were based on arguments of a different nature. On the one hand, there is a regulatory argument at work, which develops from health multilateral organizations' terminology and mandates that the Colombian state is supposed to comply with in order to avoid the international spread of the disease. For health authorities, the definition of leishmaniasis as an *event of public health interest* explains why MinSalud is the only entity authorized and in charge of buying all the Glucantime ampoules and distributing them via state health institutions—as in the case of malaria, TB, leprosy, and other health conditions. On the other hand, there is a medico-scientific argument that lays emphasis on Glucantime's toxicity as the reason why it would be irresponsible from the state not to treat leishmaniasis patients under medically supervised and clinically contained conditions—as in the case of TB. Remarkably, these two arguments are not exclusive to leishmaniasis. Thus, they are not that helpful to justify the particularities of Glucantime's limited access. Furthermore, when comparing the conditions of treatment access in the case of leishmaniasis, TB, and malaria, it is clear that none of these two arguments explain why the barriers for leishmaniasis patients have become almost insurmountable. Malaria and TB are also defined as events of public health interest, but the pharmaceuticals employed to treat

these diseases are accessible. Moreover, TB therapy is as toxic as Glucantime and also demands the careful supervision of medical personnel. This, however, has not made it impossible for TB patients to access the drugs.

The last of Alicia's arguments, however, is specific to leishmaniasis. It explains that security imperatives imposed by the war and the armed actors' need for Glucantime are the reasons behind the unavailability of this drug where it is most needed. According to it, healthcare institutions that should diagnose, report, and treat leishmaniasis patients are in a difficult situation because they are supposed to provide the medicine, while at the same time preventing guerrillas and other armed actors from getting hold of it. In consequence, the drug is hardly available for those who need it, be it guerrillas, paramilitaries, or civilians. By putting war logics and imperatives before the need to solve a public health problem, health authorities in Colombia have *if not encouraged at least tolerated* and accepted the establishment of multiple access barriers around Glucantime. While public health interests and medical concerns retain an important place in state decisions to treat leishmaniasis patients, war constitutes a key element in the therapeutic management of the disease in Colombia.

Although public health and war seem to be state concerns of a different nature, the restrictions applied to Glucantime show how these two aspects are co-produced (Jasanoff 2004) and result deeply *enmarañados* in the context of a long-standing and pervasive war. Contrary to the opinion of Alicia and other public health public officials, I have documented that a complex Glucantime control scheme fabricated through a variety of discourses, practices, and expertises is precisely what has been put in place throughout years of armed conflict. While the establishment of all these barriers has prevented "undeserving insurgents" from appropriating the drug—forcing them out of the *selva* and making them more vulnerable to detentions—it has also resulted in the systematic and systemic exclusion of rural citizens affected by leishmaniasis. In other words, the victims of this restrictive control are not only those whom the state openly defines as its enemies. The victims are all those whose daily lives are entangled with the *selva* and who inhabit territories devastated by conflict, disease, and inequality.

The pattern of Glucantime (un)availability in Colombia is largely defined by public health concerns, medical precautions related to the drug's toxicity, and war logics of inclusion and exclusion, inherited from many years of violence and devastation. This co-production process between wartime social orders and pharmaceutical regimes is what I call the *pharmaceuticalization of war*. On the one hand, this conceptual resource is useful to highlight the incorporation of a pharmaceutical into war practices, strategies, and logics. On the other hand, it also indicates that exclusion through Glucantime's control scheme does not work at random, but follows a long-standing pattern that divides people in rural areas of the country between state allies and state enemies (see Jimeno 2001).

At this point, it is important to reiterate that this type of social fragmentation is highly ambiguous in the context of a guerrilla warfare, where civilians are not easily set apart from those who belong to armed organizations (Wickham-Crowley 1992). Thus, while guerrillas have been the main target of Glucantime's restrictions, they are not the main victims. Guerrillas, after all, have been powerful actors in rural Colombia and, as I will continue documenting here, members of these organizations have managed to access the drug despite the restrictions imposed by state health authorities. As it is often the case with armed conflicts and especially with the Colombian one, civilians living in the midst of the war have been the main victims of all sorts of violence (CNMH 2013a). Likewise, Glucantime's control scheme has primarily affected rural populations who struggle to survive despite the constant presence of armed actors violently disputing territorial control and civilian support. The harmful effects of Glucantime unavailability on civilians, however, should not be understood as a "collateral damage" of a sophisticated war strategy deployed through a pharmaceutical. As the major historical memory report produced in Colombia puts it

For decades, the victims were ignored behind the legitimizing discourses of war, vaguely recognized under the generic label of the civilian population or, even worse, under the pejorative descriptor of 'collateral damage.' From this perspective, victims were considered a residual effect of the war and not the core of war regulations (CNMH 2013a, 14).

In endemic areas for leishmaniasis, the restricted circulation of Glucantime has reproduced a war order that is concerned with state enemies, as well as with civilians who are

frequently understood as an extension of guerrillas. In war zones, paramilitary groups and the Public Force have systematically employed expressions such as “guerrillas’ collaborators” or “guerrillas’ social bases” to justify violence against civilians (CNMH 2013a, 38). Thus, the damage caused by the pharmaceuticalization of war also incorporates these logics through which violence, although indiscriminate, can always be justified by sowing doubts about the “real” affiliations of civilians in rural Colombia and the “real” motivations behind their actions. The stigma that characterizes leishmaniasis in Colombia serves this purpose well, as it opens the way for people affected by the “guerrilla disease” to be treated like guerrillas: state enemies deserving nothing but violence.

### **Privileged access to Glucantime**

While the access to Glucantime for civilians has not been simple at all, the situation for the Public Force has been radically different, particularly in the last two decades. In Colombia, the military population shows the highest incidence of leishmaniasis and is considered “the most vulnerable group, due to the continuous deployment of troops to areas of high endemicity and high circulation of the insect vector” (Patino et al. 2017, 2). As I will discuss in more detail in the following chapter, this became particularly prominent in the mid-2000s, when the intensification of the armed conflict in these areas was reflected in a drastic increase in the number of people affected by leishmaniasis, particularly within the military (DGSM 2010; Ejército Nacional 2005). Between 2005 and 2008, 56.1% of the reported leishmaniasis cases occurred among members of the Army (López et al. 2012).<sup>81</sup> To respond to this critical situation, the Army created a Leishmaniasis Program and established a specialized clinical facility to treat soldiers specifically affected by the disease (see Cruz 2016; Rico Mendoza 2016). Since then, soldiers who come out of the *selva* with skin lesions receive diagnosis and 20 days of Glucantime treatment (28 days in the case of mucosal leishmaniasis) under medical supervision. Needless to repeat, civilians affected by leishmaniasis do not enjoy the same specialized care, medical attention, access to diagnosis and medication, and follow-up after treatment completion. This unequal access to medical care is not unique to leishmaniasis. As Emily Cohen (2015) has noted, a similar pattern is observed in the case of landmine victims and their access to surgical amputation and rehabilitation—while soldiers receive the best medical care available in Colombia, civilians do not (see also CNMH and Fundación Prolongar 2017).

Since soldiers constitute a population whose health status has been extremely relevant for the state's war purposes, they have been treated in a very different way compared to civilians. Although at least half of the people affected by leishmaniasis are not military, as far as medical care for this disease is concerned, soldiers represent a highly privileged population in Colombia. This is especially evident in the asymmetry of Glucantime allocation between the Army and civilians. According to a MinSalud public servant, even though soldiers of the Army used to account for half of the leishmaniasis cases reported to SIVIGILA in Colombia during the mid-2000s, "of every six [leishmaniasis] patients, five medications were [allocated to] the Army and one to the civilian population." As a result of the peace process and the decrease in leishmaniasis cases within the Army, the distribution of Glucantime has recently changed. "Now we have the greatest amount of medication in the Departmental Secretariats, and the rest is in the Army," explained the same MinSalud bureaucrat.

However, the imbalance in the distribution of Glucantime ampoules between civilians and soldiers during the harshest years of the armed conflict had important effects on how the war entanglements of leishmaniasis and this pharmaceutical have been understood and experienced. In Colombia, as I previously mentioned, it is common to hear not only that the treatment for leishmaniasis is exclusively controlled by the state, but also that it is specifically controlled by the Army. This responds to the fact that many people in rural areas of Colombia where leishmaniasis is prevalent have not been able to access Glucantime at healthcare facilities, but some have achieved it when they have turned to members of the Army. While it is illegal for the Army or any other state force to provide Glucantime to people who are not members of these institutions, a MinSalud officer admitted this has occurred and explained it to me like this: "As people knew that the [military] dispensary had the drug, then obviously the regular population [civilians] used to go to the Army officers for them to provide the medicine." Even though this is not the "orthodox" or legal way for civilians to access Glucantime, the fact is that the military—like the guerrillas—have been (more than) occasional providers of the drug.

Although the Army—and other state armed forces— does not have in its possession and under its control the totality of the Glucantime vials that enter Colombia, it has

historically received much more medication than the civilian population, and soldiers have had virtually full access to diagnosis and treatment since the mid-2000s. In the eyes of the civilian population and guerrilla organizations, this inequitable and unbalanced distribution of Glucantime is interpreted as a state, specifically military, control of the drug.

While the “universal” distribution of antileishmanial drugs is discursively assumed as a state responsibility towards its citizens, Glucantime has been remade into a biopolitical instrument of war to segregate populations and define who enjoys citizen status and who does not. In the context of war that prevails in Colombia, unequal access to this pharmaceutical has drawn a boundary dividing state friends from state enemies, a division that makes it possible, in practice, to extirpate the universalist rhetoric of the right to health. As a result, soldiers are considered bearers of therapeutic rights, while other leishmaniasis-affected bodies are labeled as either guerrillas or possible guerrillas’ collaborators. Therefore, they are treated as illegitimate populations that can be excluded from access to treatment regardless of whether they are truly guerrillas or not.

STS and medical anthropology scholars have paid attention to instances in which biological or biomedical conditions provide the basis for people to make right claims, develop a sense of belonging, gain political recognition, and have the possibility of accessing health care, resources and some form of social inclusion—ultimately, to acquire a biologically oriented citizenship. Adriana Petryna (2004) and Nikolas Rose and Carlos Novas (2005) have developed the concept of *biological citizenship* to describe how bodily conditions of suffering are made into resources to claim access to some form of welfare in the context of neoliberal reforms. In particular, Vinh-Kim Nguyen (2010) has explored how antiretroviral therapy (ART) initially became accessible for people living with HIV in Francophone West Africa in the late 1990s. He coined the term *therapeutic citizenship* to draw attention to “the way in which individuals living with HIV appropriate ART as a set of rights and responsibilities” (Nguyen et al. 2007, 34). Through the production of testimonials about being HIV+, much along the lines of Western self-help and empowerment narratives, individuals were able not only to access pharmaceuticals but also to fashion themselves in ways that provided new opportunities to gain resources and become part of valuable social networks. Thus, therapeutic citizenship is about practices of

self-fashioning and political claims of belonging to communities that enable access to pharmaceuticals. But, in the context of drug scarcity, therapeutic citizenship is also about deciding who would benefit from the limited supply of ARTs that HIV/AIDS groups were receiving from donors. Claiming access to therapeutic and other benefits based on biomedical criteria presupposes a process that defines who can bear those rights and who is excluded from this aspiration. Nguyen named *social triage* the practices employed by these groups to “separate those who would receive treatment and live from those who would not” (2010, 89). The concept of triage, he explained, “was initially developed in wartime, as a way to use scarce treatment resources most rationally; those most likely to live are prioritized to receive care, whereas those whose prognosis is poor are left to die” (Nguyen et al. 2007, 33). Similarly, communities of people living with HIV selected the most charismatic people from among the sick, those who shared the most compelling testimonies. They reasoned that these people were better equipped than others to become the best advocates to secure more drug donations and increase resources for the group. It was assumed that by helping them getting drugs into their bodies, “they would be able to help others more than those who remained passive” (Nguyen 2010, 99).

As I have shown, a similar “machinery for sorting people out” (Nguyen 2010, 13) is at work in the unequal access to antileishmanial drugs in Colombia. In this case, a therapeutic citizenship has emerged by defining who deserves protection from the state in terms of pharmaceutical care and who does not. However, the social triage that operates here does not necessarily respond to the shortage of drugs and the need to use them rationally, as in the case of ART access in west Africa. Instead, the separation between included and excluded is based on war calculations that redraw social fault-lines deeply rooted in Colombia’s conflict history. The state benefits from the fact that soldiers have privileged access to the Glucantime. Likewise, guerrillas with no access to this drug are favorable to the state’s war project. What is at stake is not the application of a utilitarian principle that sacrifices some lives to save many others, as in the case of Nguyen, but the elimination of a diffuse and elusive enemy, whatever the cost may be. The pharmaceuticalization of war that takes place in the case of Colombian leishmaniasis is a clear example of the inclusion/exclusion practices that underlie any definition of

citizenship. The recognition of citizenship rights always starts from demarcating a boundary between those who bear the status of citizen and those who do not.

### **Extra-legal paths**

One day in November 2016, Sergeant Rodríguez picked me up in his car at 4 am at a gas station outside Duitama (Boyacá). After a drowsy 4-hour drive, we arrived at the Health Office of the Colombian Army (DISAN), located in a central area of Bogotá. The closest building to the entrance was a storehouse where several boxes of medicines, vaccines, and medical supplies were messily stored in up-to-the-ceiling shelves. Rodríguez gave the sergeant in charge of the storehouse the documents where the head of the Leishmaniasis Recovery Center (CRL), an Army major, had authorized Rodríguez “to pick up 5000 ampoules of meglumine antimoniate (Glucantime) to treat soldiers diagnosed with leishmaniasis in the Leishmaniasis Recovery Center [CRL].” After showing his military ID and signing several papers, Rodríguez received six cardboard boxes and ten additional loose Glucantime packages to complete 5000 ampoules. According to the documents Rodríguez gave to the sergeant, MinSalud had paid 12,280,900 Colombian pesos in total (about USD 4,000), that is, 2,456.18 pesos per ampoule (about USD 0.8).<sup>82</sup> Later that day, we drove back to Duitama with that precious cargo in the trunk.



Two days later, I accompanied Rodríguez to the storehouse where the medical supplies of both the Silva Plazas Battalion dispensary and the CRL were stored, as well as the Glucantime boxes we had picked up in Bogota. These boxes were stacked next to a metal shelf whose lower shelves were occupied by clusters of Glucantime packages carefully arranged by Rodríguez. While each cluster contained 1-8 Glucantime packages,



**Figure 5.5** Personal stocks of Glucantime ampoules for each of the soldiers under treatment at the CRL.

each package contained 10 Glucantime ampoules. The first package of each cluster was open and a hand-written surname could be read on the upper flap: “Leal,” “Guzmán,” “Navarro,” “Martínez,” “García,” etc. Those were the surnames of the 53 soldiers who were under treatment for leishmaniasis in the CRL at the time. Rodríguez had assigned a Glucantime cluster to each of them (Fig. 5.5).

Rodríguez asked me to help him gather the ampoules that would be employed for the treatment of those 53 soldier-patients that day and the day after. He handed me a form and asked me to read out loud the surname of each soldier, the number of ampoules that each soldier needed per day (either 3 or 4, depending on his weight), and the number of ampoules that should remain in that soldier’s personal stock. We started one by one. Filling a fabric bag with the right numbers of Glucantime ampoules took us more than an hour. Near the end of that process, two Glucantime vials accidentally broke, and Rodríguez put them in the trash bin. Rodríguez followed the same rigorous and laborious procedure every two days. In the end, he gave the soldier in charge of the storehouse some documents Rodríguez had received from CRL’s administrative staff, showing the exact number of ampoules he was removing from the main stock on that day. The soldier had Rodríguez

signing a couple of documents and registered the information using a computer. Finally, we carried the bag to the CRL, located a couple of hundred meters away.

Given the severe controls over Glucantime within the military, backed by a rigorous accountability system that relies on meticulous paperwork taking place at the DISAN, the Silva Plazas Battalion, and the CRL, I felt as if we were carrying gold or money from one place to another. I wondered how it was even thinkable to divert ampoules through corrupt paths to sell them to guerrilla organizations or others who traded the drug

on the black market. I discussed this with several people at the CRL. While most admitted that such “unwanted losses” of ampoules from Army stocks often occurred, many said that was the reason why strict procedures were in place to monitor Glucantime’s movement within the Army closely. When I asked if these measures actually worked, I regularly obtained ambiguous replies. Finally, an Army member said the following: “Every process has its hole, its void, and if someone wants to steal Glucantime, I assure you it can be done.” “But how?” I asked incredulous, remembering the way in which the stock of each individual soldier is controlled.

Daily doses of Glucantime are calculated according to the weight of the patient in milliliters, not in ampoule number (Fig. 5.6). Not all patients require exactly three (15 ml) or four (20ml) ampoules. More often, the dose is 14,5ml (almost three ampoules for a 59 kg patient), 16ml (three ampoules and a bit for a 65 kg patient), or 19ml (almost four ampoules for a 77 kg patient), for example. When several men are treated one after the other, like in the Army, remnants can and should always be used. Otherwise, valuable drug would simply go wasted. Thus, on any given day at the CRL, the number of ampoules actually injected to the group of soldiers under treatment never corresponds to the addition of ampoules daily injected to each soldier-patient on paper—always three or four. “At what



**Figure 5.6** Glucantime ampoule. Each one contains 5 ml of the drug.

point does the number of ampoules injected coincide with the exact number of ampoules prescribed?” I asked one of the CRL nursing assistants. “Only when we have one single patient, which is never going to happen,” she replied.

A single patient daily requiring 16.5 ml of Glucantime, for instance, would be treated with four ampoules (20 ml). Thus, 3.5 ml would be thrown away. However, if there are two patients under treatment, those 3.5 remaining milliliters would not be discarded but used to treat—to complete the dose of—the second patient. After treating a couple more patients, there will be a whole unopen ampoule that was not used. And that ampoule might end up circulating in an extra-legal path filling the permanent demand of guerrillas, paramilitaries, or civilians somewhere in rural areas of the country. Moreover, Glucantime is vialled within small glass containers. And glass can break. When someone is handling hundreds of ampoules to treat dozens of soldier-patients in a row daily, Glucantime vials are likely to break, and as I mentioned, they do break. Handling large numbers of soldiers is what allows better patient care at the CRL. The entire CRL staff—physicians, nurses, and nursing and administrative assistants—handle a broad diversity of leishmaniasis cases and, thanks to that, gain unparalleled experience with the disease (see Chapter 6). Also, the control and surveillance of soldier-patients at the CRL cannot be found anywhere else, not even in other medical facilities of the Army where leishmaniasis is also treated. However, dealing with a large volume of patients makes it impossible to predict or verify what actually happens with fragile and fluid Glucantime employed in the massive therapeutic procedure taking place in military health facilities every single day of the year. In other words, there is always a way to justify that more ampoules broke or were used than the number that actually fell by accident or was injected into soldiers. That is how Glucantime can leak out of the Army.

Ironically, the Army is one of the most common Glucantime suppliers to the black market that has been running throughout decades of war in Colombia, meeting the demand of guerrillas and other armed groups. Public servants in state health institutions who have direct access to the drug have also been involved in these extra-legal circuits (see Guarnizo Alvarez 2010). Besides these corruption networks,<sup>83</sup> Glucantime also enters Colombia

through smugglers who somehow manage to bring in ampoules from neighboring countries<sup>84</sup> and find customers in the Colombian rurality.

Destabilizing the support networks of guerrilla organizations, as well as cutting their supply lines, have been warfare strategies commonly employed by the Army and the Police in Colombia. Glucantime has been part of those disputed goods that guerrillas need to have and the Public Force seeks to seize. According to a 2006 cable released by WikiLeaks, leishmaniasis was known to “take a heavier toll on the FARC . . . who live full-time in jungle camps, and whose medicine supply lines are long (cross-border) and can be disrupted by COLMIL [the Colombian military] action” (US Embassy in Colombia 2006b). On several occasions, members of the Public Force confiscated hundreds of Glucantime ampoules that were found when members of the FARC were detained, when people from this guerrilla organization decided to desert, or when hideouts from paramilitary or guerrilla groups were found.<sup>85</sup> Also, the news has often reported on seizures of Glucantime by the Army or the Police that were allegedly intended for guerrilla groups, even in neighboring countries such as Venezuela and Brazil.<sup>86</sup>

In Colinas, I had the opportunity to ask a member of the FARC Secretariat,<sup>87</sup> a seasoned guerrilla member with almost forty years inside the organization, how they historically managed to access the treatment.

“We had to buy the ampoules ourselves, it’s like that”, he replied.

“And who sells them?” I asked.

“Black market sellers.”

“Do they come by and offer it to you, or what is it like?”

“No, it’s more like selling weapons: ‘hey, brother, aren’t you able to get some Glucantime?’ ‘Yes, yes, of course’ ‘How much do you get it for?’ ‘7, 8, 9, 10,000 pesos’”

“And the price changes according to what?”

“According to the need and *la cara del marrano* [the one who’s asking],” he said, giggling. “Some of those degenerates could charge up to 15,000 pesos.”

“Per ampoule?”

“Yes”

For this FARC leader, Glucantime’s black market worked like the illegal trade of other hard-to-obtain goods that are valuable in the context of the war, like weaponry. The limited access to Glucantime for non-military populations has transformed this drug into an object of immense value. Since it is a coveted object, Glucantime’s price in rural areas of

Colombia not only gets inflated but also fluctuates according to the availability and the person who needs it. Money can be made out of the continuing demand for this pharmaceutical, and prices have increased from the scarce supply and the restrictions applied to the circulation of Glucantime beyond state institutions. While MinSalud used to pay 2,456.18 pesos (about USD 0.8) per ampoule in 2016, black market prices have ranged from 3,000 - 4,000 in the 1990s, to 7,000 - 15,000 pesos in more recent years. Some FARC (ex)combatants even mentioned prices of 27,000 pesos per ampoule, and a mid-rank guerrilla (ex)commander told me that corrupt militaries standardized the price at 12,000 pesos (see also Guarnizo Alvarez 2010).

Interestingly, in addition to being a valuable commodity traded on the black market, Glucantime has also been used as an object of deception. For example, demanding Glucantime ampoules is a common modality of criminal extortion in Colombia that has been reported many times in the news.<sup>88</sup> Since Glucantime is a scarce good, sought after especially by guerrillas, criminals requested it to their victims for them to think they were being extorted by guerrilla groups. Once they were frightened enough and had faced the impossibility of obtaining Glucantime, victims were more likely to accept giving money to criminals.

Not only unwary civilians but also guerrilla groups have fallen prey to Glucantime scams. Although, as I said, corrupted military typically charged 12,000 pesos for each vial, there was a moment when the FARC were offered to get them for 10,000. Excited about the deal, FARC commanders purchased large quantities of the drug. However, when they saw that the ampoules were reaching their camps without much trouble, they started to get suspicious. After a while, ‘El Mono Jojoy’—a member of the FARC Secretariat and commander of the Eastern Block from 1990 until his death in 2010— realized that the ampoules did not contain Glucantime and forbade continuing buying them. “It was *suero*, pure saline solution what we were getting injected,” said Francisco, the FARC mid-rank commander who shared this story with me. Indeed, ‘El Mono Jojoy’ found out that a group of active members of the military had established a factory of fake Glucantime and were profusely profiting from the fraud. “Episodes like that have been part of the war,” Francisco concluded.<sup>89</sup>

## Conclusion

The legal and extralegal circulation paths of Glucantime that I have highlighted in this Chapter define some of the intricate and unbreakable entanglements between the material qualities of this drug and the complex phenomenon of warfare. I have shown that Glucantime ampoules are at the center of a biopolitical warfare strategy, implemented through a control scheme that relies on public health institutions, discourses, actors, and regulations. The legal and extralegal circuits through which Glucantime circulates in Colombia have been delineated by the armed conflict. Otherwise put, war logics have crucially delimited and differentiated the possibilities of access that populations of civilians, soldiers, and armed actors have to this medication. They have established who is to be considered a legitimate leishmaniasis sufferer deserving healthcare, and who is to be stigmatized as a state enemy against whom violence is justified. In other words, the regime of included allies and excluded enemies that operates through Glucantime evidences “the infiltration of biopower by sovereign power” that Didier Fassin (2008, 164) and Giorgio Agamben (1998) identified as a tragic characteristic of our times. It is a clear example that war scenarios offer favorable conditions for the right to kill and the control of life to converge. The way in which this drug has colonized, leaked, and dissolved into that everyday reality of exclusion and violence is what I have come to call the pharmaceuticalization of war. Through this process, Glucantime overflows its therapeutic boundaries and turns into a valuable war instrument that co-produces wartime social orders and pharmaceutical regimes. The patterns of inclusion and exclusion that Glucantime follows and reproduces constitute a very powerful expression of the ways in which pharmaceuticals can become implicated in the definition of citizenship in a context of armed conflict. The circuits through which Glucantime moves are also illustrative of the corrosiveness of war, of its capacity to invade every sociocultural corner of society, including spaces and actors in seemingly aseptic areas such as medicine and public health.

In Colinas, while we were contemplating a water stream and some monkeys jumping from tree to tree several meters above our heads, Francisco and I talked about what it would take to disentangle leishmaniasis and war. “It is still necessary that, as a result of the peace process, the veto against the medicine that cures leishmaniasis is lifted, it should not be restricted anymore,” he said. “That is something that was not discussed in Havana,”

added another FARC commander who was overhearing our conversation. For Glucantime to be no longer an instrument of war, it is absolutely necessary that the bureaucracies and regulations limiting the access to this medicine drastically change to effectively bring leishmaniasis therapy to the people that need it, where they need it. But it is also important that the disentanglement of leishmaniasis and the war is not reduced to a problem of access to drugs. Differently put, if we think that the *enmarañamiento* of war and leishmaniasis can be solved with a pharmaceutical solution, we are falling into a very similar trap. Trusting blindly in pharmaceutical technologies and their pharmaceutical regimes does not fix but may perpetuate the problem. It leaves the stigmatization of leishmaniasis sufferers untouched and unaltered. Moreover, it leaves unchallenged the systemic and historical use of a potentially deadly pharmaceutical to deal with a non-deadly disease that can actually be treated in alternative ways. Putting justice as the central goal to achieve peace means we strive not only to eliminate leishmaniasis therapy access barriers but also to guarantee the full provision of healthcare to all rural populations in Colombia. It implies that, while embracing our ambivalent desires towards drugs and the state (Camargo and Ojeda 2017), we hold pharmaceutical regimes and health authorities accountable so that they avoid contributing to the reproduction of violence and the indefinite postponement of peace.

## Chapter Six:

### Leishmaniasis within the Colombian Army



**Figure 6.1** Leishmaniasis Recovery Center (CRL) within the Silva Plazas Battalion in Duitama, Boyacá.

It was 7:30 a.m. on a cold and foggy morning in the military Leishmaniasis Recovery Center (CRL) (Figure 6.1). Like any other day around that time, all soldier-patients with leishmaniasis stood in formation in the front yard. Facing them, behind a lectern, the Major who led this military clinical facility made some announcements and received the morning report of the three patients with the highest military rank—three lieutenants with leishmaniasis. During their own treatment and recovery, these officers were in charge of one of the three companies (groups of about 30 men) making up the “CRL battalion.” Although the CRL was not officially a battalion, the Major would explain to me later, men under treatment were divided into companies A, B, and C to facilitate their disciplinary control. While the Major was not requested to have a medical background in order to be the head of this clinical facility, training in military sciences and substantial experience as a commander were considered a must. His job, he told me, was to maintain discipline not only for military men undergoing leishmaniasis treatment but also for the CRL staff, formed by one officer, six sub-officers, and twelve civilians. In his view, this was particularly important when working with non-military employees. If civilian personnel



was left unchecked, he said, they tended to be too “*folclóricos*” [behave in a relaxed manner].

The Major read aloud four lists of surnames that were prepared the afternoon before by one of the CRL nurses. First, soldiers who had to undergo laboratory tests that day, either because they were going to start, because they were in the middle, or because they had finished their Glucantime treatment. Second, soldiers who were scheduled to see one of the three general practitioners that day. Third, soldiers who had to initiate their 20-day treatment on that day. Lastly, soldiers whose body had shown visible signs of Glucantime intolerance and whose treatment was temporarily suspended. The Major then ordered that those soldiers who were in the observation period (approximately 25 days after finishing the treatment) had to stay in the front yard for their scarring process to be evaluated right there, in the cold, by the Major himself, the head military doctor, and one of the military nursing assistants. Without any guarantee of privacy, soldiers were told to uncover and show their leishmaniasis lesions to them. Many had to undress to do so partially. While making harsh jokes and humiliating comments about the soldiers’ appearance and the aspect of their leishmaniasis ulcers, this military-medical group decided who was ready to leave the CRL and return to his respective military unit because his lesion(s) had satisfactorily healed. Meanwhile, the rest of the soldiers were dispatched to the Vital Signs Room, where their weight and heart rate were measured daily and recorded on paper to monitor the weight loss and possible heart problems generated by Glucantime.

“Garcíaaaaa!” shouted Marisol with a martial tone coming from the room next to the Vital Signs Room. She was one of three nursing assistants in the Injection Room that day. García opened the door and entered. He was the first soldier of the injection session where two Glucantime injections would be administered to 70 servicemen.<sup>90</sup> Carolina, the chief nurse, was preparing the drug doses according to the on-the-day-measured weight of each soldier.<sup>91</sup> She left pairs of syringes on the record format of each soldier and lined them up



**Figure 6.2** Pairs of syringes filled with Glucantime.

along an empty stretcher (Figure 6.2). Marisol took the two syringes corresponding to García and placed them before the eyes of the soldier, above a rectangular box of stainless steel resting on the stretcher's cushion (Figure 6.3). She disinfected both buttocks with a cotton ball soaked in alcohol and, after identifying a not-that-sore spot with the tip of her fingers, she injected the medication slowly, deep into the muscle. García's face blushed as he bit the sleeve of his sweatshirt trying to stand the pain. Marisol injected the content of the second syringe. Finally, after one or two very distressful minutes, García gave a deep sigh, pulled up his pants, and stood up grimacing and making gestures and sounds that expressed pain and discomfort. He rubbed his buttocks with both hands and, clutching at the leg of the stretcher, he squatted a couple of times. García still needed to undergo 7 out of 20 days of injection treatment. He signed the notebook where Marisol had to register all the procedures she performed. Then, he thanked her unenthusiastically and left the room.

In a span of roughly two hours, this process was repeated in the bodies of 70 young men serving in the military. In the end, a bin covered with red plastic and filled with hundreds of empty Glucantime ampoules was bearing witness to the mass treatment and intoxication that had taken place there (Figure 6.4). The same procedure is conducted at the CRL every single day of the year under a rigorous system of inscription, data collection, and accountability the Army has carefully established.



**Figure 6.3** A soldier looking anxiously at the injections that were about to be administered to him.

The CRL is an exceptional place from every point of view. Most likely, there is no other comparable medical infrastructure in the world, designed solely and exclusively to treat cutaneous leishmaniasis on a massive scale in a highly specific male population. This military facility relies on a clinical standard to organize the daily administration of Glucantime



**Figure 6.4** A trash can full of empty Glucantime ampoules after a single day of treatment at CRL.

in dozens of soldiers, according to a “Taylorist” logic of mass treatment. The medical and disciplinary procedures that I described above, followed with military rigor, are nowhere else to be found. Not even in other clinical facilities of the Colombian Army where leishmaniasis is also treated. These include practicing several laboratory tests and EKGs before, during and after the treatment; the highly organized administration of Glucantime systemically; curative practices that help the lesion to scar; physiotherapy in order to alleviate the swelling in the buttocks and reduce the accumulation of Glucantime in the muscle fibers that result from dozens of injections applied over the course of several days. Why was this specialized clinical facility created? When did the Colombian Army decide to establish such a particular infrastructure, and how does it work?

In this chapter, I explore the context in which leishmaniasis was made into a strategic, security problem for the Army in the state war against guerrillas. I pay attention to the measures adopted by this institution when it became clear that maintaining the state military force largely depended on healing leishmaniasis lesions to restore the fighting capacity of soldiers effectively. On the one hand, this institution appropriated the regulations and technological tools the Ministry of Health had made available to tackle this overwhelming problem. On the other hand, the Army relied on the establishment of an unparalleled infrastructure and the development of innovative and unique health practices that resulted from the necessity to help soldiers endure Glucantime treatment and achieve lesion scarring as quickly as possible. I show that at a moment of the Colombian conflict

when manpower was at a premium because of the detrimental effect caused by leishmaniasis, keeping human resources available for the war turned into a military mission assigned to medical and military personnel in charge of treating leishmaniasis within the Army. I argue that, in the mid-2000s, warfare strategies and technoscience engaged in an intense process of co-production (Jasanoff 2004) where pharmaceuticals, infrastructures, healthcare practices, and a clinical practice standard became instrumental for war's continuation. Since then, leishmaniasis rehabilitation became integral to military medicine in Colombia for its capacity to bring soldiers back to duty rather than back to health.

Co-production (Jasanoff 2004) here is helpful to make sense of the simultaneous and co-constitutive development of war and technoscience to perpetuate the state's fight against guerrilla organizations. In particular, the extensive use of antileishmanial drugs and the appropriation of a clinical practice standard by the Army to put soldiers back to the frontline of combat is a reminder that technologies "are thoroughly enmeshed in society, as integral components of social order" (Jasanoff 2015, 2). This chapter elucidates how these technological objects have been part of the material, social, and moral landscapes of warfare in Colombia.

So far, the reader may have the misleading impression that Army soldiers are the only ones that come out well after leishmaniasis. As the only group that becomes infected with the disease in the "heroic act" of running after the state's enemies, servicemen are guaranteed state protection in terms of access to pharmaceutical treatment and medically supervised recovery. However, as I have previously stated, the *maraña* formed by leishmaniasis and the armed conflict is much more complicated than a problem of access to medicines. The soldier's experience of leishmaniasis, marked by Glucantime's superabundance and overflowing toxicity, is remarkably telling in this regard. While people in rural Colombia endure violence when denied access to Glucantime, Army soldiers are also subjected to violence when the only alternative that biomedicine and public health choose to offer is highly toxic drugs to treat a disease that is not even deadly. In the last section of this chapter, I attempt to describe the wear and tear these men fear and experience while going through antileishmanial therapy, not once but several times during their military lives. For this, I take inspiration from Denielle Elliott's (2014) ethnographic

writing to create a composite character I have named Velandia. Velandia is not “real” “in the sense that [he] represent[s] one specific person, yet, no details have been ‘invented’ or made up in the traditional sense of fictional writing” (Elliott 2014, 156n1). Velandia is based on a handful of members of the military, including professional soldiers and subofficers who I met at the CRL while they were being treated against leishmaniasis, waiting for their lesions to scar, or recovering from Glucantime therapy. Velandia is a montage that allows me to highlight that thousands of Army members in Colombia—young men from low-income and commonly rural families, who usually join the Army out of necessity—have silently passed through repetitive cycles of body intoxication and deterioration due to a relatively minor and non-life-threatening disease called leishmaniasis. The composite nature of Velandia draws attention to the drama that this illness signifies for multiple people, for a large sector of the Colombian population that, while serving and working for the Army, has suffered the known and unknown consequences of antileishmanial treatments across many years of war. By drawing attention to the gradual attrition of the bodies of soldiers under treatment, Velandia allows me to show that war’s pharmaceuticalization produces violence not only through the deprivations but also through the excesses it generates.

Importantly, the story of Velandia also points out that, despite these and other abuses and mistreatments related to soldiering, for many young people from marginalized sectors of society, the Army remains a very attractive and nearly unique option in Colombia. Joining this institution guarantees labor stability, provides the tranquility of having a legal job, prevents recruitment by guerrilla and paramilitary groups, and offers the possibility of retiring at an early age if you manage to stay alive twenty years in the institution. Moreover, the Army also allows them to build family-like bonds among soldiers, a deeply felt camaraderie, and a sense of belonging that is rarely found outside the military (Carmona Lozano 2016; Forero Angel 2017; Nieto 2019).

### **A note on soldiers of the Colombian Army**

In line with a long history of conflict, Colombia has the second-largest armed forces in Latin America after Brazil (IISS 2019). Nonetheless, the relation between the size of the armed forces and the population is very different in these two countries. Colombia has 48

million people, less than a quarter of the Brazilian population. However, while Brazil has 16 members of the armed forces for every 10,000 inhabitants, Colombia has 61 (IISS 2019). Internal security remains a priority for the Colombian Army, even after the signing of the peace accords. In particular, counter-insurgency and counter-narcotics operations continue to be the main focus of military action.

The Colombian law establishes that every Colombian man is obliged to approach the Army and “define his military situation” from the moment he reaches the legal age of 18.<sup>92</sup> For those declared *aptos* [fit],<sup>93</sup> “the government may establish different modalities to meet the obligation of compulsory military service” (Ejército Nacional 2019b). Young men who finalized secondary school enlist as *soldados bachilleres* [secondary school graduate soldiers] for 12 months.<sup>94</sup> Those who did not go to school, which is often the case in the Colombian rurality, were until very recently recruited as *soldados regulares* [regular soldiers] for a longer period of military service lasting between 18 and 24 months. Because this policy mainly discriminated against rural youth who were not guaranteed the right to education, the Constitutional Court established in February 2020 that compulsory military service must last 12 months, regardless of whether the person is a high school graduate or not (J. Rodríguez 2020).

If *soldados regulares* and *soldados bachilleres* manage to stay alive and “successfully” complete their period of compulsory military service, they receive a reservist card, better known in Colombia as the *libreta militar*. This document proves that a man older than 18 “defined his military situation.” Young men who belong to families that can pay for the *libreta* to avoid the military service—a payment the Army calls “the military compensation quota”—usually do so.<sup>95</sup> Low-income families, however, are generally unable to afford it, especially before the Recruitment Law introduced some reforms to this process in 2017. Their children are regularly the ones who end up in the war, swelling the ranks of the Army. The *libreta* has worked as a second identification for young men in Colombia. Until the end of 2014, it remained a requirement for them to graduate from any university (RCN 2014). Even today, the *libreta* is necessary to work in the public sector and some companies, and it functions as a protective document against forced recruitment in military raids (locally known as *batidas*), which young people still fear and experience

despite their prohibition in 2011 (El Espectador 2019b; El Tiempo 2013). Although the situation has improved in recent years thanks to courageous civil society initiatives<sup>96</sup> (see Herrera Durán, 2015), as well as laws and rulings passed during the peace negotiations in Havana, forced Army recruitment continues affecting several young men (Defensoría del Pueblo 2014). Moreover, it continues exacerbating the structural conditions of inequality that lead the poorest to be the workforce and cannon fodder of the Colombian armed conflict (see Serrano, 2017).

Besides *soldados regulares* and *soldados bachilleres*, the lowest ranks of the Army are made up of so-called *soldados profesionales* [professional soldiers]. In 2000, the Army established the Training School for Professional Soldiers (ESPRO) with the purpose of having better-trained soldiers and increasing the recruitment of young men by offering more attractive working conditions. While the number of *soldados bachilleres* in the Army has substantially decreased since that year, the number of professional soldiers went from 40,918 in 2000 to 75,144 in 2006 (Avila 2019, 288). Today, professional soldiers represent the vast majority of the men on the front line. The ESPRO recruits men between the ages of 18 and 24 who have finalized their mandatory military service and wish to work for the Army as professional soldiers. They have to pay a fee (about 175 US dollars) to join the ESPRO and complete sixteen weeks of training (ESPRO 2019, 2019). As of January 22, 2019, this military school had trained 86,107 people (ESPRO 2019). A professional soldier receives a net monthly salary of nearly 400 US dollars.

Since 1976, both men and women are part of the Colombian Army. However, until 2009, military women could only occupy low-profile administrative positions, and no command or combat responsibilities were assigned to them. While this situation started to change in 2011, when 48 women became officers with the rank of *subtenientes* [second lieutenants] (Ejército Nacional 2013), the Army remains a strongly male-dominated institution. In April 2018, it was announced that for the first time in history a woman would be part of the front line of combat (Ejército Nacional 2018). Apart from her, the first line is made up exclusively by men, and male officers disproportionately dominate power and command positions within the Army.

So far, I have used the word “soldier” as a broad term to refer to male members of the Army. Although I will keep employing this terminology in that general way, especially in this and the next chapter, I need to do some clarifications at this point. Leishmaniasis is a disease that only affects troops in forward areas—in the *selva*, in locations the military name “*el área de operaciones*” [the operations area] or “*el área*.” This indicates, first, that there are no female Army members with leishmaniasis, which explains why the words “he,” “men,” “servicemen,” and “manpower” abound in this story about war and leishmaniasis. Second, high-ranking officers (*mayores*, *coroneles* and *generales*) are never present in the operations area.<sup>97</sup> Thus, those with the disease are exclusively men who occupy the lowest ranks of the Army (*regular*, *bachiller* and *profesional* soldiers), and the sub-officers (*cabos* and *sargentos*) and low-ranking officers (*subtenientes*, *tenientes* and *capitanes*) who work as their commanders. For representing the majority of military personnel in the operations area, soldiers—especially professional soldiers—constitute the group most frequently affected by the disease. For instance, in 2016, soldiers amounted to 90.7% of all leishmaniasis cases treated at the CRL, and 80.8% of them were professional soldiers. In contrast, sub-officers and officers represented only 8% and 1.4%, respectively. Thus, my recurrent employment of the word “soldier” also denotes and emphasizes that these men, who are in the lower tier of the military hierarchy and at the bottom of the social pyramid both inside and outside the Army, are predominantly affected by leishmaniasis.

### **Leishmaniasis and the state war against guerrillas**

After graduating from high school in the late 1990s, Major Saúl Chacón joined the Cadet Military School. In 2002, he began his military career as a platoon commander in the north of the country. A year and a half later, he was transferred to a *batallón de contraguerrilla* [counterinsurgency battalion] located in northwestern Colombia, an area heavily affected by the armed conflict. Although the work was extremely exhausting and dangerous in this part of the country, Major Chacón told me those were his best years in the Army. “I experienced the best moments of camaraderie. A very strong camaraderie is formed among the personnel because you go through so many intense situations. The people I met at that time are still my friends to this day,” he said to me smiling. Leishmaniasis, he recalled, was one of the many difficulties he had to face there for the first time. While discussing what this disease represented for members of the Army, he explained the following to me:



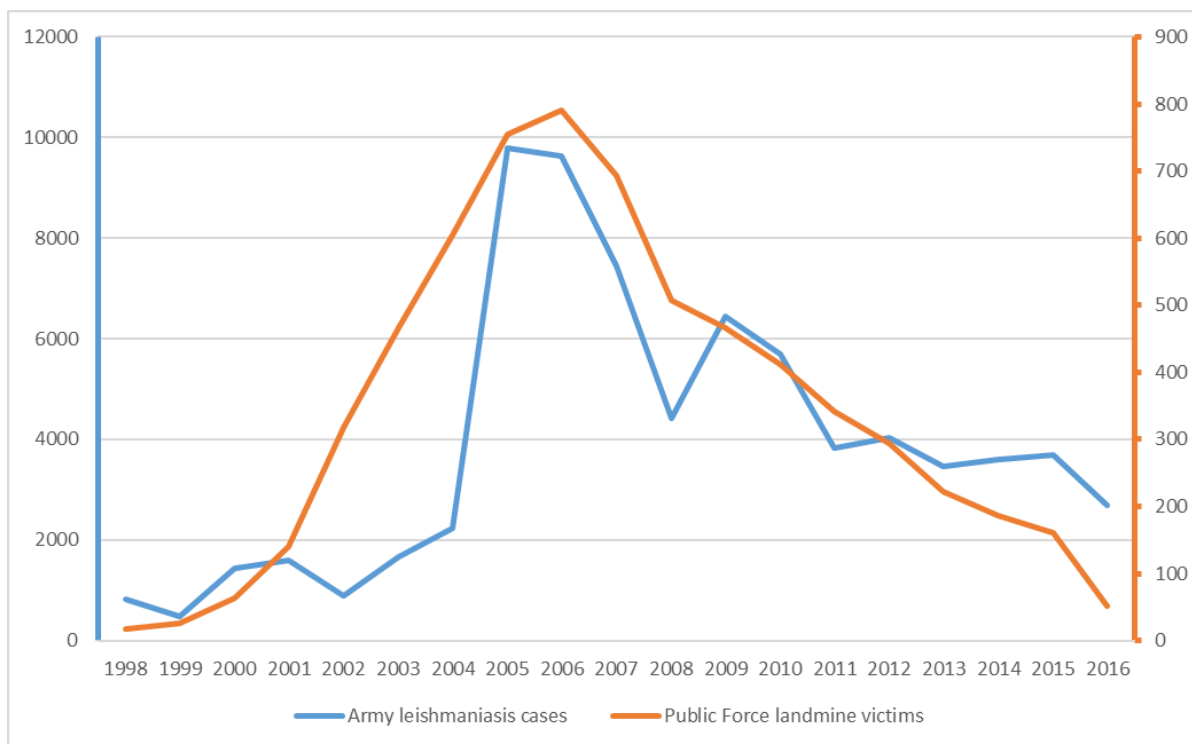
As a military man, you knew you were going to be affected by leishmaniasis—at some point it's going to be your turn. In some places, it's so frequent that it's like getting a cold. I mean, if you didn't get leishmaniasis [in those areas], you weren't there. If your body wasn't marked somewhere [by leishmaniasis], you weren't there.

Although leishmaniasis has historically affected all sorts of people whose daily lives develop in close relation to the *selva*, its prevalence among Army members has been particularly high. This is the vector-borne disease that affects soldiers the most, well above dengue, malaria, chikungunya, Zika, yellow fever, and Chagas disease (Ministerio de Defensa et al. 2017). The military constitutes one of the most vulnerable populations to leishmaniasis and has shown the highest incidence rate in Colombia (Patino et al. 2017). In fact, leishmaniasis is a disease inherent to soldiering, part of the vicissitudes of the military role in Colombia, a mark of military belonging. It is unusual that a male member of the Army has not suffered from this disease at least once and gone through one or more leishmaniasis treatments while serving for the institution.

As I mentioned earlier, with Alvaro Uribe's Defense and Democratic Security Policy (PSD) soldier recruitment increased by 31.6% (Leal Buitrago 2011), and the military approach drastically changed from a defensive into an offensive strategy. The Plan Patriota, launched in 2004 as a crucial element of the PSD, was a two-phased military plan that received financial support from the United States and sought to expand military state presence towards areas where guerrilla organizations were traditionally dominant. The PSD, but especially the Plan Patriota, represented an unprecedented change in terms of military strategy and war scale. While the first phase of this plan focused on regaining full control of the areas surrounding the capital city, Bogotá, the second one sought to recover the territorial domination that guerrilla groups had in rural areas of the southern part of the country (Semana, 2006; Ruiz, 2004). Thus, soldiers were forced to enter the *selva* in large numbers and stayed there for several months to maintain an almost permanent military harassment and persecution of guerrillas, especially the FARC. Guerrilla organizations responded with the massive use of antipersonnel landmines, causing an average of 764 mortal (20%) and non-mortal (80%) victims every year between 2000 and 2010, most of them (68%) within the Public Force.<sup>98</sup>

At that point, landmines but also leishmaniasis became critical obstacles in the state war against guerrillas. As Major Chacón told me, at that time, in certain areas of the country such as Urabá,<sup>99</sup> members of the military had “two options, either leaving with incomplete legs [due to landmines] or leaving with the mark of leishmaniasis . . . If you were in Urabá it was certain you were going to get leishmaniasis.” Yet, while the impact of landmines in this period is well characterized and acknowledged (see CNMH and Fundación Prolongar, 2017), much less awareness exists and little is known about the harms and effects caused by leishmaniasis and its pharmaceutical treatment during the most acute years of the war.<sup>100</sup>

As I mentioned in Chapter 3, between 2003 and 2006, the largest leishmaniasis outbreak documented in Colombia took place in Chaparral, Tolima. In the mid-2000s, newspaper articles reported the unusual rise of leishmaniasis cases and pinpointed as the main cause of this phenomenon the increase in the number of state combatants entering high-risk areas for the transmission of the disease (see El Tiempo, 2004a, 2006; Quintero, 2005). Indeed, leishmaniasis became the main cause of soldier removal from combat. Furthermore, the success of the Plan Patriota was repeatedly questioned given the high number of casualties<sup>101</sup> in the Army, not as a result of combat injuries, but from other



**Figure 6.5** Leishmaniasis cases within the Army (blue) and landmine mortal and non-mortal victims within the Public Force (orange).

causes such as leishmaniasis (see El Tiempo, 2004b, 2004c; Leal Buitrago, 2006). In 2005, when the Army had 178,000 active members (IISS 2005), landmines and leishmaniasis were the leading causes of men's withdrawal from military duties, leaving nearly 10,000 transitional casualties in a year, many more than those provoked by the armed confrontation itself (Bedoya Lima 2006b, 2006a; El Tiempo 2005; US Embassy in Colombia 2006a). In fact, the years 2005 and 2006 represent the peaks for both leishmaniasis cases and landmines victims among the Public Force (see Fig. 6.5).<sup>102</sup> There were 755 and 790 victims of landmines in 2005 and 2006 respectively in the Public Force, and 9,800 and 9,623 cases of leishmaniasis respectively within the Army.<sup>103</sup> Thus, in that period, the disease affected 5.5% of the Army each year. These were men who were not in the front line of combat where they were expected to be, but in military clinical facilities receiving treatment and waiting for their ulcers to heal (see US Embassy in Colombia 2006b). Despite the fact that the annual incidence of leishmaniasis among servicemen gradually decreased in the years after 2006, it returned to be comparable to that of 2004 (2,241 cases) only until 2016 (2,699 cases) when the peace deal with the FARC was reached.

In the mid-2000s, the situation caused by landmines and leishmaniasis was so critical that the Army was forced to adopt drastic measures to tackle both issues. Landmines were addressed with dogs. However, as I will discuss in Chapter 7, dogs also became affected by leishmaniasis, further complicating the ravages caused by this disease in the military.

Several scholars have highlighted the critical importance of insect vectors and the diseases they transmit in shaping political and historical events in major ways. In particular, the role of mosquitoes in the transmission of potentially lethal diseases such as malaria and yellow fever has been pivotal in wars such as the American Civil War, the Cuban independence from Spain, and World War II (A. M. Bell 2010; Espinosa 2009; Slater 2009). As Timothy Winegard wrote, “[m]ercenary mosquitoes mustered armies of pestilence and stalked battlefields across the globe, often deciding the outcome of game-changing wars” (2019, 4). The case of leishmaniasis and the Colombian armed conflict is of great interest because, unlike these cases, leishmaniasis is not deadly, and the vector is not the all-too-familiar mosquito. Studying it reveals how non-lethal diseases transmitted by vectors other than mosquitoes can also have a decisive influence on the course of war and other events of political, social, and historical importance.

What kind of problem has leishmaniasis represented for the Army? First, leishmaniasis has constituted a significant financial burden for the state, in general, and the Army, in particular. Keeping a man out of combat is costly. It is also expensive to get him out of the *selva* because the usual way out is by helicopter. The costs associated with the diagnosis, treatment, and medical follow-up are also high, as well as returning a recovered soldier to his military unit and then to the operations area. As Timothy Winegard crudely reminds us, “a sick soldier is more taxing to the military machine than a dead one. Not only do they need to be replaced but they also continue to consume valuable resources” (Winegard 2019, 4). In the Army, leishmaniasis is regarded as an *enfermedad profesional* [occupational disease], which means that the circumstances under which a member of the military acquires the disease occur “in the service, for cause and reason thereof.”<sup>104</sup> Considering leishmaniasis an occupational disease acknowledges that it derives from the labor performed by military personnel while on duty, making the Army health subsystem

responsible for all the leishmaniasis-related health care services required by a member of the military (see DGSM, 2008). According to a CRL staff member, a soldier staying at the CRL represents approximately COP 110,000 (about USD 35) per day for the Army. “That person stops working for at least three months. However, we must continue paying him his salary, food, health, accommodation. Then, this represents a detriment for the Army,” said an Army Colonel physician to me. Additionally, the Army pays economic compensations to its members for acquired disabilities and diminution in work capacity. In the case of leishmaniasis, as I will later explain in more detail (Chapter 7), the Army compensates both for the scars and for some of the sequelae associated with the treatment. Given the high prevalence of the disease in the Army, these compensations also imply high charges for the institution.

Despite being the less expensive pharmaceutical for treating leishmaniasis, Glucantime ampoules are also relatively costly. Even though the Army does take responsibility for the medical care of its members with leishmaniasis, it is important to highlight that, while leishmaniasis is recognized by the military as an occupational illness, it is not the Ministry of Defense but the Ministry of Health that has paid for the antileishmanial medicines used to treat all members of the Army. In other words, the budgetary state allocation for health and not for defense has been paying for the drugs to treat a disease soldiers acquire while on duty—while “defending the nation,” as the military like to say. Between 1997 and 2017, the Ministry of Health has spent more than 17 million USD in Glucantime ampoules, many of which were allocated to the Army.<sup>105</sup> While the ampoule price significantly decreased in 2010, when Colombia started acquiring the drug through the PAHO Strategic Fund,<sup>106</sup> purchasing Glucantime has represented a considerable expense for the state, and a substantial profit for Sanofi.

Secondly, but more importantly, leishmaniasis has been made into a security concern and a strategic problem in the state war against guerrillas. In the mid-2000s, when large numbers of soldiers penetrated the *selva* and stayed there for months seeking to diminish and corner guerrillas, leishmaniasis affected troops in massive proportions, forcing commanders to remove men from operation areas regularly. Thus, leishmaniasis put at risk the Army’s performance and its ability to maintain territorial control over zones

whose dominion had been fought and achieved. Camilo Bernal explained this situation to me. He became an Army officer in the early 2000s. This means that he joined the institution during the period of greatest intensity of the armed conflict and was permanently deployed to forward areas—in the *selva*—until 2008. He told me he had been very lucky to come out of those military operations alive and without having lost any limb to anti-personnel mines. Recalling the change in military strategy that resulted from Uribe's Defense and Democratic Security Policy (PSD), and how leishmaniasis was experienced in the Army at that time, Camilo told me the following:

One thing is to go [to the *selva*], look for the guerrillas, and go back. Another thing is to go and stay there, make presence. At that moment [mid-2000s], the disease affected the [military] force a lot. For example, let's say you were going to deploy a battalion of 240 men in a certain area. Two months later you had 180 men, four months later you had 50 men. You didn't have a battalion anymore. Then, leishmaniasis becomes a problem, even a security problem because you can't maintain [presence] and you have to move back, take people out. You lose what you had gained, you lose the territorial position. More than a common disease . . . leishmaniasis, for us, became a problem at the strategic level because it affected us so much that the strength capacity of the Army decreased. I mean, [military] units were diminished, completely segregated due to leishmaniasis.

At that moment, leishmaniasis stopped being just a marginal health issue for the military. Instead, it was made into a strategic and security problem. During that crucial period of the Colombian war, the Army rapidly realized that maintaining the state military force largely depended on healing leishmaniasis lesions to restore the fighting capacity of soldiers effectively. Thus, military medicine, particularly the pharmacological treatment of leishmaniasis, became decisive for the management of manpower resources in Colombia. Actually, leishmaniasis is the only disease for which the Army has created a specialized clinical facility dedicated exclusively to the medical management of soldier-patients affected by it. Moreover, at the most important unit of medical care and rehabilitation for the soldiers of the Colombian Army, the Military Health Battalion (BASAN) located in Bogota, leishmaniasis is the only disease that designates and groups one of the five *compañías* (military units) that make up the battalion. In fact, the remaining four companies (orthopedics, internal medicine, amputations, and a special company of orthopedics and amputations) do not carry the name of any particular disease (see Carmona Lozano, 2016), which highlights the weight and prominence leishmaniasis has acquired for the Army.

In his analysis of the links among HIV/AIDS, war, and security, Fernando Serrano-Amaya (2013) discusses that, in the late 1990s and early 2000s, this infectious disease was redefined as a central security concern at the national, regional and international levels, especially in relation to sub-Saharan African countries experiencing internal conflicts. Understanding securitization as “a speech act by which an issue is constructed as a matter of security” (2013, 316), Serrano-Amaya argues that framing HIV/AIDS as a top-down, state-centered security concern led to the widespread but unexamined assumption that armed conflict causes the propagation of this disease. Moreover, “the securitization of HIV/AIDS incorporated a logic of ‘threat-defense’ to the management of the epidemic” that focused the attention and response on the military while neglecting the vulnerabilities of the civilian population to the disease (2013, 319). Some scholars questioned whether the alleged causal relationship between war and HIV/AIDS was valid. They concluded that assuming causality was misleading. They argued that it was necessary to study HIV/AIDS at the local rather than the national or supranational level to understand the type of relationship between war and this disease, as well as the actual vulnerability of the military population in each particular context (de Waal 2010). Importantly, feminist scholars challenged the causal explanation by paying attention to the everyday experiences of women in contexts of war and situating the analysis of HIV risk and vulnerability (O’Manique 2005). In various instances, they found that “sexual violence by men—men armed with weapons and with masculinized arrogance and often ethnic and racial content—against women and girls” was a much more reliable explanation to the spread of the virus and other sexually-transmitted diseases (Enloe 2016, 32). They also showed that, under the security framework, HIV/AIDS was primarily seen as a threat to the nation-state. Insofar as the disease represented a threat to army members and military operations, the notion of security led to giving priority to treatment and prevention programs aimed at preserving the health of the soldier, his combat capability, and national defense (Serrano-Amaya 2013; O’Manique 2005).

Although there has been no official discourse on leishmaniasis as a security problem in Colombia, this chapter shows that, in practice, the military was given priority in the state’s response to the increase in the national incidence of leishmaniasis since the mid-2000s. Experiencing leishmaniasis as an obstacle to the development of military operations

that put the achievements of the PSD at risk, the response was limited to members of the Army. Similar to the “securitization” of HIV/AIDS, the “securitization” of leishmaniasis was reflected in the implementation of prevention, diagnosis and treatment strategies in the military sphere, none of which were expanded to the civilian population, let alone the insurgent population that remained hidden in the *selva*.

To deal with the acute human resources crisis caused by leishmaniasis, the pharmaceutical management of this disease turned into a key part of rehabilitative practices within the Army and an indispensable element for the state war against guerrilla organizations. Leishmaniasis healthcare became institutionally subordinated to the war apparatus. This development is part of a longer trend in state power, which became particularly conspicuous since Europe’s colonial expansion in the early 19th century (Worboys 2003). Protecting troops and administrators from the diseases of colonized territories became a major challenge and a primary objective of the colonial mission. Thus, at the end of the 19th century, colonial medicine was established through institutions dedicated to studying so-called “tropical diseases,” the training of medical personnel in the emerging specialty of tropical medicine and hygiene, and the development of technologies to protect the military and other populations whose health was key for the advancement of the colonial project. While the use of quinine against malaria was crucial to the European colonization of Africa (Curtin 1989) and the triumph of the Union in the American Civil War (A. M. Bell 2010), the development of chloroquine was equally significant in the Second World War, protecting millions of U.S. Army members from the debilitating and potentially fatal effect of this disease (Slater 2009). As I mentioned earlier, before the outbreak of World War II, France used to buy antileishmanial drugs from Germany. Thus, the development of Glucantime resulted from the lack of antileishmanial treatments among Allied soldiers in the context of the war. Glucantime, as I will continue explaining, has also played a decisive part in the management of human resources for the state war against guerrilla organizations in Colombia.

The central role acquired by the medical and especially pharmaceutical management of leishmaniasis in the Colombian Army also resembles the significance that rehabilitation and the specialty of orthopedics gained during the First World War, especially in Germany



(Linker 2011; Perry 2014). In a comparative historical work, Anderson and Perry (2014) argue that unlike Great Britain, Germany had no Dominions or colonies to replace the wounded in the Great War. Thus, “the military turned to the nation’s orthopaedists and demanded that they speed up and maximize further the recovery and service potential of Germany’s severely wounded soldiers” (2014, 241). German rehabilitation during WWI aimed to reduce manpower shortage by returning disabled soldiers to the field of battle. Similarly, since the mid-2000s, leishmaniasis rehabilitation became integral to military medicine in Colombia for its capacity to bring soldiers back to the front. Thus, keeping human resources available for the war turned into a military mission assigned to medical and military personnel in charge of treating and healing leishmaniasis within the Army.

Anthropologists have also drawn attention to the contemporary use of pharmaceuticals within the military to maintain operational readiness in war. For instance, Jocelyn Lim Chua (2018) has studied the prescription of psychiatric drugs among deployed members of the US Army, which has become an increasingly common and accepted practice since the mid-2000s (see also Gray 2015; Howell 2011). According to her, the fact that the so-called “Global War on Terror” has relied on an entirely voluntary force has led to the psychopharmaceutical management of limited human resources to maintain preparedness for war and accelerate return to combat. Importantly, Chua pays attention to the movement of psychoactive medicines into combat settings and how these drugs’ actions and side effects change when war and militarized settings provide the therapeutic context in which they are consumed and prescribed. In this environment, Chua argues, medications are strategically employed not to restore health to the soldier’s body, but to recover it barely to the point where s/he is able to continue fighting. Drug treatment allows soldiers to be brought back to the same conditions of suffering, violence, and death that made them sick in the first place. The use of these technologies results in “a perversion of the therapeutic value of drugs [that] highlights the tensions of medicalized efforts to keep soldiers healthy and alive in and for war” (Chua 2018, 23).

As Chua points out, the delivery of pharmaceuticals into military bodies are useful to think through the exceptional biopolitical condition of the soldier. In his ethnography of the daily lives of soldiers involved in war-making at one of the largest military posts in the

US, Kenneth MacLeish (2013) carefully explores the ways in which the status and bodily experience of the soldier are exceptional. He writes that the soldier is unique because he is allowed the power to kill, but is also systematically exposed to harm and the possibility of death. As such, he is both the instrument and the object of state violence. Moreover, “he is the subject of extensive measures to protect and maintain life, to keep him alive and able to continue working, fighting, and killing effectively, a biopolitical subject not merely kept from dying but also made to live” (K. MacLeish 2015, 15–16). By understanding the soldier’s body as the most basic material of war—the crucial piece in whose absence war simply does not happen—MacLeish recognizes that when a soldier’s body is deemed incapable of recovery, it is discarded and rapidly replaced. In his words, “the body’s unruly matter is war’s most necessary and most necessarily expendable raw material” (K. MacLeish 2013, 11). Thus, rather than bringing a soldier back to health, the purpose of health under military jurisdiction is putting that soldier back to the labors of war as long as it remains useful for that purpose.

Drawing inspiration on this body of scholarship, in what follows, I show how leishmaniasis healthcare within the Colombian Army is shaped in a way that primarily responds to the manpower needs of the military rather than to the medical needs of the soldier with leishmaniasis. By looking into the institutional management of this disease, I document the conditions under which the Army decided to establish a clinical infrastructure devoted exclusively to leishmaniasis. I also draw attention to the role that pharmaceuticals, a clinical practice guideline, and novel health care practices have played in recovering soldier bodies to bring them back to the operations area—to the very same conditions that made them sick in the first place. I explore what happens to these technologies when they are deployed within a military setting and asked to maintain the Army’s combat capability under a permanent state of war.

### **The pharmaceuticalization of war within the Army**

As I have explained, leishmaniasis state governance in Colombia is pharmaceuticalized and centered on Glucantime. Otherwise put, the public health strategy for leishmaniasis is almost entirely based on pharmaceuticals, and those who manage to have access to leishmaniasis diagnosis and treatment in Colombia are ordinarily injected with Glucantime.

Likewise, the Army has seen in this drug a technology capable of solving the manpower shortage this disease has produced for the state's belligerent mission. Therefore, an essential aspect of the *pharmaceuticalization of the war* has been the massive employment of Glucantime within the Army and how all the institutional management of the military personnel affected by the disease revolves around this medicine. The interplay between war and pharmaceutical regimes crystalizes in the Army's appropriation of Glucantime therapeutics to solve the human resources crisis produced by leishmaniasis.

Even in the years previous to the mid-2000s crisis caused by leishmaniasis, the Army's response to the disease was already centered on Glucantime. However, at that moment, it could take several weeks for a soldier diagnosed with leishmaniasis to obtain the drug. Additionally, the treatment was not medically supervised, and laboratory tests were not performed to monitor the health condition of the soldier-patient during the therapeutic process. The doses of Glucantime were not necessarily those recommended by health professionals, and servicemen would rarely use all the ampoules indicated—once they observed that the lesion had healed, they interrupted the treatment. Moreover, the administration of Glucantime often took place in the operation areas, in the *selva*, without any medical assistance beyond what a soldier trained as a combat nurse could provide. In short, the management of leishmaniasis within the Army was not regulated or standardized by any protocol, and Glucantime circulated more freely among its members. Persistence of skin ulcers despite Glucantime treatment, medical complications (e.g., infection at the injection site, hepatitis, nephritis, cardiotoxicity), and the death of several soldiers resulted from a lack of regulations for leishmaniasis treatment. Also, the Glucantime ampoules allocated by MinSalud to the Army were more easily stolen by corrupt militaries to supply the need of people suffering from the disease outside the Army, such as members of guerrillas and other armed groups.

Faced with this critical situation, the Army Health Office (*Dirección de Sanidad Militar* or DISAN) determined that soldiers with the disease had to evacuate the operations area and move to any of the few military hospitals and clinical facilities where the administration of Glucantime started to be regulated according to the MinSalud clinical practice guideline (CPG). Also, to prevent theft, measures to tightly control the movement

of the ampoules within the Army were taken. The CPG, first created in 2000 and updated in 2010 and 2018, has been used by the Army to institutionalize, systematize and enforce a leishmaniasis therapeutic approach based on the massive administration of Glucantime at a dose of 20 mg/kg per day for 20 consecutive days.<sup>107</sup> This appropriation and implementation of the CPG in a few military clinical facilities by the mid-2000s is what the Army calls the institutional Leishmaniasis Program.

In addition, the Army also introduced multiple measures to prevent the disease among troops deployed in *selva* areas. The DISAN started running leishmaniasis health campaigns so that servicemen, despite their obligatory long-term exposure to the vector, would become active in the prevention of the disease. They were ordered to keep their bodies permanently covered with the uniform—sleeves and pants never rolled up. Likewise, a contingency plan was implemented for the military use of mosquito nets, uniforms impregnated with an insecticide called Permethrin, and repellents (PECET and Fuerzas Militares de Colombia 2005, 38). Not any repellent would do the job since it was important that it was odorless to prevent troops from being detected by guerrillas. Thus, the use of unscented repellents based on DEET (diethyltoluamide), such as Nopikex® and Ultrathon™, became mandatory for deployed servicemen.<sup>108</sup> According to classified cables released by WikiLeaks, in 2005, “budget limitations and distribution problems [were] making it hard for the [Colombian] military to obtain [antileishmanial] drugs in sufficient quantities” (US Embassy in Colombia 2005b). Thus, the Colombian government sought assistance from the US government to fund the costs associated with the increasing need for Glucantime within the Army (US Embassy in Colombia 2005a). However, the U.S. could not provide any financial assistance for that purpose because, at that moment, no drug for leishmaniasis had been approved by the US Food and Drug Administration (FDA).<sup>109</sup> In its place, the United States government provided 500,000 USD to the Colombian Army to purchase insect repellents such as DEET and Permethrin (US Embassy in Colombia 2005c).

One of the most significant measures taken by the Army to address the high incidence of this disease among soldiers was the creation of an unparalleled clinical infrastructure for the massive administration of Glucantime according to the procedures

established by MinSalud's clinical practice guideline. The Leishmaniasis Recovery Center (CRL) is a military healthcare facility within the Silva Plazas Battalion, a cavalry military unit with many stables and paddocks located four hours away from Bogota. It is embedded in a bucolic landscape with green meadows and surrounding mountains. With an average temperature of 14°C throughout the year, the climate in

this locality is quite cold compared to the warm, humid and forested areas where soldiers fight guerrillas and are bitten by leishmaniasis-transmitting sandflies. The environmental conditions at the CRL help speed up the healing process. They also exclude sandflies and thus prevent transmission between infected and uninfected people (Medina 2007b, 2007a). In addition to this, the decision to build the CRL in this place also responded to the presence, in 2005, of one of the few military dermatologists at the No.1 Tarqui Artillery Battalion, in Sogamoso, less than an hour away from the Silva Plazas Battalion.<sup>110</sup> Overwhelmed by the enormous number of soldiers with leishmaniasis who were being referred to him—mostly from the *selva* areas where the second phase of the Plan Patriota was taking place—this dermatologist asked the then Army Commander, General Mario Montoya, to establish accommodations and a healthcare facility to treat them. Space was available for such a project at the Silva Plazas Battalion. While it was being built, the CRL worked temporarily in the Tarqui battalion. In 2008, it was officially inaugurated at its current location (Fig. 6.6).

In the Army's view, the CRL epitomizes the medical surveillance conditions necessary to minimize the risks associated with non-rigorous medical practice in dealing with leishmaniasis and the toxicity of Glucantime. Consequently, for many members of the military the institutional leishmaniasis program, and the CRL in particular, is a source of



**Figure 6.6** Carved stone slab commemorating the inauguration of the CRL in 2008. It reads that the “National Center for the Rehabilitation of Leishmaniasis” was established “taking into account the welfare and recovery of the men who professionally make sacrifices for the peace of our country, being physically affected by this disease.”

pride, especially for warranting constant availability of Glucantime and the strict medical control of soldier-patients before, during, and after the treatment. In fact, members of the Army, some scientists, and government representatives consider the CRL to be a positive legacy of the war and an exemplary model for others in Colombia and internationally.

We educated Army officers and patients, and we managed to set up a patient management program that, at this time, is a model worldwide. What the Army has is a beauty for how patients are treated—treatment under medical observation following very strict protocols.

These were the words of Doris Mazuera, an experienced scientist who leads a university research team focused on the eco-epidemiological study of vector-borne diseases,



**Figure 6.7** Military nursing assistant shining the CRL flagpole.

particularly leishmaniasis. In various occasions, Doris and her colleagues have had the opportunity to conduct clinical trials and studies on leishmaniasis involving military patients. Also, in multiple instances, her team has advised the Army in the control and management of the disease, including the establishment of the Army Leishmaniasis Program and the medical procedures followed at the CRL.

As I described at the beginning of this Chapter, at the CRL the treatment of leishmaniasis with Glucantime is a carefully designed process under constant medical supervision, carried out by a group of doctors, nurses, and nursing assistants dedicated entirely to the clinical management of this disease. Additionally, only at the CRL soldier-patients are confined to barracks, exempt from physical and labor activities, and dedicated exclusively to their treatment, medical follow-up, and recovery. “Atypical” was the word that Andrea González used to describe what she witnessed at the CRL. She is one of Doris’ colleagues, and as I mentioned in the opening story of this dissertation, she has coordinated multiple clinical studies on leishmaniasis that have involved the participation of Army members. Except for soldiers of the Colombian Army, no one in Colombia—and probably

nowhere else in the world—has access to a place exclusively dedicated to leishmaniasis, where the administration of Glucantime takes place under the unparalleled conditions found at the CRL. And, I argue, no one outside the military institution will ever have access to such a therapeutic experience. Why? Because it is the exceptional conditions of the military regime that allow for “the unrestrained exercise of medical authority” (Cooter 1990, 152). This is especially evident when we look closer at the particular way in which the CPG has been appropriated by the Army, which is the focus of the next subsection.

### ***A clinical practice guideline turned into a military protocol***

Over the past three decades, evidence-based medicine (EBM) has come to dominate medical discourse and practice on a global scale. Under the premise that the best medical care is one that is supported by the review and application of the best available scientific evidence, EBM has promoted the continuous production of clinical practice guidelines and other medical standards to guide the everyday work of clinicians. However, the widespread adoption of EBM has given rise to intense debate. Advocates have defended EBM as a rational and therefore superior approach to medicine whose legitimacy rests on the assumption that scientific evidence is universal and that science is superior to other epistemic practices and forms of knowledge. Under this perspective, standards are “deemed laudatory; they are something one aspires to live up to” (Timmermans and Epstein 2010, 71). In contrast, critics have warned of the dangers of EBM expansion as it may turn clinical practice into “cookbook medicine,” which would ignore the situatedness of clinical expertise and scientific knowledge production, as well as the particular circumstances, needs, and values of each individual patient (Wieringa et al. 2017; Knaapen 2014). In the midst of this polarized context, others have considered that EBM should not be presumed to be an inherently good or bad paradigm shift. Drawing inspiration on STS scholarship, they have called on social scientists to favor empirically-based research to understand how medical standards are produced, circulate, and work within particular institutional and clinical settings, leading to context-specific consequences (Mykhalovskiy and Weir 2004).

Although every standard specifies a series of actions organized in the form of a “script,” Stefan Timmermans and Steven Epstein (2010) have argued that the implementation of clinical practice guidelines resists standardization and is highly

dependent on the situated ways in which clinicians use them to make medical decisions. After all, clinical practice guidelines are a set of recommendations for the treatment and care of specific health conditions and diseases. While healthcare workers are advised to follow them, they can also decide not to heed a certain recommendation according to their own medical judgment, applied to the particular clinical situation of a specific patient. Usually, “individual clinical autonomy takes precedence over the normative and prescriptive aspect of the guidelines” (Timmermans and Berg 2003, 94). Moreover, tweaking, subverting, or circumventing standards seem to be necessary to make these documents work. As such, “[t]he trick in standardization appears to be to find a balance between flexibility and rigidity and to trust users with the right amount of agency to keep a standard sufficiently uniform for the task at hand” (Timmermans and Epstein 2010, 81). From this perspective, an ideal use of a clinical practice guideline is one that incorporates flexibility and discretion and enables variation rather than constraining medical practitioners to a single course of action.

But what happens when the environment in which a clinical practice guideline becomes enacted is characterized by authoritarian rigidity, an incontestable hierarchy, and depends on written protocols that have to be followed to the letter in order to avoid disciplinary prosecution? In other words, how does a medical standard work in an exceptional context such as a military clinic? And what if health professionals do not have the elements to reinterpret or adjust the standard because they have never faced the health condition in question before?

The leishmaniasis clinical practice guideline (CPG) produced by MinSalud is the document that seeks to standardize and harmonize how leishmaniasis cases are managed everywhere in Colombia, regardless of the location and the type of patient. As a guideline, the CPG includes various recommendations that are supposed to inform but not necessarily determine the clinical management of people with leishmaniasis ulcers. At the CRL, however, the clinical practice guideline works like a script, almost as a “cookbook” to direct the pharmaceutical recovery of soldiers institutionally. Thus, this document is not understood as a list of recommendations that healthcare workers can use as a frame of reference. Instead, at the CRL, the CPG is turned into a military protocol—a set of strict



and defined rules that *must be followed* word for word and whose disregard can lead to disciplinary and legal sanctions. In fact, within the Army, the CPG is not called *la guía* [the guideline] as everywhere else, but *el protocolo* [the protocol].

For the Major who led the CRL while I was doing fieldwork, having a *protocol* was very useful because it allowed him to understand all the necessary steps in the medical management of leishmaniasis patients and, thus, the obligations of both soldiers and medical personnel. More importantly, the CPG allowed him to keep control of the duration of each of the procedures involved. In other words, the Major saw it as a useful tool for monitoring that medical procedures and recovery were taking place at an optimal pace.

Here, I use a sentence for those who work for me. I tell people ‘It’s not important how many people come to the CRL. The important thing is that people are leaving [the facility]’. I mean, there really can’t be people *mamando gallo* [fooling around], there can’t be soldiers who have finished the treatment and are still here without anybody telling them anything.

For him, “activating the protocol” meant under no circumstances exceeding the treatment and observation times indicated in the CPG. He explained to me that the Army measured his and the CRL’s productivity according to the number of patients treated. Thus, for him a central part of his job was that no soldier-patient would stay in this facility longer than indicated by the protocol. As such, within this military clinic, the medical procedures enlisted in the CPG worked as a template for the organization of military discipline for both patients and personnel. This document is the basis for medical and military practices and discourses to come together and produce highly disciplined patients and medical staff engaged in the mission of recovering soldiers for their efficient re-deployment into war.

However, understanding a list of medical recommendations as a carved-in-stone set of rules has its own risks. A telling example I observed recurrently at the CRL was the medical management given to soldiers whose lesions had already scarred without any pharmaceutical treatment at the moment of their arrival to the CRL. This occurs because leishmaniasis is a disease that sometimes heals on its own. “Self-resolving” or “spontaneous healing” is the terminology scientists employ for leishmaniasis lesions that progress to cure on their own, without the need of any therapy (see, for instance, Oliveira-Ribeiro et al., 2017). According to a systematic review of studies that reported using

placebo or no treatment in patients who became infected with leishmaniasis in the American continent, spontaneous healing occurs in 6 - 26% of the patients and varies depending on the parasite species (Fernandes Cota et al. 2016). As the 2010 CPG version that was in force during my fieldwork did not say anything about how to handle cases that have self-resolved medically but did emphasize that every patient with a positive diagnosis should receive Glucantime (see MinSalud, 2010), the Army applied this rule to the letter. Thus, Glucantime was administered to these soldier-patients with all the bureaucracy, paperwork, costs, pain, and toxicity this treatment involves.

When I asked CRL physicians why soldier-patients whose lesions had scarred during the period between their diagnosis in the military units and their arrival to the CRL received 20 days of Glucantime treatment, just like anybody else, they said that procedure was necessary to kill the parasites in their bodies. However, as I discussed in Chapter 4, it is now widely accepted by scientists that while Glucantime therapy does help in the scarring process of the lesions, it does not guarantee parasitological cure—the complete elimination of parasites in the body. Actually, the persistence of *Leishmania* parasites in the body despite Glucantime treatment “is the norm rather than the exception” (Martínez-Valencia et al. 2017, 8). Therefore, it seems there is not much of a difference in the end result of a successful Glucantime treatment and a body capable of defending itself from the *Leishmania* infection. However, there is a significant difference between a body that has gone through a Glucantime treatment and one that has not. Thus, the word-for-word interpretation given to the 2010 CPG within the CRL resulted in the unnecessary exposure of many soldiers—probably hundreds—to Glucantime’s toxicity and damaging effects across many years. This is perhaps the reason why the 2018 CPG includes the following note, highlighted in bold:

If the patient has a confirmed diagnosis, and in the course of taking the tests prior to the start of treatment, the lesion heals and, in the control, clinical criteria of scarring are observed, **NO treatment should be administered, and strict follow-up must be done** (MinSalud, 2018: 12).

During my fieldwork, I noticed that the CRL is probably the only place where most of what appears written in the CPG actually takes place. Not even at LERI—the biomedical research institute’s clinical facility where I also conducted ethnographic research—are the

medical procedures recommended by the CPG followed with that kind of programmed rigor, word for word. From the point of view of EBM advocates who see standards as prescriptive documents delineating how medical decisions *should* be made and how patients *should* be treated, the CRL would be an “ideal” site where the aspirations regarding standardized leishmaniasis therapy in Colombia exceptionally and literally materialize. Arguably, the CRL has emerged as an atypical place where the recommendations of the CPG are implemented in the way the board of experts had in mind when they produced this document. As the CPG only seems to “perfectly” unfold within the Army, one could even think that it was made with the military context, its exceptional authoritarianism, and the disciplinary subjection of the soldier and the medical staff in mind. Interestingly, unlike the previous guide (2010), the current guide (2018) mentions that its construction involved not only scientists and public officers but also people whose job was to bear in mind the institutional context of the Army and to think of the soldier as the paradigmatic leishmaniasis patient. The head of epidemiological surveillance of the Public Force, the head of operational health of the Army, and the vector-borne diseases coordinator of the Army were three of the twenty experts who created the 2018 CPG. Yet, this clinical standard is supposed to work for everyone affected by leishmaniasis in Colombia, not only for soldiers. As I have shown, the reality of civilian leishmaniasis sufferers in rural and remote areas of Colombia is very different from that of members of the Army. Civilian access to diagnosis and treatment is marked by (dis)encounters with the state across bumpy therapeutic itineraries full of obstacles and barriers erected on the basis of health and war logics.

This incongruity was particularly noticeable in the conversation I had with Tomás Espitia. He is a physician with a graduate degree in public health and epidemiology, who is convinced that EBM and the standardization of health care is the route to making the best public policy decisions in terms of health. When I met him in 2017, Tomás was working on the CPG update that would be released a year later by MinSalud. Regarding the prospect of implementing this new version within the Army, Tomás said the following to me:

I think that the implementation in military environments is even easier, first because the military environment, speaking of the Army, as a regime of exception, has different considerations in relation to the provision of services and access to them. Compared to a soldier, it's different, [for example], if a boy from an indigenous

community, with cutaneous leishmaniasis on his little leg, needs to be moved [for him to access healthcare]. Most likely, the soldier will be evacuated from that area earlier than the child, right? So, I believe that implementation and access may be even more feasible in the case of the military.

For Tomás, it was already clear that putting the CPG to work in the contexts where it is supposed to serve civilians affected by the disease was highly challenging, to say the least. In contrast, for the Army, the CPG fits conveniently into the military regime and meets well the purpose of standardizing medical processes to treat servicemen affected by leishmaniasis. More importantly, the CPG enables the establishment of an efficient system for the mass administration of Glucantime in the bodies of soldiers to put them as quickly as possible back to the labors of war. It also teaches military administrators and health care staff working for the Army how to manage a disease they had never had to handle before. In other words, the new CPG reiterates that its operability—its capacity to be put into use—primarily responds to the needs of the military population and not to those of the civilian and rural populations suffering from the disease. As Stefan Timmermans and Steven Epstein have written (2010, 77), “[s]tandards are presumed to be in the public interest, but the public to whom standards apply is usually not directly represented in standard creation.” In the clinical guideline that the Colombian state has produced to manage leishmaniasis patients all over the country, the conditions of the civilian with leishmaniasis are inadequately represented, especially when compared to those of the soldier with leishmaniasis.

Stefan Timmermans and Marc Berg (2003) have argued that medical standards are world-making objects, contextually situated, and inherently political. In their words, “standards are not one uniform thing, with one uniform effect. They help to bring into existence new ideas, entities, values, and even subjects of medicine” (2003, 23). Within a military jurisdiction, the clinical practice standard produced by the state has become a military protocol enabling the disciplinary control of medical staff and soldier-patients involved in the pharmaceutical treatment of leishmaniasis. By following this document to the letter, administrators and health workers at the CRL have appropriated the CPG as a script that stipulates the “tailorized” administration of Glucantime injections for the efficient redeployment of soldiers and the maintenance of the war machine. The rigidity

that characterizes the way in which the CPG is used within the Colombian Army highlights the risk of understanding medical standards not as recommendations or guidelines, but as a list of rules set in stone. In this case, the lack of flexibility in the interpretation of the leishmaniasis CPG has led to the administration of a highly toxic drug to bodies that did not need it. This would indicate that for a medical standard to operate in an “ideal” way, it is necessary that these documents not only admit but also promote freedom in clinical practice and emphasize the centrality of the patient’s safety and well-being. Even in a military context, it remains true that “a standard’s flexibility is often key to its success” (Timmermans and Epstein 2010, 81). Additionally, the fact that the operability of the CPG can only be guaranteed within a medical-military infrastructure such as the CRL raises concerns about the applicability of this clinical standard beyond military contexts. The possibility of providing standardized health care for civilian patients with leishmaniasis in Colombia is highly questionable given the enormous limitations and barriers in terms of access to quality health services, diagnosis, treatment, and medical follow-up for people in rural areas. The expected and celebrated benefits of standardized medicine are called into question when its operability is not possible. As in other localities where medical standards are asked to perform in contexts “largely incapable of providing adequate material support for the implementation of EBM” (Geltzer 2009, 526), equitable and war-free access to leishmaniasis therapy is a basic condition for the standardization of the clinical management of this disease.

### ***Wartime healthcare innovations***

Once the injection session of that day ended, the female nursing assistants went to the healing room.<sup>111</sup> There, they took care of groups of 2-3 soldiers that, in the span of one and a half hours, continuously entered and left the room. Each soldier exposed the body area where his lesion was located. One of them was Corporal Nieto, whose ulcer was under his left knee, on the outside of his leg. Alba, one of the nursing assistants, detached the bandage that covered it. After carefully rubbing a gauze around the ulcer, she removed all yellow scabs with a swab. Then, she took a blade and cautiously shaved the leg’s hairs that, according to her, were contributing to the infection of the ulcer. Again, she cleaned everything with a gauze, including the concave and raw area of the lesion. Corporal Nieto writhed in pain, but Alba finished that part—the one of greatest suffering—very quickly.

Finally, she put a topical antibiotic on the lesion and Crema No. 4<sup>112</sup> around it to keep the skin moist and elastic. She finished by patiently covering the sore with gauze and holding it with several strips of surgical tape in a very meticulous way.

In the meantime, Marisol, the other nursing assistant, worked on the lesion of soldier Herrera, located in the back part of his ankle. Since his ulcer was very large, highly infected with bacteria and foul-smelling, Marisol asked Herrera to stand next to the stretcher, bend his leg, and put his ankle over a plastic bin. She poured a stream of disinfectant on the ulcer. Herrera's body language screamed pain. Then, Marisol cleaned the lesion more thoroughly. Around the ulcer, she applied a white cream prepared by herself according to a "secret formula" she developed throughout many years of experience dealing with all sorts of leishmaniasis lesions in the Army. In the center of the lesion—in the hole—she put unflavored gelatin powder. She and many others explained to me that gelatin's role is the same as that of popularly used grated *panela* [unrefined whole cane sugar]: "*llamar carne*" [attract flesh]. "As days go by, you begin to see how, thanks to gelatin or *panela*, the hole gets filled with flesh again," she told me. Then, she covered the ulcer with gauze and told Herrera to see her again in two days. "Marisol has divine hands, that's her reputation here," Herrera would say to me later.

In addition to these skillful procedures, Alba, Marisol, and the other nursing assistants sometimes infiltrated the lesions with corticosteroids to help lower the inflammation of the edges. Occasionally, they also employed local anesthesia before debridement, a procedure that involves removing dead, damaged, or infected skin tissue to improve and guide the healing process of the ulcers.

The curative practices that take place in the CRL's healing room are exclusive to the management of leishmaniasis patients within this military clinical facility. They are not part of the recommendations included in the CPG and do not constitute a common practice in non-military medical settings. Within the military context, the development and customary employment of curative strategies have been crucial to deal with the fact that Glucantime alone is often insufficient for an ulcer to heal and form a scar. In the Army, this is especially true for large lesions that result when commanders do not authorize or arrange the prompt evacuation of soldiers with leishmaniasis from the *selva*. Servicemen often refer

to their injuries as “*monedas*” [coins] not only to highlight their circular shape but also because many of their superiors wait for the ulcer to be the size of a 500-peso coin—or a Gatorade cap—to evacuate them. “There are very despotic commanders,” soldiers often complained. “They leave you in the [operations] area until you have a very big lesion.” As a result, it is not uncommon to see ulcers like Herrera’s in the CRL. Many of them are concave, circular, and oozing holes in the skin whose diameter ranges from 4 to 6 centimeters.

As I have explained, leishmaniasis lesions may persist in spite of treatment with Glucantime administered according to the CPG indications. The experience of soldiers at the CRL confirms that this “therapeutic failure” or “Glucantime resistance,” as physicians and scientists call it, is not necessarily the result of the drug being administered in a way that differs from what the CPG recommends. Simply put, sometimes Glucantime does not work. Soldiers whose bodies do not respond as medically expected to this drug are obliged to go through more antileishmanial treatments. In the past, they used to be prescribed another 20 consecutive days of Glucantime injections despite this drug having shown to be ineffective in their bodies. Nowadays, from the CRL, they are referred to the BASAN, in Bogota, to receive Pentamidine—an even more toxic drug. If Pentamidine does not work, they are given Amphotericin B at the Military Hospital located in Bogota—a highly toxic pharmaceutical as well. Beyond question, without the careful healing work of the CRL nursing assistants, many more soldiers would be classified as “therapeutic failures” and forced to endure more cycles of antileishmanial therapy. Because of the unusual exposure of CRL medical staff to all sorts of leishmaniasis lesions in great numbers, these health workers have accumulated extensive experience in the management of leishmaniasis ulcers that is virtually unique to the CRL. These healthcare practices could be of great use beyond the Army to reduce the repetitive exposure of leishmaniasis patients to intoxicating pharmaceuticals. Moreover, they can inspire the urgent adoption of local therapies in Colombia to responsibly address the harm caused by the extended, historical, and systemic use of Glucantime.

Nonetheless, the primary goal of the Army in the development of these innovative health practices is not the wellbeing of soldiers but the rapid lesion scarring for their

efficient redeployment in the *selva*. They respond rather to wartime imperatives than to health purposes. Under the same logics, the CRL has also been the scenario for the novel and exceptional employment of physiotherapy in the rehabilitation of soldier-patients not from leishmaniasis but from Glucantime therapy. One of the most common reasons for the treatment to be suspended, significantly delaying the discharge of the soldiers from the CRL, is that the muscles of the buttocks get damaged because of Glucantime injections. Also, abscesses form due to the large amounts of drug daily injected into them. This is especially frequent and painful in soldier-patients with larger buttocks, who are more prone to accumulate the injected liquid. During my fieldwork, Milena Rojas, a civilian physiotherapist, was in charge of daily massaging and applying heat and cold therapy to soldiers in order to make the swelling go down and reduce the accumulation of Glucantime in the buttocks muscle fibers. In the more chronic cases, she also employed electrotherapy and ultrasound. When I asked her about the origin of this practice in the CRL, Milena replied as follows:

In the past, an officer in charge of the CRL realized that the physiotherapy service was needed, given all the adverse events they had, for patients [whose Glucantime treatments] were suspended for [problems with] their buttocks. As a result, the soldiers' stay [in the CRL] was prolonged. This was very problematic for the battalions from which soldiers came because very large groups arrived—20 soldiers, 15 soldiers could arrive from a single battalion, then the battalion was left without people, and this was a problem for the commanders. Then, [the administration of the CRL] realized that physiotherapy was needed as part of the process.

Milena also explained to me that, in her work outside the Army, she had never met patients whose buttocks were affected to the same extent as with the Glucantime treatment. “Not even with other kinds of injections?” I asked. She replied:

No, it's just supremely rare. The doses [of Glucantime] are very high and, apart from that, they are daily, so here one sees buttocks *vuelos nada* [badly hurt]. It is a supremely strong medicine, and it damages the muscle fibers. That's what produces abscesses. It damages the fibers, it damages the skin, it damages everything. That can even have long-term consequences, which also depends a lot on the size of the buttocks.

The case of soldier Cubides is illustrative in this regard. One morning, during the injection session, nursing assistant Camila was about to inject 10 ml of Glucantime in each of



Cubides' buttocks, one of the heaviest soldier-patients in the CRL at that moment. But she could not do it. During the past days of treatment, the drug had accumulated causing firm and painful abscesses on both sides. "Sometimes the liquid does not get into the gluteus anymore, those *muchachos* [young men] cannot even sit," Camila told me later. She had to call one of the general practitioners that were on duty that day. Using four 5ml-syringes, Camila and the physician drained 20 ml of blood, pus, and accumulated Glucantime from Cubides' buttocks. After that impressive and tense procedure, which grabbed the attention of everybody in the injection room, he stood up looking relieved. In the days to come, I would see him visiting the physiotherapy room every day until his treatment could resume.

Although Milena believes that physical therapy is absolutely necessary for soldiers to be able to endure Glucantime injections, she also thinks that leishmaniasis patients should receive physical therapy sessions after the treatment. This, however, does not happen in the Army, let alone outside this institution. In her opinion, this would help people who have gone through such a strong treatment to regain some weight and muscle mass without forcing the heart, an organ that is greatly affected by Glucantime. In the case of soldiers, she says, this would help them to be in better physical and emotional conditions before returning to their military work. In her view, her discipline was well-positioned to do this because

Physiotherapy is a way of approaching a patient, a human being, not in the traditional way, as a physician does, using medicines only. I like physiotherapy because you really interact with the person, so you handle not just bodies, but souls, everything. You handle a lot of emotions. More than manipulating a body, one handles what we call corporeality. Then, we deal with emotions, we deal with the relationship with other people. And all that helps soldiers to relieve pain. So you may not have done much to him, but you told him a joke and made him feel good. The next day they come to thank you that their buttocks are not hurting anymore. So it's nice to get them out of their routine and their military role.

Despite the great value of physiotherapy for soldiers undergoing leishmaniasis treatment, at the end of my fieldwork at the CRL, the Army Health Office (DISAN) had decided that they would not hire a CRL physiotherapist anymore. If such a service was needed, soldiers would have to go to the dispensary of the Silva Plazas battalion and request an appointment to receive physiotherapy sessions. This, of course, meant a significant loss for the physical

and emotional recovery of the Army members who have been affected by *Leishmania* parasites and Glucantime's toxicity.

The healing practices and physiotherapy sessions that soldiers have access to at the CRL do not appear in the clinical practice guideline (CPG). Although CRL medical staff follow the CPG recommendations as if it were a list of hard and fast rules, they also work *beyond* this medical standard through the implementation of novel actions that help soldiers heal the lesions, recover from the harmful effects of Glucantime, and return faster to the operations area. Although “[s]tandards promise to provide the optimal technical solution for particular problems” (Timmermans and Epstein 2010, 73–74), the military setting where the leishmaniasis CPG becomes embedded demands much more from the practitioners who provide medical care. If it weren't for the extra work done by CRL health personnel, the clinical practice guideline would fall short in healing soldier-patients with leishmaniasis. Such work keeps the standard from failing to produce the outcomes it promises and prevents this document from losing both its usefulness and its legitimacy.

### **Velandia**

The day I started my ethnographic research at the Leishmaniasis Recovery Center (CRL), I was impressed with a scene that I would later see reproduced every single morning of my fieldwork. In front of the central building, there were about fifteen young men who, while roaming around, rubbed their buttocks with both hands and made gestures of discomfort and pain. Each of them had just been given two injections of Glucantime (Figure 6.8). Some of them had gauze bandages on visible parts of their bodies that covered their leishmaniasis ulcers on the face, the scalp, the neck, or the hands. Some others had their lesions hidden under the mandatory uniform for sick men—a dark blue sweatshirt with red seams and the Army insignia embroidered in red on the left side. They all looked ill, weak, vulnerable, and childish—quite the opposite of the image of burly and resistant men usually associated with the military. One of these sick soldiers was Velandia.

When we met, Velandia had spent 12 of his 32 years of life in the Army. He was one of the very few leishmaniasis patients in the CRL who was older than 30. He was born in the south of Bolivar, in a town historically devastated by violence (Verdad Abierta 2016). Although he only studied until the third grade

of primary school, his arithmetic skills were notorious when he managed the bookie that functioned in the lower part of the central bunkbed in one of the two CRL dormitories (Fig. 6.8). At the age of 11, Velandia began to work on illegal coca plantations as a *raspachín* [coca harvester]. He used to move constantly from one place to another across the Colombian rurality, looking for coca crops ready for their leaves *to be stripped off*. While in the cocaine business, he made about two million pesos a month (about 650 US dollars), significantly more than what he makes now as a soldier (about 400 USD). He used to spend that money mostly in cockfight betting, alcohol, and sex workers. That was his life until he turned 20. Tired of that nomadic routine, he decided one day to join the Army. “And there

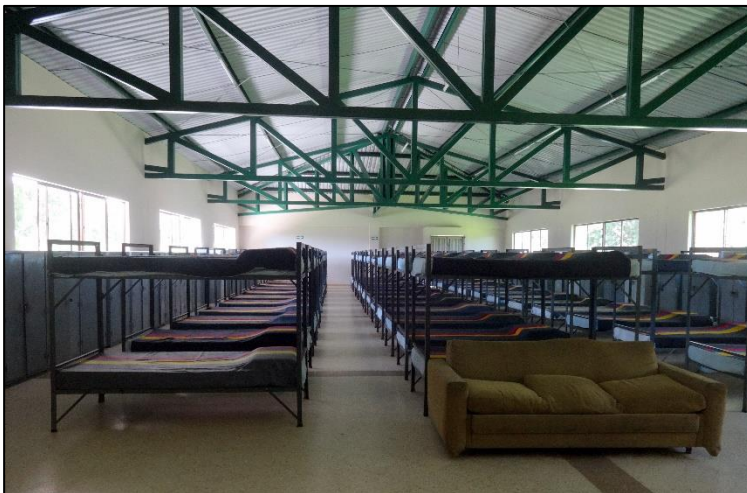


Figure 6.9 CRL dormitory.



Figure 6.8 Soldiers with leishmaniasis, minutes after being injected with Glucantime at the CRL.

was no other option?” I asked. “Joining guerrillas or paramilitary groups,” he told me. Those were the three alternatives Velandia contemplated as possible.

He went to the nearest battalion but was denied admission because of health

problems with his teeth and spine. Without taking no for an answer and with less than 50,000 pesos in his pockets, he gathered a group of sixteen young men who also wanted to be recruited by the Army and introduced them to a sub-officer. This was sufficient for him to be drafted as well. He served in the military for two years as a regular soldier. Once he regained his civilian status, he eventually found himself missing the Army. “Something about the Army has to appeal to you for you to stay here,” he said apologetically. Thus, he decided to go back to the military with the intention of becoming a professional soldier. To be admitted despite his teeth and spine problems, this time he had to bribe those Army members behind the formalization of his enrollment. Since Velandia completed his training as a professional soldier, he has spent most of his time patrolling rural areas in Caquetá, in the south of Colombia.

It was there that in 2007, Velandia became infected with *Leishmania* parasites for the first time. When he was evacuated from the operations area, the ulcer was very large, which was the reason why the therapy with Glucantime did not work for him. As a result, he was given another complete cycle—20 days—of Glucantime. The lesion healed this time. However, ten days after returning to his military unit he had to go back into the *selva* and leishmaniasis reappeared in other areas of his body. He was given Glucantime again. He returned to the operations area but soon the initial lesion was open again. As it was an “old” lesion, he was sent to the BASAN, in Bogota, to be treated with Pentamidine.<sup>113</sup> He returned to his work, but, after a few months, leishmaniasis appeared again, this time on his face. When I met Velandia at the CRL in 2016, he was recovering from his fifth antileishmanial treatment—four times with Glucantime and one time with Pentamidine. When I asked him how he perceived the effects of these medications on his body, he said this:

I liked to jog a lot. I can no longer stand a physical test of two miles, I can’t stand it: halfway through it ... I have to walk because I feel breathless ... In the operations area, when I’m walking, it’s the same. If I carry a lot of weight, and I am, say, going up a slope or a hill, I have to take several breaks because I just can’t do it all at once, as I used to ... Not anymore. Now I need several breaks of one, two, three minutes before I can resume walking.

Worried, and still in pain from the Glucantime injections and toxic effects, Velandia told me that, when he was discharged, he would go for several exams on his own because he wanted to know the state of his heart, liver, pancreas, and kidneys. He also wanted to understand why he had not been able to have children yet, something he sensed had to do with leishmaniasis therapy.<sup>114</sup> “Before the treatment, did the medical personnel mention to you what the possible consequences of the drug were?” I asked. “No, here they only tell you that you can’t drink alcohol, that you can’t smoke, that you can’t drink black beverages. But they never comment in depth on issues related to long-term reactions to the drug,” he replied.

In the CRL, I had several opportunities to witness the chat between a nurse and a soldier that preceded the signature of an informed consent form before the treatment started. As Velandia said, this talk was primarily about telling soldiers that feeling sick because of Glucantime was entirely normal and letting them know about all the things they were *not allowed to do*: drinking black beverages (Coke or *tinto* [black coffee]),<sup>115</sup> drinking alcohol, doing cardiovascular activities,<sup>116</sup> having sex, taking vitamins, or getting someone pregnant in the three-month period after the treatment.<sup>117</sup> Soldiers were also warned that failure to comply with military discipline, medical procedures, or scheduled medical appointments would be understood as an “abandonment of treatment.” In that case, they were told that they would have no chances to ask for further medical attention from the Army. The talk never included information about leishmaniasis, the toxicity of the drug, the long-term known and unknown effects of Glucantime, or the compensations to which these military members are entitled because of both the scars and the after-effects of the treatment. For example, Velandia only learned that he



**Figure 6.9** Materials to prepare the Glucantime doses to treat soldiers with leishmaniasis at the CRL.

was entitled to economic compensation for the leishmaniasis marks on his body because he was lucky enough to befriend one of the CRL military nurses who shared that information with him. Otherwise, like many other soldiers, he would never have known that he could initiate a relatively straightforward medical-administrative procedure to receive financial compensation.

While they are in the CRL, soldiers must attend a few talks on health issues scheduled from time to time. However, these health-training sessions are never about leishmaniasis and do not constitute safe spaces for soldiers to resolve the doubts they have about the disease or the treatment. The etiology of leishmaniasis, for example, is a topic that constantly puzzles soldiers. They often compare and contrast their experiences with what they have heard about the disease and the scarce biomedical knowledge they have informally learned. For instance, given their lived experience with tick bites, contusions, or wounds that ended up developing into a sore, later diagnosed as leishmaniasis, many doubt that the disease is actually transmitted by sandflies. Soldiers are willing to know more, have their experiences checked against biomedical knowledge, see if what they have experienced reflects or not what scientists and doctors say, fill (their) knowledge gaps, and find out the answers to the many questions they have. However, opportunities to do that are systematically denied to them.

For instance, in a talk about sexually transmitted diseases (STDs), a CRL nurse gave a one-hour presentation about syphilis, herpes, papilloma, condyloma, gonorrhea, and AIDS. No word was mentioned about leishmaniasis. In the end, when the nurse asked if any of the leishmaniasis patient-soldiers had any questions, none of them asked anything about STDs. Instead, they started raising questions about the subject that bodily, emotionally, and intellectually concerned them at that precise moment—leishmaniasis. The nurse answered a couple of them very quickly and called it a day.

I asked Velandia to tell me about the strategies they used in the operations area to prevent leishmaniasis. He told me each soldier receives a repellent called Ultrathon™ and a *toldillo* [mosquito net]. Their use is supposed to be mandatory while they are in the *selva*. Nonetheless, he told me that many of his fellow soldiers prefer not to use it because it does not seem to work for many of them. Although he thinks it does protect from the bites of

sandflies and other blood-sucking insects, he remembered having a very bad experience with Ultrathon™. While they were patrolling in the *selvas* of Caquetá, they came across a clearing in the forest. Neither he nor his companions had been told that this repellent burns the skin when exposed to the sun, so they all ended up suffering several skin burns. Soldiers also buy and take tablets of Thiamine (vitamin B1) and so-called garlic pearls so that their bodies expel certain odors that function as insect repellents. They also eat raw garlic cloves and make preparations with tobacco leaves to rub on their skin. Some soldiers say tobacco is more effective than Ultrathon™ and is better because it does not burn the skin.

Velandia also mentioned another problematic aspect of repellents—carrying them. He told me he did not want to transport more weight than he already had to carry on his back. For him, the risk of leishmaniasis is less significant than the body fatigue produced from carrying things that are not absolutely indispensable. The equipment weight is so crucial for a Colombian soldier (as well as for guerrillas) that quarrels and disagreements in the operations area regularly arise because someone—often the troop commander—is carrying less weight than the rest of the squad. Disciplinary sanctions can also come in the form of extra weight to carry. So, deciding whether or not to carry a bottle of repellent is far from being a minor issue.

Regarding the *toldillo*, Velandia preferred not to use it. If a guerrilla ambush or attack takes him by surprise, it is not very clever to be inside of a net, having fewer possibilities to move and flee rapidly, he told me. In other words, soldiers often have to choose to leave the *selva* with leishmaniasis or leave it dead. Clearly, Velandia and many of his fellow soldiers prefer the first alternative.

“A sick soldier is a bad soldier,” Velandia told me. For him, that is the way servicemen with leishmaniasis are usually regarded by commanders, officers, and military doctors. As a military physician explained to me, “every man with leishmaniasis is a man who is not in the place where he should be—in his combat workplace, in the battalion fulfilling a certain function.” Probably for that reason, commanders and medical personnel often read leishmaniasis as an illness that soldiers self-provoked, as a disciplinary failure, a sign of weakness, evidence for deceptive behavior. The assumption seems to be that

soldiers were always actively trying to get bitten by sandflies for them to have a couple of months of all-inclusive rest and seeking to overstay their welcome at the CRL to avoid getting back to work.

When I asked servicemen and CRL staff members if they believed the disease carried a stigma, instead of mentioning “the guerrilla disease,” many said “Yes, the stigma of being a bad soldier.”<sup>118</sup> This has been particularly evident in the Army’s internal calls for Special Forces training opportunities. These are six-month courses where professional soldiers learn to perform complex air, land, and water operations with the highest level of military training (Ejército Nacional 2016). According to Velandia, the calls indicate that only those professional soldiers “with 3 to 5 years of military experience, no legal problems, no health problems, and who have not had leishmaniasis” are eligible. But how many professional soldiers with that experience have not been affected by the disease? “I’d say it’s less than 20%,” Velandia told me. “A lot of opportunities are lost because of that. There are good soldiers who have had leishmaniasis and who deserve to be sent to that training, to get some fresh air, to gain knowledge that could help them to request a transfer”. But they can’t because they hold a medical record stained by leishmaniasis, a disease they acquire while being soldiers.

At the CRL, suspicion and antipathy mark most of the interactions between a soldier and the staff. This may stem from several things: because he is not in the operations area where he is supposed to be working; because he is somehow undermining his own recovery; or because he is not making his best effort and taking enough responsibility to heal and recover. The soldier is the one who gets blamed most of the time. Uncooperativeness was regularly framed in terms of immoral behavior through humiliating remarks and comments about the alleged uncontrolled sexuality of soldiers—unable to stop masturbating or looking for sex workers—and their decadent and inevitable tendency towards drug and alcohol consumption. Moreover, when ulcers persisted despite the treatment, explanations were not sought in Glucantime’s own deficiencies, but in the (regularly assumed) objectionable behaviors of the soldier.

During my field research, I heard stories about soldiers who, immersed in the daily life of combat, exhausted from being months in the *selva*, without any possibility of



communicating with their families or just fed up from war, stripped their torsos and rolled up their trousers at twilight hours to get bitten by sandflies. I was also told about soldiers who “saved the lesion for Christmas,” meaning that they would not immediately tell their commanders about their ulcers for their treatments to be delayed until a cherished moment of the year when they hoped to be together, near, or at least in phone contact with their families. I met soldiers who wanted their scarring process to be shorter or longer for their time at the CRL and their leave period to string together. I also heard that leishmaniasis could be a lucky misfortune, for it saved some of them from being present in combats or ambushes they might not have survived.<sup>119</sup>

At the CRL, I saw soldiers suffering greatly when their ulcers were reluctant to heal or when the drug made them feel so sick and miserable that they thought they were actually dying. Most of them, however, was careful not to express it openly because the answer they usually received sought to delegitimize their suffering and challenge their masculinity. “*No venda lástima*” [“Don’t sell pity”], their peers and CRL staff repeatedly told them. In fact, some regretted the coercive nature of Glucantime therapy in the Army because, if they had a choice, they would prefer to go for *rezos* [prayers] and plant-based treatments widely available *en el campo* [in rural areas]. I listened to soldiers fearing the disease, especially because they had seen how others came back from their treatment in such bad shape that they had to *pedir la baja* [retire from the Army] and go back to “being nothing, not even a soldier.”

Velandia also told me about one of his *cursos*<sup>120</sup> who was affected by leishmaniasis only once. Before the treatment, he weighed 72 kilos and, like any other person, he used to gain weight when he ate a lot or did little physical activity. But when he finished the treatment, he weighed 64 kilos. “He has eaten, he has taken vitamins, he purged himself, he has taken Ensure®, but he has not gained weight again. Maximum, he goes up to 65, but never above that.” Since then, Velandia told me his buddy looks really thin. The cumulative effects of the toxicity of Glucantime and other antileishmanial drugs on the bodies of soldiers like Velandia and his friend have become incalculable. Throughout several decades of armed conflict, no one in Colombia has documented them. We do not know what happens to the body after going through so many cycles of such a harmful treatment. We do

not know why a body, for example, never regains its weight, its physical condition or its ability to reproduce even after a single treatment. We do not know the effects of Glucantime ten, twenty, or thirty years after receiving it. In fact, we have no answer to a number of questions posed by thousands of soldiers with leishmaniasis—the *leishmaniacs*, as they sometimes like to call themselves.<sup>121</sup>

Although cases like Velandia's, who has gone through several antileishmanial treatments, are very rare outside the Army, they do often occur within this institution (see El Tiempo 2007).<sup>122</sup> In a country where the armed conflict is part of everyday life, we cannot keep ignoring the many men, thousands of soldiers and ex-soldiers who have gone through repetitive cycles of body intoxication and deterioration due to leishmaniasis. The violence faced by these young men does not end in the operations area; it goes on in medical and clinical settings when the only therapy that biomedicine and public health offer for non-fatal leishmaniasis is a scarring poison that might lead to deadly outcomes. It continues when they are kept ignorant about the disease, the treatment, and the financial compensations they are entitled to. Many choose to leave the Army not because of the armed confrontation, but because they cannot stand another treatment of leishmaniasis.

Velandia also wonders about those who did not die in combat—those deaths that war prescribes and renders acceptable—but from the pharmaceuticals used to treat non-fatal leishmaniasis. While he was at the BASAN receiving Pentamidine, two soldiers passed away. One died in the hospital, some minutes after the administration of amphotericin B—a third choice drug for leishmaniasis. The other had been assigned the upper part of Velandia's bunkbed. Like Velandia, this soldier received his Pentamidine dose in the morning.

During the whole day, he had a fever and was not feeling good. At night, when we had to stand in formation, we called him, and he said 'No, I'm not going, I've got a lot of fever, and I can't go.' At morning reveille, the time to get up, the guy was already dead. Who knows how many hours he had been like that.

These are deaths that even in war are not supposed to happen. As a military doctor told me, these are losses that were not necessary. These deaths, as well as the suffering caused by leishmaniasis and the superabundance and overflowing toxicity of antileishmanial

treatments, have profoundly affected the morale of the Army. They have also impacted in significant ways the lives of the vast majority of its male members and “the soldierliness of these war-sickened men” (Zoë H. Wool 2013, 140).

## **Conclusion**

Since the mid-2000s, the massive use of antileishmanial drugs became crucial to maximize the extraction of labor available for war in the body of each soldier affected by leishmaniasis. In addition to adopting Glucantime as its primary tool to solve the shortage of human resources to fight the war, the Army appropriated the MinSalud clinical standard and turned it into a military protocol that has served to produce disciplined patients and medical personnel, engaged in the mission of putting soldiers back into the operations areas as efficiently as possible. With the same purpose, this institution also established unparalleled facilities and developed innovative health procedures such as curative practices and physiotherapy. Thus, the co-production of war and technoscience turned leishmaniasis healthcare within the Army into a speed up system of soldier scarring and efficient redeployment to address the constant need for bodies to fight the war against guerrillas and other armed actors in contemporary Colombia.

Through the story of Velandia, I have traced the experience of the soldier with leishmaniasis and showed some of the particularities of becoming infected with *Leishmania* as a member of the Colombian Army. In particular, I have paid attention to the gradual attrition of the soldier’s body under Glucantime treatment and the exposure to the intoxicating effects of antimony during not one but several episodes of leishmaniasis. After being pharmaceutically recycled, again and again, the soldier’s body wears out slowly until becoming disposable. Through that violent process, war does not remain confined to the battlefield, within the *selva*, but overflows this emblematic space of the Colombian armed conflict with the crucial participation of biomedical knowledge, pharmaceuticals and healthcare practices.

In the case of soldiers, the pharmaceuticalization of the war does not produce violence for lack but for excess of Glucantime and other antileishmanial drugs. The massive use that has been made of these medicines within the Army underscores that the *enmarañamiento* of leishmaniasis and war is not simply a problem of unequal access to

pharmacological solutions to the disease. Furthermore, it suggests that the entanglement between these two phenomena is not simply solved by removing the access barriers around Glucantime. Acknowledging the violences suffered by soldiers with leishmaniasis demands that we address the multiple ways in which the rights of these young men are compromised throughout their experience of the disease, exacerbating the structural conditions that make them direct participants in the war.

## Chapter Seven:

### Army dogs suffering from leishmaniasis

The day I started my field research at the CRL, a small group of soldier-patients was eager to talk to me. They told me that, a few days before, the head of the CRL had informed them about my arrival and asked to cooperate with my work. Overcoming their shyness, they approached me with a smile. One of them was Julián, a 24-year-old professional soldier from San Carlos, Antioquia.<sup>123</sup> He had been part of the Army since he was 19. As a soldier, Julián had always worked in the south of the country, mainly involved in the forced eradication of coca plants that peasants clandestinely grow and sell to illegal cocaine producers. “Sometimes we have to *enmarañarnos* [sneak into the *selva*], and, in the early morning or the afternoon, when peasants aren’t there anymore, we go out, we eradicate, and then return and slip away into the *maraña* so as not to have conflicts with the people,” he told me.<sup>124</sup>

When Julián enrolled in the Army, he would easily get lost in the *selva*—it was very hard for him not to lose his bearings. He wondered how his fellow soldiers were so skilled at navigating this all-green and apparently uniform forested environment. “But little by little, you begin to orient yourself as if you were in a city,” he explained. The perception of the *selva* changes and a tree, a branch, a leaf, or a trunk unexpectedly becomes a point of reference. From one moment to the next, Julián said, he was also able to see footprints where he had not seen them before. Suddenly, any slight change in the *maraña* became conspicuous to his senses. This ability, acquired by Julián through his everyday involvement in the war, turned even more relevant when he became part of a man-dog pairing known in the Army as a *binomio canino* [canine binomial]. The second half of that virtually inseparable duo was Lluvia, a black Labrador female dog assigned to Julián.

The *binomio*’s job is to detect antipersonnel mines and other explosive devices hidden in the *selva* and other areas of the Colombian rurality. This prevents the troop from triggering an explosion that has the potential to disrupt military operations by producing injured, maimed, disabled, and dead bodies. Mine detection works through embodied communication between Julián and Lluvia, and the joyful association she is trained to make

between a ball and the smell of explosives when Julián invites her to play with him. Julián explained to me that when he or any other member of the troop notices “anomalies” in the *selva*—a pollarded tree trunk, a tiny piece of plastic or paper, traces denoting someone has slept in that location, footprints, etc.—Julián stops walking and stands facing the area he wants Lluvia to examine.<sup>125</sup> He hides the ball, hits his chest a few times, points his arm towards the zone of interest, and says “*voran spiel*”—an expression in German that tells Lluvia it is time to play. She runs in the direction indicated by Julián. If her powerful nose perceives the smell of explosives, she looks at him, then looks at the place she wants to signal, and sits (Gualdrón, 2015). While Julian was telling me this, he imitated the dog’s movements with his body and allowed me to imagine this more-than-human war routine practiced by several canine binomials, at any given time, in multiple places of rural Colombia (Pardo Pedraza 2020).

Before coming to the CRL to receive treatment for the leishmaniasis lesion on his leg, Julián had to leave Lluvia with the veterinarian of his battalion. The disease had also manifested on the dog’s nose while they were together in the operations area. “That little dog must be going crazy without me. She can’t live without me, and I can’t live without her,” he said. Then, he took out his cell phone from his sweatshirt pocket and showed me pictures of him and Lluvia, of coca plantations in the middle of the *selva*, of a hanging explosive device that almost killed him, the dog, and the rest of the troop. At the time of that conversation with Julián, I knew that leishmaniasis also affected dogs. However, based on my readings of scientific papers, I used to think of canine leishmaniasis mostly as a public health problem in southern European countries such as Spain and Italy (see, for instance, Miró and López-Vélez, 2018). For some reason, I had not imagined this was an issue in Colombia, let alone a significant problem for anti-explosive dogs of the Colombian Army. Although I was aware of and attuned to the multiplicity of species participating in the phenomenon biomedicine calls “leishmaniasis,” when I realized that military dogs were also bitten by infected sandflies in the *selva* and developed ulcers, leishmaniasis appeared to me as an *animal inclusive disease* that is contingent upon a cast of living beings that could not be predetermined or taken for granted (Nading 2013). As such, it forced me to think more thoroughly about leishmaniasis as one of many illnesses that cannot be rigidly delimited around the human experience of disease, and made me reflect on the ways in

which war produces *borderlands*—spaces where “pathogens, hosts, knowledge practices and others beside intra-act to make life more or less safe” (Hinchliffe et al. 2013, 540)

Traditionally, the disciplinary boundaries of medical anthropology have delimited its concerns to human health. Yet, ethnographic explorations of animal health have recently gained significant importance given the pressing need to understand how human proximity and contact with wild and domestic animals shape health, disease, and healing. Hannah Brown and Alex Nading (2019) have named this emerging field of inquiry *human animal health*. Engaging health as more than human not only destabilizes disciplinary settlements in productive ways, but also foregrounds the expansion of biopolitics beyond the human and interrogates the ways in which care practices reinforce, dissolve, or redraw boundaries between species (Brown and Nading 2019; Blue and Rock 2011). While public health often seeks to reduce or eliminate human-animal contact to avoid pathogenic interactions, these efforts usually fail because they overlook “the depths, intensities, and affective complexities of human-animal social relationships” (Brown and Nading 2019, 6). Thus, human animal health draws attention to these relational aspects of interspecies contact as a means to show the incompleteness of epidemiological understandings and technological approaches to make sense of and address health problems involving non-human animals.

In bureaucratic, regulatory, and logistical terms, military dogs are property of the Colombian state and “working tools” in military operations. Like soldiers and guerrillas, Army dogs are another population that acquires leishmaniasis because of their direct involvement in the armed conflict and the *enmarañamiento* that the war imposes on them. Moreover, the health of military dogs also constitutes an institutional responsibility for the Army. As soldiers, these animals used to have full access to Glucantime until about 2014. Then the Army realized that the pharmaceutical treatment of dogs did not comply with the regulations governing the use of Glucantime and the other antileishmanial drugs. Today, military dogs with leishmaniasis do not have access to effective treatment but remain under the guardianship and veterinary care provided by the Army.

The state management of non-human military members with leishmaniasis offers great opportunities to explore the extent to which the co-production of wartime social arrangements and pharmaceutical regimes has developed in Colombia. By paying attention

to the pharmaceutical care that the Army has provided to anti-explosive dogs, this chapter shows that the scope of war's pharmaceuticalization encompasses non-human participants of the armed conflict. This means that the social order of inclusion and exclusion according to which antileishmanial drugs circulate and reach populations has conceived military dogs as state allies deserving therapeutic protection. Since these animals are vital for war's progression, their lives have long been guaranteed the state's protection in terms of veterinary care and pharmaceutical treatment. The medical attention that military dogs have received contrasts sharply with that of civilians affected by the disease, who face immense barriers in accessing health care services and medicines. This suggests that under a biopolitical valuation rationale originated during the armed conflict, these animals have often been considered more valuable than civilians. The healthcare that military dogs receive within the Colombian Army highlights not only that war logics operate in the stratification of humans and nonhumans, but also that hierarchical orderings work both within and *across* human and nonhuman categories. It reiterates that "contemporary biopolitical formations implicate human and nonhuman bodies in webs of complex relations with implications for a broader politics of health" (Blue and Rock 2011, 358).

This chapter is also an exploration of the ways in which the medical care of dogs has been different or similar to that of soldiers. By establishing an empathic comparison between dogs and soldiers, I document various ways in which the leishmaniasis experiences of these non-human members of the military destabilize the hierarchies and distinctions between humans and non-humans. Following Vinciane Despret, empathy here does not mean "feeling what the other feels, it is rather making the [human] body available for the response of another [non-human] being" (2013, 70). By paying attention to similitudes in the human and non-human experience of leishmaniasis in the Army, I argue that their skin lesions constitute an embodied expression of their conjoined *enmarañamiento* with the war that highlights their biological commonalities, shared vulnerability and suffering, and coupled victimhood. When the dog or the soldier is affected by leishmaniasis, the canine binomial suffers—the duo, the dog-human couple is weakened by the disease. Also, by paying attention to difference in the state management of human and non-human populations affected by leishmaniasis, I seek to reveal different



ways in which human and companion life forms directly involved in war-making are unfairly treated.

### **Non-human Army members**

After Afghanistan, Colombia is the second country with the highest number of landmine victims. Despite their prohibition in 1999 by the Ottawa Convention, the use of these explosive devices, mainly by guerrilla groups, has been a prominent feature of the Colombian armed conflict to this day and one of the most challenging aspects for peacebuilding in rural areas (CNMH and Fundación Prolongar 2017). In the 2000s, guerrilla organizations responded to the unprecedented military offensive of the Army with the massive use of landmines. In that period, battlefield injuries were not the major causes of military casualties. In fact, the harm caused by landmines and leishmaniasis was much more significant for the Army, leading to the withdrawal of approximately 10,000 people from military duties in 2005 (Bedoya Lima 2006b, 2006a; El Tiempo 2005; US Embassy in Colombia 2006a). Since those acute years of the war, dogs became crucial to tackle the threat posed by landmines on soldiers and military operations. The Army's use of dogs, trained to sniff and detect landmines and other explosive devices, became vital and decisive for the state war against guerrillas (Bedoya Lima, 2004). So-called explosives and demolitions groups (EXDE) were established to protect the military troops by finding and destroying explosive artifacts during field operations. An EXDE group includes a commanding sub-officer, three soldiers, and a *binomio canino* (CNMH and Fundación Prolongar 2017).

At the end of 2016, I had the chance to talk to Jaime Rivera, one of the officers with a leading role within the National Center against Explosive Devices and Mines (CENAM), the military department in charge of the Army's canine population. For him, the FARC's use of landmines and other explosive devices became systematic after 2002. This turned dogs both into key members of the Army and crucial actors of the war. According to Jaime, at that time, mines accounted for 40-60% of the casualties within the military, and the institution came to own 4,000 canine members. "The dog became very important, almost more important than the soldier himself," he said.

Although the vast majority of Army dogs have been trained to sniff and spot explosives, there are also dogs who detect narcotic substances, as well as trace and intervention dogs (they attack people when they find them) and search and rescue dogs (they search for people and bark when they find them). More recently, as a result of the peace negotiations between the FARC and the government, the Army also follows international standards to train dogs for humanitarian de-mining (see Descontamina Colombia 2017; Pardo Pedraza 2020). In addition, this institution also owns so-called “*perros payaso*” [clown dogs], animals trained to do tricks at events where Army members seek to interact and develop a better rapport with civilians.

All military dogs are considered *bienes fiscales* [to be owned by the state]. According to Jaime, this means that, although every dog is assigned to a soldier trained as a *guía canino* [dog handler], these animals do not have an *amo* [master] or a *dueño* [owner]. Therefore, he explained, Army dogs are only considered pets on the day they are removed from service, when they can no longer perform the task they have been trained for due to combat injuries, disease, or because they suddenly lost interest in working/playing. Otherwise, he said, these animals are “working tools.” “Dogs are like Army cars, it’s the same thing. Similarly, each dog has a budget assigned to it, that is, a budget for its particular expenses and the purchase of veterinary supplies.” Although dog handlers like Julián cannot claim ownership of the dogs they have been assigned, they do speak of “my dog.” They take care of them, are the dogs’ playmates, carry their food and veterinary supplies while in the operations area, and sleep next to them in the *selva*. More than *amos* or *dueños*, military dog handlers are the second half of a human-dog pair, built through strong affective links that constitute the basis for the work they do and the responsibilities they have within the Army. As Donna Haraway (2008, 51) has indicated, “owner-property” is one of those lousy terms that need a makeover to describe the sorts of relationships between humans and nonhumans constantly made and remade in the world.

### **Canine leishmaniasis**

The work of soldiers and dogs demands them to be entangled into the *maraña* and get exposed to the bite of leishmaniasis-transmitting sandflies equally. Landmines and explosive devices extensively employed by non-state armed organizations have made dogs

into explosive detectors and normal actors in Army operations developed in the *selva*. As a result, military dogs have been made into just another source of blood for leishmaniasis-transmitting sandflies in the conflict zones these insects inhabit. The permanent condition of war in Colombia has produced the convergence of social, spatial, ecological, discursive, and technological elements that produce leishmaniasis in a simultaneous and relational way among nonhuman and human members of the military. Differently put, the war constitutes a *hotspot* for the interspecies transmission of leishmaniasis because it enables “the mundane interactions that create the conditions of pathogenic possibility” (Brown and Kelly 2014, 282).

In Jaime’s view, 2008 is the year when leishmaniasis became a major health problem for Army dogs, primarily for those employed for the detection of antipersonnel landmines and other explosive devices. The disease ended up compromising their sniffing skills and their expected performance in military operations. “Of the 3,000 dogs the Army currently has [December 2016], between 100 and 200 are affected annually by leishmaniasis,” he said. All of them need some type of treatment to help the healing process of their lesions, which are typically located in parts of the body where dogs have less hair and the skin is exposed: usually on the nose and the genitalia, and less often on the ears and the feet (Iván D. Vélez et al. 2012). In addition to the logistical problem that all these cases represent for Army operations, these animals, as well as those who are asymptomatic,<sup>126</sup> also constitute a challenge in terms of public health. Since they turn out to be potential reservoirs of the disease—animals in which *Leishmania* parasites live and multiply and can be transmitted to humans and/or other dogs in the presence of sandflies—all dogs with leishmaniasis are also considered a public health concern (Beiter et al., 2019).

As for the treatment of military dogs affected by leishmaniasis, there was a significant change that took place around 2014. Before that, Army dogs used to be treated with Glucantime (see Vélez et al., 2012), employing a dose of 75-100 mg of meglumine antimoniate per kilogram of body weight for 30 days. From the large stock of Glucantime that the Ministry of Health purchases and sends to the DISAN (National Health Office of the Army), this office used to allocate a small stock for the Army’s Remount and Veterinary department. Any of the 18 military canine training centers that exist in

Colombia used to receive ampoules when they reported having dogs affected by leishmaniasis. As I have shown, civilians and guerrillas have historically faced almost insurmountable access barriers to antileishmanial drugs that the state put in place in times of war. Thus, like soldiers, Army dogs used to have better opportunities for access to Glucantime than civilians and guerrillas affected by the disease in rural areas of the country. Otherwise put, the pharmaceutical needs of non-human military members used to be better served than that of non-military human populations in rural areas of Colombia during the most intense years of the conflict. Insofar as they are made into mine detectors and protectors of the lives of military personnel, Army dogs used to take priority over civilians affected by the disease. This stratification is based on war logics that place more value on non-human lives that are key to the perpetuation of the conflict than on the human lives of the most marginalized in society.

However, things changed around 2014. Although the Glucantime delivery system to meet the demand of military dogs suffering from leishmaniasis had been in place for years, the Army had to interrupt it abruptly. At that time, someone warned and made the institution realize that the drug purchased by the Ministry of Health (MinSalud) was only authorized for use on humans, not on dogs or other animals. Because all Glucantime ampoules legally available in Colombia have to be purchased, imported, and distributed exclusively by MinSalud, there is a regulatory and bureaucratic loophole that leaves all dogs affected by leishmaniasis—Army dogs included—in a therapeutic limbo where there is no pharmaceutical treatment for them. The same is true for any other antileishmanial drug because all of them exclusively circulate through regulatory paths established by MinSalud for the healthcare of humans, not animals. Thus, since 2014, Army dogs cannot be treated with Glucantime or any other antileishmanial pharmaceutical product.

In December 2018, I submitted an access to information request to MinSalud asking about the management of Army and Police<sup>127</sup> dogs with leishmaniasis. First, I asked if antileishmanial drugs had been allocated in the past to treat Army and Police dogs, and how many ampoules had been used for that purpose. Omitting the earlier use of Glucantime in non-human Army and Police populations, my question was replied to in the following way:

Medicines purchased by the Ministry of Health for the care of patients suffering from leishmaniasis are registered for human use, therefore, the medicine that has

been assigned to both the Army and the Police is for the treatment of humans, not for canines.

I also asked about MinSalud's strategy to address the public health problem posed by dogs infected with *Leishmania* parasites. Reiterating the prominence of euthanasia in the institutional response to zoonoses (see Hurn and Badman-King 2019), this was the reply I obtained:

According to what is established in international standards, which apply to our country, canine reservoirs with a positive diagnosis for leishmaniasis, because they constitute a risk in terms of public health, are subjected to canine control through euthanasia under the consent of the owners.

For Army members in charge of military dogs, however, euthanizing military dogs with leishmaniasis is not a reasonable or compassionate action. Gustavo Fuentes is one of the military veterinarians who work for the National Center against Explosive Devices and Mines (CENAM). Although he has dedicated his professional life mainly to Army horses, he is one of the few people who has been trying to solve the current lack of antileishmanial drugs for dogs. Gustavo complains about the prevailing view among civilian veterinarians regarding canine leishmaniasis: "the vast majority choose to cull dogs infected with the parasite," he explained. "In that case, humans [with leishmaniasis] would have to be killed as well because they too are reservoirs of the disease," he said, highlighting how absurd it sounded for him to kill a dog because it potentially represents a source of parasites. In his view, euthanizing a dog is "an extremely unfair measure," especially after the animal "has provided such a valuable service" preserving the life of thousands of soldiers (see Caracol Radio, 2019; El Espectador, 2016). Doing everything possible to treat a dog and get it to overcome leishmaniasis is, for Gustavo, just a minimal retribution. "We must give the dog a chance and, in that way, thank him/her to some extent." Also, he thinks that killing a dog who has been selected, trained, and retrained to work as a living explosive detector represents a waste of money and time. This waste of *lively capital* (D. J. Haraway 2008) is especially true in the case of humanitarian de-mining dogs, whose internationally standardized training is very strict, lengthy, costly, and demanding. "These dogs are like the crown's jewels," was the expression Gustavo employed to highlight their value. He also

regrets that, among civilian veterinarians, leishmaniasis is a rather forgotten and neglected issue. “The vast majority don’t even know Glucantime, and leishmaniasis is barely mentioned in veterinary training at the university,” he said.

The affective and emotional ties between soldiers and dogs challenge the instrumental rhetoric that rationalizes culling in the governance of diseases capable of crossing the barriers between animals and humans (Blue and Rock 2011). By indicating that humans can also be understood as reservoirs of the disease, Gustavo was drawing attention to the hierarchies between dogs and humans that operate in the institutional management of the disease. He was also questioning the politics of death imbued in public health policies that justify killing dogs to preserve human life, especially in a war context where dogs become sick while serving the needs of a state—and a society—that employs them to protect human life and military performance. Chris Degeling, Zohar Lederman, and Melanie Rock (2016) have explored how (in)consistent culling practices are with One Health, a relatively new paradigm premised on the interdependence of human, animal, and ecological health. In their view, taking this understanding of health seriously would require “moving the core concerns of public health beyond consideration of only the needs and interests of human communities to include our shared dependencies and interests with animal populations and ecosystems” (2016, 246). This means that animal well-being becomes as relevant as human well-being, which demands that public health policymaking involves a contextual discussion about dependency relationships, affective ties, and the distribution of damages and benefits between human and dog populations (Rock, Rault, and Degeling 2017). Decisions on how to address leishmaniasis among military dogs cannot ignore the life-saving role these animals have played in Colombia’s armed conflict, the affects and emotions that constitute the canine binomial, and the vulnerabilities to which the state exposes them. In addition, dogs affected by leishmaniasis within and outside the Army highlight the need to destabilize the anthropocentrism that has characterized the way in which public health conventionally frames and responds to health concerns.

Although not much research has been done on canine leishmaniasis in Colombia, some biomedical scientists have been interested in finding out how necessary it would be to euthanize dogs with the disease. They have tested if dogs infected with *Leishmania*

*braziliensis*—one of the parasite species most frequently involved in human leishmaniasis cases in Colombia—are “good” reservoirs for the disease. Differently put, they have investigated if they are effective sources of parasites for bloodthirsty sandflies (Travi, Tabares, and Cadena 2006). A group of scientists looked for parasites in the guts of sandflies that had fed from the blood of two dogs who were affected by leishmaniasis caused by *L. braziliensis* on the scrotum and the ear. They found none. Thus, Travi and his colleagues concluded that dogs seem to be “bad” reservoirs of the disease, which might constitute important evidence to refute MinSalud’s recommendation of culling dogs with leishmaniasis. Moreover, in a booklet produced by researchers from PECET (Program for the Study and Control of Tropical Diseases from the Antioquia University) for the military in 2005, they said that every Army dog with skin lesions has to be diagnosed for leishmaniasis and, if positive, treated with Glucantime. “Slaughter of the animal is not necessary,” they concluded (PECET and Fuerzas Militares de Colombia 2005, 55).

In conversations I had with military dog handlers and trainers, I always asked them what they thought was worse, a dog with leishmaniasis or a soldier with leishmaniasis. “It’s the same.” That is the reply I consistently obtained. This response was usually followed by the sentence “They are like a son.” To stress how akin soldiers and dogs are, many of them also told me that “the only thing a dog doesn’t do is talk.” One of them was Esteban Cruz, a professional soldier who has been part of the Army for 17 years, 14 of them working with dogs. He told me he was born as an animal-lover. “No one gives us that [love for animals], and no one can take it away from us; it’s something we’re born with,” he explained. Esteban told me that not any soldier could become a dog handler. As in most cases, he was selected for the job because of the affectionate connection he has with animals (“I have a gift,” he reiterated), but also as a reward for his outstanding military performance—a sort of recognition for being a good soldier. Within the Army, getting training as a dog handler is often considered a prize, especially because the skills they gain are appreciated beyond the military in the civilian realm. Esteban explained to me that, when canine handlers retire from the Army, they are well-positioned to find a job within private security companies<sup>128</sup> and receive better salaries than former members of the military who lack these relational skills with dogs. When I asked Esteban what it meant for the military to have a dog with leishmaniasis, he said the following:

Dogs are the eyes of the troop. When there is no dog, sometimes soldiers do not want to move [in the operations area]. There are troops that do not move because they don't have the confidence the dog provides them to move here and there. We become practically blocked. That happens when a dog gets leishmaniasis and has to be evacuated [from the operations area].

In his view, a dog with leishmaniasis undermines in crucial ways the military operations. Since dogs and soldiers are similarly relevant for the performance of the troop, "soldiers see dogs as equals, a dog is just another soldier," he said (see also Bedoya Lima, 2011). When any of them becomes sick, their absence in the operations area is perceived as a similar problem.

If you don't have the soldier, the soldier is missed, and if you don't have the dog, the dog is missed. Why? Because both the dog and the soldier are indispensable, right? The dog can't be alone, and the soldier can't do the work the dog does either. In other words, both are indispensable. Neither of the two can perform on its own. The soldier does not have the olfactory ability of the dog, and the dog cannot work without the person who guides him/her. They need to be two.

When the dog or the soldier is affected by leishmaniasis, the virtually inseparable canine binomial suffers. As *they need to be two*, the duo, the dog-human couple is weakened by the disease, and the troop is forced to grope in the *selva*.

Although Esteban acknowledges that dogs do not enter the war voluntarily, he thinks that they, like soldiers, often have a better life than if they had stayed outside the Army. For that reason, he thinks, the notion of victim does not always apply well to soldiers or military dogs.

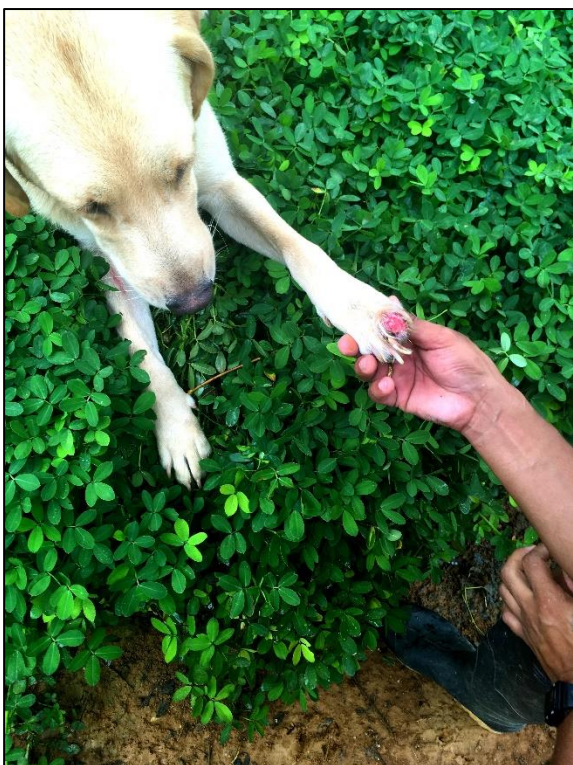
For some dogs, the quality of life in the Army increased, unimaginably. Why? Because they were hardly going to get a plate of food every day, they were not going to get their vaccines, nobody was going to play with them. So, here, we do a lot of things that are very pleasant for them, that they were not going to find anywhere else, do you understand me? The same thing happens with us, the soldiers.

However, Esteban and other dog handlers believe that the victim category should not be dismissed altogether. For them, dogs and soldiers are equally exposed to the armed conflict and to all the risks that the direct participation in the war entails (see also Bedoya Lima, 2011). "If there were no war, we wouldn't have to use dogs," Esteban said. They can be



considered victims because they are “forced into ‘becoming with’ [a warfare] state apparatus” (D. J. Haraway 2008, 37). For Esteban, dogs are victims because they go through the same hardships and sufferings soldiers go through in the operations areas. “They fall into explosive devices, they lose their lives, they are also attacked by enemy fire, and they also get leishmaniasis,” he explained. In Esteban’s view, leishmaniasis is one of the customary ways in which dogs and soldiers—as well as the species binomial they form—suffer from war. In addition to acts of direct violence, leishmaniasis also makes human and non-human members of the Army into victims of the war. It is the conjoined bodily experience of gunfire, explosive devices, and leishmaniasis that puts dogs and soldiers on a similar plane, revealing their shared vulnerability, biological commonalities, and coupled victimhood.

Although military dogs are considered property of the Colombian state and “working tools” for military operations, in the ordinary life of the armed conflict, they resist that categorization and acquire a less instrumental connotation through the affective relations they develop with their military human companions. Not by choice, they act as biotechnologies, workers, warfare tools, companions, troop members, and victims of the war. Actually, the leishmaniasis experiences of these non-human members of the military make evident that their status within the Army is closer to that of soldiers and other human participants and victims of the war. Precisely, when Army dogs are affected by this disease, the hierarchies and distinctions between humans and non-humans get destabilized in major ways. Reflecting on Jeremy Bentham’s writings, Alex Nading (2013, 71) discusses that “a shared capacity to suffer—to feel pain and discomfort bodily, rather than to express it linguistically—forges a moral connection between humans and other animals.” The experience of leishmaniasis shared by dogs and humans points to the need for public health and peacebuilding efforts to articulate and reconsider suffering as a more-than-human capacity in terms of both disease and war. In that sense, documenting, recognizing and repairing the consequences of war also means understanding health afflictions as inherent to the armed conflict, and the human as part of a heterogeneous group of beings who have suffered it (Lyons, Pinto-García, and Ruiz Serna Forthcoming).



**Figure 7.1** Serena, her leishmaniasis lesion, and her soldier guide.

## Serena

While soldiers were cleaning up the military canine training center inside the General Liborio Mejía Battalion in the outskirts of Florencia (Caquetá), most dogs remained tied up or locked up in the kennels. Serena was one of the very few who were allowed to stay unleashed and outside the cage because of her quiet temperament. She lay elegantly on a clover meadow that made both her golden fur and the leishmaniasis lesion on her left forefoot stand out. The ulcer was open and very swollen, causing her claws to move sideways. Although she must have been in pain, Serena remained stoic and docile. Actually, her half-open

eyes seemed to indicate that she was enjoying the morning freshness and the bright and still-pleasant rays of the sun (Fig. 7.1).

When I met Serena, she was about four years old. Two and a half years before, she and a professional soldier had turned into a *binomio canino*. Yet, soon after their “graduation,” that soldier was caught with drugs by his superiors and dismissed from the Army, leaving the dog-man duo sadly incomplete. She was then reassigned to another professional soldier, Rubén, and both had to receive the complete training once again in order to be able to work together. After 7 years in the Army, Rubén had managed to prove to his superiors that he was a good soldier and deserved being trained as a dog handler. Serena was the first dog he was assigned. When both were deemed ready by their trainers, they entered the operations area and stayed six months *enmarañados* in forested areas of Caquetá. After a month of rest, as soon as Rubén and Serena met again, she gave him her hand. According to Rubén, she was showing him that something was not quite right with her paw. A fungus, he thought. He applied an antifungal cream and Lepecid, a purple antiseptic for cattle and dogs that is also used to kill *nuches* [fly larvae]. But none of that

worked. On the contrary, it made the lesion even more irritated. Even though Rubén asked for permission to stay in the battalion, out of the operations area until Serena's foot had healed, his request was ignored and they had to enter the operations area again. "Almost three months later, the doggie's lesion got the way it's now, big and raw," he told me. Still in the middle of the *selva*, and despite Rubén repeatedly telling his superiors that the sore was likely to be leishmaniasis, he received another antibacterial and antifungal cream to treat Serena. The lesion did not improve, and Serena was suffering from the long walks, the grass, the branches, the puddles, the humidity, and the accidental stumbling of the soldiers who sometimes inadvertently stepped on her.

A dog like that, with leishmaniasis, in the [operations] area, what for? It's like having a sick soldier, a soldier with appendicitis for example. If he *se enmaraña* [gets into the *selva*], he has to walk and suffer. I mean, you suffer for him, for the soldier, because you see him not feeling well. And they [the commanders] start to *mamar gallo* [make up excuses] for not evacuating him, they wait 10, 20 days. They wait until they see it's serious, and then they take him out. This also happens with dogs. A dog doesn't get to be evacuated until they [the commanders] see it *putiado* [broke down] from leishmaniasis. I experienced that with Serena, I lived that. The doggy had leishmaniasis, they knew it was leishmaniasis, and I was informing it was leishmaniasis, and they didn't even take her out of the operations area. I had to force the dog to work. Because, if you don't put the dog to work, they make a report on you.

Six months passed again until she and Rubén were allowed to leave the *selva*. Back in the battalion, Rubén wanted to get an accurate diagnosis for Serena. First, he was told to go to Florencia (Caquetá) for a blood test that came out negative. That result did not convince Rubén. From the experience of several fellow soldiers who had been affected by leishmaniasis, he knew that the disease was commonly diagnosed with a smear, not with a blood test. A bacteriologist at the Army dispensary helped him carrying out this procedure and the diagnosis came out positive. What a relief, he thought. However, at that moment, Glucantime was no longer authorized for the treatment of Army dogs.

Trying to provide a therapeutic alternative for animals like Serena, military veterinarians have reviewed the scientific literature and found reports indicating that other pharmaceuticals such as allopurinol, mabofloxacin, and ketokonazole might be useful to eliminate (leishmanicidal effect) or at least inhibit the growth (leishmanistatic effect) of *Leishmania* parasites. Unlike Glucantime, these drugs do not have any sort of restriction.

Thus, the Army can easily purchase them independently from MinSalud. However, the results have not been encouraging. Serena, for example, has been treated with some of those drugs for more than a year and her body has not been able to form a definitive, long-lasting scar. For Rubén, Serena's tribulations and hardships with leishmaniasis have been extremely frustrating and encumbering, as he has not been able to work normally since the dog became sick. When we spoke, he was in the canine training center taking care not only of Serena but also of two other dogs with leishmaniasis: Tabaco, with one lesion on the testicles, and Scott, with an ulcer on the nose. "Both of them already finished the treatment, but the drugs didn't do anything to Tabaco's testicles. Scott's ulcer had almost healed, but it's now open again," he said. At that moment, Rubén was very skeptical about Serena, Tabaco, and Scott's actual possibilities of recovery from the disease.

"If Serena would get better and the vet decided to *darle de baja* [take her off duty], would you adopt her?" I asked him, knowing that, in that situation, adoption priority is given to handlers. "Yes! She's so perfectly quiet and obedient, and my son would be happy with her at home," he replied. "And if that happens, would you be assigned a different dog?" I asked. "I refuse to accept any more dogs because I've suffered too much with that little dog," he said. Being in charge of a sick dog with an uncertain prognosis, whose treatment has proven ineffective on several occasions, has been too frustrating for Rubén, so much so that he prefers to stop working as a military dog handler altogether. At the end of that day, Serena was still lying on the clover meadow. From time to time, she would stand up a little, take a couple of limping steps, and settle back into the meadow or a spot out of the sun. If it were up to her, I thought, she would also give up her job detecting explosives in the *selva* to start a new life, without leishmaniasis, next to Rubén's son.

### **A matter of susceptibility**

Today, the vast majority of dogs employed by the Army are either Labrador Retrievers or Belgian Malinois Shepherds. During the week I visited the military canine training center inside the General Liborio Mejía Battalion, there were 35 dogs there: one Golden Retriever, one German Shepherd, and several Labrador Retrievers and Belgian Malinois Shepherds. I also met two veterinarians, three canine trainers, and a handful of professional soldiers taking care of the dogs.

One military veterinarian, Marcela Hoyos, provides medical care to all the sick military dogs who were working for the Army in three *departamentos*—Caquetá, Amazonas, and Putumayo. That means she is the veterinarian in charge of 500-600 dogs on duty, most of them deployed in Caquetá. She enjoys her work and feels proud wearing the military uniform. It is now hard for her to imagine resuming the life she had before joining the Army, moving from one farm to another, dealing with ranchers and taking care of livestock and horses. She decided to join the Army because it guarantees greater contractual stability, as well as the possibility of retiring much faster than if she had continued practicing her profession in the civilian sphere. In the Army, there is a clear routine, a fixed salary, and she knows what to expect. She likes that. Although it has not been easy, the institution has also allowed her to continue studying, which is an opportunity she finds very rewarding.

Marcela explained to me that German Shepherds often develop hip problems, so the Army hardly works with them anymore. Golden Retrievers have very long fur and tend to suffer a lot from the hot weather that is common in many areas of Colombia where soldiers and dogs are deployed. Armed actors and coca plantations are commonly found within the *maraña*, in densely forested, hot, and humid environments where a thick fur can become unbearable. Thus, Golden Retrievers are no longer that common either. To illustrate how difficult it is for a furry dog to work in Caquetá, Marcela told me about Peluche, a golden retriever who used to work as a mine detector.

Here, in this area, where it is extremely hot, and the temperature is always very high, Peluche used to faint all the time. Those dogs are right for cold places, like Bogota, but not for here. The *guía* [dog handler] had to come here from far away, running, carrying Peluche on his shoulder because he was unconscious. And then we had to *canalizarlo* [start an IV] for 5 or 6 days.

In Marcela's opinion, dogs with short fur are better adapted for the work that the war and the Army have imposed on them. She said that although Belgian Malinois Shepherds work very well as mine detectors in the operations area, these dogs tend to be moody and attack people for no apparent reason, which is why they are often considered "emotionally unstable." In contrast, Labrador Retrievers are also good workers and tend to have a calm and friendly character, like Serena. Despite notorious differences between all these breeds, Marcela told me that all dogs are equally affected by leishmaniasis, by tick-

borne diseases such as erliquiosis, babesia, and anaplasmosis, as well as by skin fungi and respiratory and digestive diseases. Like soldiers, differences in the susceptibility to leishmaniasis among dogs mostly depend on the area where they are forced to work. In zones where *selvas* are not that abundant, cases of leishmaniasis among dogs (and soldiers) are sporadic. The opposite is true for places like Caquetá. Among the 35 dogs I encountered at the canine training center, nine were there for health problems: two for anaplasma and seven for leishmaniasis. Marcela told me that times of the year when there are no dogs with leishmaniasis in the Liborio Mejía battalion are absolutely rare, basically non-existent.

Marcela also explained to me that, like humans, some dogs are more or less susceptible to leishmaniasis depending on their immune system and the time they spend in endemic areas.

The susceptibility of dogs depends on the length of exposure [to infected sandflies] and the response of their immune systems. The literature even reports experiments on dogs that were inoculated with *Leishmania* parasites and did not develop the disease, you know? That means their immune system was strong enough to defeat the disease. But there are other dogs who are not like that, who are more susceptible, right? There are some dogs that get sick every time they enter the operations area, but there are others that almost never get sick. So, you see that some dogs with leishmaniasis end up two or even three times here [in the canine training center of the Liborio Mejía battalion]. So, obviously, the best thing is not to send those dogs back to work. I prefer to give them up for adoption, to give them *la baja administrativa* [administrative leave] so that they can leave and rest. Why continue sending a dog that is so susceptible to a disease to an area where it is continuously exposed?

Following this logic, Marcela tells me that, after a maximum of two episodes of leishmaniasis, she removes a dog from service “because its immune system is demonstrating that the dog is susceptible to *Leishmania*.” Her rationale for withdrawing dogs after two presentations of leishmaniasis is based on two reasons. First, because the dog potentially represents a risk to public health—the dog might have parasites circulating in its body, which turns him/her into a reservoir of a zoonosis that can affect other military dogs, soldiers, and other human populations. Second, it does not make sense for her to keep a dog working in the *selva* if it is going to get sick again. “If you are allergic to dust and have rhinitis, why should I ask you to dust? If I already know it’s a dog susceptible to leishmaniasis, why should I put the dog back in the *selva*?” Jaime Rivera, at the CENAM,

also told me that military dogs are usually removed from service after two treatments of leishmaniasis. Once I heard Jaime and Marcela telling me about this policy, I could not help but think of the many soldiers I met in the CRL, who cannot ask for relocation to a non-endemic area after two leishmaniasis episodes. In contrast, these human members of the Army have to go through up to five cycles of intoxicating antileishmanial therapy before having the possibility to be reassigned to a different military unit where soldiers are not routinely exposed to sandflies in the *selva*. Soldiers, however, are not automatically relocated to a non-endemic area after five leishmaniasis episodes. They have to ask for a *junta médica* to take place first.

The *junta médica* is a military occupational medical board, constituted by three military doctors who evaluate Army members' acquired disabilities and medically diagnosed conditions. Its role is to determine whether a person has a disease that the Army considers occupational. This board is also responsible for quantifying the diminution in the work capacity of an Army member and decides whether s/he is still *apto* [fit] to continue in the institution, if s/he should be relocated, and if s/he deserves financial compensation.<sup>129</sup> In the case of leishmaniasis, the *junta médica* decides about the economic compensation soldiers receive for both the scar(s)<sup>130</sup> and conditions accepted as sequelae of the treatment (heart, liver, kidney, or infertility problems) only if they are backed up by medical exams and diagnostic tests.

At the CRL, I was often present at the medical consultations soldiers had to attend before, during, and after their Glucantime treatment. In one of them, a professional soldier asked the doctor about the *junta médica*. That was the second time he had been diagnosed and treated against leishmaniasis, so he wanted to know if he should ask for his case to be reviewed by such a board. "The Army only pays once for any given pathology," the doctor said. In other words, leishmaniasis scars and treatment sequelae are only compensated once in the military life of a person. If he did ask for a *Junta Médica* to take place at that moment, having passed "only" through two Glucantime treatments, he would have used up his only chance to get any compensation for leishmaniasis. Because he was eventually going back to the *selva*—the doctor continued explaining—it was better for him to wait until he had his fifth antileishmanial treatment. At that moment, not before, he could ask to

be relocated to a non-endemic area for leishmaniasis—a cold zone where the probability of getting the disease was very low. So, the doctor recommended him to wait until the fifth treatment to request his case to be evaluated by the *junta médica*. At that point, the medical board would probably decide to compensate him for *all* the accumulated scars and treatment sequelae from *all five* Glucantime treatments. “*Véalo como un ahorro* [look at it as savings],” the doctor concluded.

## **Conclusion**

The conflict has made ordinary the constant presence of human bodies in the *selva*, particularly young and armed men (also women in the case of guerrillas), wearing boots and camouflage uniforms. For their unequaled bodily capacity to sniff and detect landmines and other explosive devices, the conflict has also turned dogs into crucial actors of the war. Military operations cannot be carried out without soldiers, and dogs have become vital and decisive to ensure their survival. Consequently, human and non-human members of the Colombian Army become similarly exposed to the mortal and non-mortal harms of armed combat. Also, they face the same vulnerability to sandfly bites and the *Leishmania* parasites these tiny inhabitants of the *selva* transmit. Thus, the leishmaniasis experience of human and non-human members of the military brings to the fore the constitution of the canine binomial, as well as its conjoined *enmarañamiento*, the biological commonalities of military humans and military dogs, and their shared victimhood. Both suffer the inconveniences of having an open sore on their skin that resists scarring. Leishmaniasis lesions affect the working ability of both, and they equally need to be out of the *selva* for their diagnosis, treatment, and healing to take place. In addition, dogs and soldiers are similarly missed in the operations area when they cannot keep working because of leishmaniasis.

While humans and dogs share the same vulnerability to leishmaniasis, and military human and non-human members are affected by the disease because of their direct involvement in the war, the bureaucratic and administrative pathways through which these two populations access antileishmanial drugs remain separate. Until relatively recently, Army dogs were also treated with Glucantime, the same drug that soldiers have received in huge quantities and civilians have lacked in large proportions. Despite its toxic effects, the



systemic administration of Glucantime used to allow dogs to heal their leishmaniasis ulcers in most cases. It also used to make possible that, after two episodes of leishmaniasis, dogs were withdrawn from the Army and could continue living, generally next to the handler's family with whom they had developed very close affective ties. Today, however, Army dogs are in a regulatory and therapeutic limbo that does not allow them access to Glucantime or other antileishmanial drugs. On public health grounds, the Ministry of Health recommends culling all dogs with cutaneous leishmaniasis. The members of the Army refuse to do so under affective and economic rationales. They also consider disproportionate to take such drastic measures to tackle a relatively benign disease in which the role of the dog as a leishmaniasis reservoir is not entirely clear. Consequently, Army veterinarians found it necessary to use other treatments that have not proved effective for the dogs' health situation to improve and their lives to continue outside a kennel, either in the Army or apart from it. While Glucantime used to imply a period of treatment and recovery of about 2 months, now dogs are treated with other medications or drug combinations that are usually ineffective. Although Glucantime's toxicity affects dogs in similar ways than humans,<sup>131</sup> which makes the past experience of non-human Army members with the drug not much better than that of soldiers (see Chapter 6 and 7), the current situation of military dogs shows that access to Glucantime is still better than no access at all. This is true not only for non-human Army populations but also for civilians who continue confronting multiple obstacles to access antileishmanial treatments in Colombia.

Although dogs and soldiers are similarly susceptible to the disease, the chances of avoiding new episodes of leishmaniasis and new cycles of antileishmanial therapy are very different for human and non-human members of the Army. While dogs are withdrawn from service after two episodes of leishmaniasis, soldiers can only request relocation to a non-endemic area after five episodes of leishmaniasis. In addition, the Army compensates soldiers who have gone through the hardships of leishmaniasis only once. This system is perverse. It encourages the few soldiers who have learned about the leishmaniasis-related financial compensations that the Army provides to stay in the institution, putting their health and youth at the service of war despite the disease and the harms involved in each therapeutic cycle with antileishmanial drugs. Arguably, Army dogs are better treated than

soldiers in that respect. Thus, in the world of leishmaniasis and war, the typical hierarchies between humans and animals seem to be inverted. In light of this disease and the way the Army handles it, it is not always clear who is more valuable, whether dogs or soldiers.

## Conclusions



A dry tree trunk cut in half was standing in what appeared to be the geographic center of the Colinas ZVNT—one of the 26 locations designated for the concentration and disarmament of FARC members after the signature of the peace agreement. On the cracks of its surface, a short and thin wooden pole held a small and waving white flag. Though somewhat dusty, the cloth was made of a silky and shiny material—it looked like a square piece taken from an elegant garment, maybe a bridal gown or a first communion dress. As the hems were already worn down, the edges had begun to fray, and each gust of wind threatened to disintegrate the fabric entirely. Right on the center, someone had carefully written three capital letters using a black marker. P-A-Z. *PAZ*. PEACE.

Every time I think of this modest monument, I imagine a guerrilla member feeling the impulse, the need to mark the crack in time that the signature of the peace deal produced in Colombia's historical trajectory. Throughout this period of transition that initiated with the successful end of the peace negotiations in Havana, I have often thought of this flag as a nearly perfect representation of the uncertain times and ambivalent

emotions that most FARC ex-combatants and many other Colombians—like myself—have been going through. For me, that precarious but imposing peace symbol has come to capture the ups and downs of the current circumstances finely. At present, peace in Colombia is at once a remarkable but highly fragile achievement. Peace is polished, clear, and coherent on paper, but convoluted, unfinished, and contradictory in reality. Peace requires high doses of both hope and skepticism in order to be made and remade on a daily basis. Peace did not make us a better or a fairer country overnight. Nor has peace put us on a straightforward path to become a less violent or more democratic nation. However, the almost four years of peace negotiations between the FARC and the state, as well as the more than two years of the peace agreements implementation, have made us more aware of the challenges ahead. I think it is fair to say that we are now better positioned to acknowledge what peace implies, what the aspiration of a non-violent country demands. Now, we are much more cautious in estimating how much remains to be done.

Part of that involves building a deep understanding of the ubiquitous and inescapable nature of war and recognizing that the armed conflict has been capable of penetrating every sociocultural corner of the Colombian society. Aiming at tracing the complex connections between disease and violence, this dissertation offers an ethnographic narrative aligned with what Didier Fassin has named a *politics of recognition* which, “as opposed to a politics of denial, implies both identifying and naming violence, affirming its existence where it is ignored, and giving it a reality by speaking of it” (Fassin 2009a, 117). As such, this work has exposed that, when warfare and militarization are pervasive, violence spreads everywhere, engulfing even the actors, objects, discourses, and good intentions of biomedical research and public health.

Throughout this dissertation, I have contended that grappling seriously with the problem that leishmaniasis represents in Colombia demands to keep war at the center of the analysis. This entails pulling war back into the story whenever necessary, whenever the armed conflict is merely pictured as a contributing factor to the larger issue. In the previous pages, I have also shown that the predominant narratives circulating about leishmaniasis in Colombia have minimized the role of the war. This has left unaddressed the many ways in which the suffering produced through leishmaniasis is not necessarily caused by the bodily

manifestation of the disease, but often results from the entanglement between the marks left on the skin and the ideas and practices of biomedicine, public health, and the armed conflict.

In this work, I have shown that war and leishmaniasis have formed an intricate and messy *maraña* that entangles, through multiple processes and mechanisms, a broad range of actors, institutions, knowledges, logics, practices, and technologies. Leishmaniasis is not simply a side-effect of the conflict. Nor is violent conflict a separate entity affecting leishmaniasis' natural course from the outside. On the contrary, this disease and "all the [other] effects of war violence inhabit the same plane" (MacLeish 2013, 9). War and leishmaniasis are not two phenomena that circumstantially encounter each other when combatants enter the *selva*, get bitten by sandflies, and leave these forested environments with growing skin ulcers. Instead, the experience of leishmaniasis in Colombia for all those affected by the disease—not only for soldiers, guerrillas, or paramilitaries—is shaped in multiple ways by the armed conflict. In a similar vein, war is also enacted through leishmaniasis, especially when a person's access to medical care and antileishmanial drugs depends on his or her status vis-à-vis the logics and social fragmentations produced by the war. The case of leishmaniasis in Colombia is emblematic for its capacity to instantiate how society and technoscience are co-produced (Jasanoff 2004) in a violent context, establishing and reproducing warfare regimes of health and illness that divide populations between included allies and excluded enemies.

What this disease tells us about the conflict in Colombia is that war spreads everywhere, that violence invokes unanticipated actors and mechanisms, and that, in order to overcome the armed conflict and achieve peace, it is not enough to deal with the obvious expressions and consequences of war. Instead, peace demands to dig deep into war's thick sedimentations in the ordinary, embedded in human and more-than-human lifeworlds. I have offered two interrelated terminologies that could be useful to avoid sidelining the war in our understandings of leishmaniasis. They are also intended to address the missing complexities of epidemiological discourses that describe the armed conflict simply as a social determinant of this disease. Finally, they aim to question global health framings that

easily and almost automatically blame all that is wrong with leishmaniasis—in Colombia and elsewhere—on its neglected status.

First, speaking of *Colombian leishmaniasis* forces us to carefully consider the local particularities, the historical trajectories, and the geopolitics of knowledge that make leishmaniasis in Colombia so distinct, as a result of its *enmarañamiento* with the war. As Michael Westerhaus has noted, to do without the crucial role that violence plays for the transmission and suffering linked to certain infectious diseases “risks the formation of an acontextual narrative with questionable accuracy” (2007, 595). Thus, I have also emphasized that speaking of leishmaniasis as *a disease of war* is helpful to shift the focus to the *maraña* and stay close to its deeply entrenched entanglements to the armed conflict for as long as it takes to generate a different—and hopefully less violent—relation between these two phenomena. Secondly, I have proposed the use of the *pharmaceuticalization of war* terminology to conceptualize the mechanisms and practices through which pharmaceuticals are made into strategic war-making agents in response to logics and social orders engendered by the armed and social conflict. Health access barriers are not “natural occurrences.” They do not emerge from one day to the other lengthening the distance and widening the gap between the sick and the cure. Obstacles between individuals and the fulfillment of their rights are created following power structures whose disposition and rigidity depend on historical processes. The war in Colombia has been a constituting element of the contemporary political architecture that puts some above others and justifies violence against certain populations. Among many other imbalances, the war has given shape to a reality in which, in rural areas, not only guerrillas but also civilians are left for the most part untreated. In contrast, soldiers of the Colombian Army represent the only group of people that has full and guaranteed access to Glucantime, the pharmaceutical traditionally used to manage leishmaniasis in Colombia. Yet, the haste of making soldiers available to wage the war has placed this drug at the center of a therapeutic machine where military bodies slowly deteriorate and finally become disposable.

Bringing these constructs together, I hope I have convinced the reader that the disentanglement of leishmaniasis and the armed conflict should not be framed as a biomedical problem with a pharmaceutical solution (Pinto-García 2019). As Beth Linker

writes, it is an illusion to think “that the human ravages of war [can] be erased with a technological fix” (2011, 7). In other words, pharmaceuticalizing the solution is not the answer either. If we were to eliminate the access barriers to Glucantime, thinking this is *the* way to solve the issue, we would be not only simplifying the problem but also overlooking the additional elements constituting the *maraña* and the war-loaded experience of Colombian leishmaniasis. Although crucial, improving access to Glucantime for humans and non-humans is just but one of the many actions needed to start transforming the violence leishmaniasis sufferers have to go through. However, by limiting our actions to that, we would be ignoring the damages caused by this highly toxic drug, as the bodies of Colombian soldiers have born witness to. Even if new biomedical technologies were developed to prevent or treat leishmaniasis, their introduction in Colombia would most likely follow the same lines of Glucantime distribution, leading to the same violent patterns of inclusion/exclusion, and leaving unchallenged the stigmatization of leishmaniasis sufferers as guerrilla members.

I have striven to engage with complexity by paying careful attention to some of the multiple threads that hold the *maraña* together. In an attempt to link theory, analysis, and critique to practice, I want to briefly reflect on how some of those problematic elements that I have made visible lead to possibilities of intervention to reduce the harm attached to leishmaniasis in Colombia. What can we do to start disentangling war and leishmaniasis? How can this dissertation inform specific actions and policy options to alleviate the suffering of those affected by this disease? First, I believe it is important to generate strategies to de-stigmatize the disease at different levels. In places where the stigma of “the guerrilla disease” persists, it is crucial to establish concrete actions to identify and challenge the friend/enemy logic every time it operates and puts at risk the health care and safety of those with leishmaniasis ulcers. To this end, it is important to work at the community level, in clinical practice, and within both public health and defense institutions.

Second, it is urgent to change the systematic administration of Glucantime systemically to treat all cases of leishmaniasis in Colombia. As I argued in Chapter 4, the use of this drug in this particular way should be strictly limited to the specific cases when no other therapeutic alternative seems suitable. Local therapies such as thermotherapy and

the intralesional delivery of Glucantime are alternatives that can be introduced at present. I mentioned that, during the conflict, ex-combatants who had medical responsibilities within the FARC accumulated great experience treating leishmaniasis by injecting Glucantime directly into ulcers. This knowledge and skills constitute valuable opportunities to work with ex-combatants and invite them to become key participants in multidisciplinary efforts to bring this type of therapeutic alternatives to rural and remote areas in Colombia. I see in such a project an important opening for peacebuilding.

Third, I consider there are at least two ways in which the leishmaniasis experience of soldiers can be transformed in order to reduce harm. On the one hand, the Army should provide permanent opportunities for all its members to learn about the disease. This could lead to a shared understanding of the necessity to evacuate soldiers—and military dogs—as soon as ulcers appear, and to avoid blaming and stigmatizing soldiers when they become sick. Also, public pedagogy materials should be created for members of the Army to learn not only about the disease but also about antileishmanial treatments, what is known and unknown about them, and the rights they are entitled to for having been affected by this occupational disease. It is crucial, also, that this complete information is provided when young men who have turned 18 approach the Army to define their military situation. In other words, the production of ignorance about leishmaniasis within the Army should be assertively challenged.

Fourth, Colombian health authorities must understand as their responsibility the therapeutic limbo in which the Army and Police dogs affected by leishmaniasis are. Currently, these animals do not have access to Glucantime or any other effective treatment to ensure long-term healing of their lesions. For ethical, affective, practical, and biological reasons, euthanasia does not seem to be an appropriate solution. Therefore, regular channels should be established through which dogs employed by the state in defense activities have full access to treatment and are granted the possibility of continuing their lives outside a kennel.

Finally, I believe that scientists are key and powerful actors in achieving these goals. In the conversations I had with many of them, I learned that they are often frustrated because they feel that the distance between the work they do and the changes needed to



transform the reality of people affected by the disease is still very wide. For many, it remains difficult to imagine how their work and their position in society can contribute in concrete ways to the construction of a non-violent country. However, I believe that the possibility of disentangling war and leishmaniasis—starting with the actions mentioned above—depends to a great extent on laboratories and scientists. The spaces of science and those who inhabit them have much more political and cultural capital than a soldier or a peasant to press for the necessary changes at the level of public policy. Moreover, scientists should be able to reflexively examine their everyday practices to challenge the perpetration and perpetuation of violence that take place within biomedical research spaces. In addition, their constant interaction with people affected by the disease throughout the country opens daily possibilities to understand in what other ways war and disease remain *enmarañadas* and what actions can be taken to produce alternative scenarios. At this historical point where peacebuilding involves individual and collective day-to-day commitments, it is necessary that the conception and execution of scientific research projects seriously articulate the objectives of science with the objectives of peace.

## Notes

<sup>1</sup> Unless otherwise indicated, all the names used in this dissertation, whether human or canine, are pseudonyms. I have altered some identifying details to ensure confidentiality.

<sup>2</sup> As I will continue explaining in further detail, biomedicine describes two major forms leishmaniasis: cutaneous and visceral leishmaniasis. Unless otherwise indicated, in this dissertation I use the term *leishmaniasis* to refer to cutaneous leishmaniasis—as opposed to visceral leishmaniasis—which is the illness my research is concerned with.

<sup>3</sup> Glucantime and ThermoMed are brand names. Glucantime is produced by the pharmaceutical company Sanofi, and ThermoMed is a radio-frequency transmitting device produced by a US-company called Thermosurgery Technologies. Miltefosine is the active ingredient's name of an oral drug commercialized under the name Impavido, whose ownership rights have been exchanged many times through business mergers and acquisitions since its first registration for visceral leishmaniasis treatment in India in 2002 (Barbeitas 2020; Sunyoto, Potet, and Boelaert 2018). Miltefosine currently belongs to the Canadian company Knight Therapeutics.

<sup>4</sup> Since 1976, both men and women make part of the Colombian Army. However, until 2009, military women could only occupy low-profile administrative positions, and no command or combat responsibilities were assigned to them. While this situation started to change in 2011, when 48 women became officers with the rank of second lieutenants (Ejército Nacional 2013), the Colombian army is a strongly male-dominated institution. The lower ranks (*bachiller*, regular and professional soldiers) are composed exclusively by men, and male officers disproportionately dominate power positions within the Army.

<sup>5</sup> In this dissertation, I use the acronym FARC (Revolutionary Armed Forces of Colombia) and not FARC-EP (Revolutionary Armed Forces of Colombia – People's Army) to refer to this now dissolved guerrilla group. I prefer the FARC acronym because this is how people in Colombia commonly refer to this organization.

<sup>6</sup> According to 2016 data from the World Bank, Colombia is the 7<sup>th</sup> most unequal country worldwide and the 2<sup>nd</sup> in Latin America, after Honduras.

<sup>7</sup> For a journalistic account of this and related cases, see Ballvé 2008; Hodgson 2001; Avella Bermúdez 2017.

<sup>8</sup> On the pharmaceuticalization of public health in developing countries, see also Whitmarsh 2008; Hayden 2007; S. E. Bell and Figert 2012.

<sup>9</sup> While this is not totally unlike the simultaneous *militarization of medicine* and *medicalization of war* suggested by Mark Harrison (1996), the *pharmaceuticalization of war* lays primary emphasis on the crucial participation of pharmaceuticals in armed conflicts, and the co-constitution of wartime social orders and pharmaceutical regimes.

<sup>10</sup> According to Fernandes Cota et al. (2016), in the Americas, this so-called “spontaneous self-healing” or “self-resolving cutaneous leishmaniasis” occurs in 6 - 26% of the people and varies depending on the parasite species.

<sup>11</sup> Although asymptomatic people are clinically unimportant and very hard to quantify, they are relevant in terms of public health because they can act as reservoirs—sources of infection for sandflies that can bite other people and make them sick (see Rosales-Chilama et al. 2015).

<sup>12</sup> Taking into account underreporting in official public health surveillance data, Alvar et al. (2012) have estimated that there are 0.2 - 0.4 million cases of visceral leishmaniasis and 0.7 - 1.2 million cases of cutaneous leishmaniasis every year in the world.

<sup>13</sup> In 1991, *Leishmania colombi* was described as a new parasite species, based on samples taken from humans, sandflies and a sloth in Colombia and Panama (Kreutzer et al. 1991). Despite its name, this species is not the most widespread in the country. From the nine *Leishmania* parasite species that circulate in Colombia, *L. panamensis*, *L. braziliensis*, and *L. guyanensis* are most frequently involved in leishmaniasis cases (Ovalle-Bracho et al. 2019).

<sup>14</sup> For example, Anderson 2006, 2008; Brown et al. 2006; Cueto 2007; Fassin 2012; Lezaun and Montgomery 2015; Neill 2012; Packard 2016; Quevedo et al. 2004; Stepan 2015.

<sup>15</sup> See, for example, Ashford 2000, Choi and Lerner 2001, Dujardin et al. 2008, Pavli and Maltezou 2010, and Saravia and Nicholls 2006.

<sup>16</sup> Tragically, the number of victims of the Colombian armed conflict continues to grow. The figure of 8,874,110 victims, which corresponds to approximately 18.3% of the Colombian population (more than 48 million people according to the last census), was reported by the National Registrar of Victims (RUV), as of August 1, 2019 (<https://www.unidadvictimas.gov.co/es/registro-unico-de-victimas-ruv/37394>). This number

corresponds to people who have been registered by the state as victimized in the scope of events related to the armed conflict such as: forced land abandonment or dispossession, terrorist actions, attacks, combats, threats, confinement, crimes against freedom and sexual integrity, forced disappearance, forced displacement, homicide, physical injuries, psychological injuries, anti-personnel mines, explosive devices, kidnapping, torture, recruitment of children and adolescents. For an STS exploration of the politics and practices involved in the construction of the RUV and the translation of deaths and people's painful experiences related to the Colombian armed conflict into numbers, see (Mora-Gómez 2016a, 2016b).

<sup>17</sup> According to a major historical memory report published in 2013, paramilitaries have been the cruelest and bloodiest armed actor carrying out the major and most atrocious massacres, targeted killings and enforced disappearances of the Colombian armed conflict, in many occasions with support and collaboration from the state (CNMH 2013a). Despite the controversial demobilization of the AUC that took place between 2003 and 2006, during Alvaro Uribe's government, the paramilitary movement was not dismantled. Although the government claims that paramilitaries do not exist as they used to, it uses the term "*bandas criminales*" [criminal gangs] or "*bacrim*" to name the paramilitary structures that still operate today (see Valencia and Montoya 2016). Civil society organizations have called these groups "neoparamilitaries," "third generation of paramilitaries," "heirs of the paramilitaries," or simply "paramilitaries" (Masse 2011). Throughout this dissertation I use the term "paramilitaries."

<sup>18</sup> My own translation from Spanish into English. Unless otherwise indicated, all translations in this dissertation are my own.

<sup>19</sup> Names within single quotation marks are *nombres de guerra* or war names guerrilla members choose and start using once they become part of guerrilla organizations.

<sup>20</sup> The acronym FARC used to stand for Fuerzas Armadas Revolucionarias de Colombia (Revolutionary Armed Forces of Colombia). As a result of the peace deal, ex-guerrilla members founded a political party in August 2017 and, since then, FARC stands for Fuerza Alternativa Revolucionaria del Común (Common Alternative Revolutionary Force), a new name people in Colombia are still unfamiliar with.

<sup>21</sup> Figure provided by the Defensoría del Pueblo (Ombudsman's Office) as of February 28, 2019.

<sup>22</sup> The leishmaniasis clinical practice guideline that was produced in 2010 (MinSalud 2010a) and used until the 2018 guideline was issued (MinSalud 2018a), mentions that there were 6,500 annual cases of leishmaniasis in the 1990s and 14,000 annual cases in the 2000s. However, more recent documents and reports (see, for example, MinSalud and INS 2017) talk about a marked increase between 2005 and 2006 of almost 20,000 cases per year, followed by a decrease between 2008 and 2016 (between 8,000 and 15,500 cases per year). In addition, a study led by the WHO on leishmaniasis incidence worldwide (Alvar et al. 2012) reports 17,420 cases of cutaneous leishmaniasis in Colombia per year between 2005 and 2009. Considering the level of underreporting in Colombia (2.8 – 4.6 fold), this study estimates that the actual number of cases lies between 48,000 and 80,100 per year. This last figure contrasts significantly with the figure of 14,000 annual cases that gets usually mentioned.

<sup>23</sup> As I explain in more detail in Chapter 6, families who have the financial means to pay for their 18-year-old sons to skip the military service usually do.

<sup>24</sup> The National Center of Historical Memory, in its report *Una Sociedad Secuestrada* [A Kidnapped Society], documents five historical periods to describe the phenomenon of kidnapping in Colombia. It initiated between 1970 and 1989, escalated between 1990 and 1995, expanded between 1996 and 2000, and was contained between 2001 and 2005 for its subsequent sharp decrease between 2006 and the present (CNMH 2013b, 40). In 2012, when the FARC announced they would stop practicing kidnapping as one of the government's conditions to start peace negotiations, kidnapping had already drastically declined from 2,122 cases in 2003 to 305 cases in 2012 (Gurney 2015).

<sup>25</sup> Except for Zuleta, who is trained as a geographer, all these authors have a background in medicine and/or public health. In addition, Franco et al. work was published in a public health journal (*Ciência & Saúde Coletiva*) and Beyrer et al. in one of the most renowned medicine periodicals (*The Lancet*). The article by Vélez and Zuleta was published in an issue of the European journal *EU-topías* (EU-topías 2011), the result of an initiative launched by a group of scholars related to global health institutions such as the World Health Organization and the Special Programme for Research and Training in Tropical Diseases (TDR) (Alvar and Talens 2014).

<sup>26</sup> Some scholars have employed qualitative and anthropology-informed methods to study the cultural and social aspects of leishmaniasis in Central and South America (Arana and Rizzo 2000; Dobles-Ulloa and Perriard 1994; García Guevara 2007; Isaza et al. 1999; Moreira et al. 2002; Pardo et al. 2012; Ramdas 2012, 2015; Vásquez et al. 1991; Iván Darío Vélez et al. 2001; Weigel et al. 1994; Weigel and Armijos 2001). Although these works of

medical anthropology are informative for this project, as they point to relevant leishmaniasis-related cultural practices that concern my own inquiry, they limit their focus to the study of individual and collective lifestyle differences that contribute to determine how different affected populations have coped with the disease. They exclude from their analyses the social-structural approach of critical medical anthropology, which takes into consideration political economy, the structure of social inequalities, power relations, hegemonic ideologies, and forms of struggle and embodiment that shape health and disease (Singer and Erickson 2013, 26). Pimenta et al. (2007) have adopted a critical anthropological approach closer to the perspective I introduce in my own project to study fourteen educational videos on leishmaniasis produced in Brazil from 1981 to 1992. The work of Louis Patrick Haraoui (2007), based on ethnographic research conducted in Burkina Faso, is a noteworthy exception.

<sup>27</sup> See, for instance, Guarnizo Alvarez 2010; Molano Bravo 2005.

<sup>28</sup> See, for example, El Tiempo, 2008; Vélez and Pérez, 2016. I will come back to this in Chapter 5.

<sup>29</sup> 1,037 foreigners were kidnapped between 1970 and 2010. 97% of the victims of kidnapping in Colombia were Colombians and 3% of them were foreigners. Yet, in the case of foreigners, the risk was experienced as being higher. This type of victim was highly appreciated by the kidnappers because they had the potential to serve both economic and political purposes (CNMH 2013b, 80).

<sup>30</sup> The Kroc Institute for International Peace Studies, based at the University of Notre Dame in the United States, was assigned by the Colombian government and the FARC to follow the progress of the peace agreement implementation. The last of the two documents published so far report that, although many of the short-term measures were successfully implemented, the current progress of middle and long-term actions for sustainable peace is, at best, discouraging (Kroc Institute 2018).

<sup>31</sup> Colombia is politically and administratively subdivided in 37 territorial divisions: 32 *departamentos* and five districts (Bogotá, Cartagena, Barranquilla, Santa Marta y Buenaventura). Boyacá, Tolima, Caquetá, Guaviare, Putumayo, Amazonas, Nariño and Antioquia are some of the *departamentos* I mention in this dissertation.

<sup>32</sup> The Colombian Army has approximately 250,000 members.

<sup>33</sup> In Colombia, the term *Fuerza Pública* [Public Forces] encompasses both the military forces (Army, Navy, and Air Force) and the Police.

<sup>34</sup> I have written about this elsewhere. See Pinto Garcia, 2019.

<sup>35</sup> For more information about historical memory initiatives created by civil society organizations, see <http://redmemoriacolombia.org/>.

<sup>36</sup> Google Translator, DeepL, and Grammarly have proved to be useful for me.

<sup>37</sup> As I explained in the introduction, mucosal leishmaniasis is usually considered a complication derived from cutaneous leishmaniasis. Mucosal leishmaniasis occurs when *Leishmania* parasites migrate to mucous membranes, especially those of the nose, mouth and throat. In this form of the disease, damage can be extensive and partial or total destruction of the nose and mouth may occur, causing serious disabilities, disfigurements, mutilations and even death. However, only 1-4% of the cutaneous leishmaniasis patients develop mucosal leishmaniasis in Colombia (INS and MinSalud 2017). During my research, I only saw a couple of cases among Army soldiers and no case at all in Candelario and Colinas.

<sup>38</sup> See, for example, journalistic (Acevedo Serna 2012; Contexto Ganadero 2014; Minuto 30 2013: 30; Molano Bravo 2005b), scientific (Beyrer et al. 2007; PECET 2015; Velez et al. 2001; Zuleta and Velez 2014) and testimonial (Emanuelsson 2012; Semana 2018a) accounts that have framed leishmaniasis as ‘the guerrilla disease’.

<sup>39</sup> This term, which seeks to hybridize Fidel Castro and Hugo Chavez in a fearsome communist chimera, was coined by former President Alvaro Uribe during his campaign against negotiations and peace agreements between the FARC and the government of Juan Manuel Santos. Since then, it has been intensely repeated by him and others, as an iterative slogan to discredit all sorts of people, actions, and opinions (see González 2017).

<sup>40</sup> During my fieldwork, I heard people referring to sandflies as *manta*, *mantablanca*, or *palomilla*. However, I have found documents where names such as *aliblanco*, *jején*, *capotillo*, *arenilla* and *pringador* also appear.

<sup>41</sup> Burning wood that does not produce smoke is a strategic move because it avoids the aerial detection of guerrilla camps by the state Army.

<sup>42</sup> In Colombia, leishmaniasis has been conventionally understood and characterized as a *selva* disease, which affects primarily men whose occupational activity is based in this setting. While the *selva* transmission is still the most commonly observed, scientists have recently become aware of a different phenomenon. They have noticed that transmission might also take place inside and around the houses of people living in rural areas,

which ends up affecting not only men, but also women and children. Scientists refer to this type of transmission as “domestic” (inside the house) or “peridomestic” (around the house).

<sup>43</sup> Depending on the region, leishmaniasis is popularly known in Colombia as *guaral*, *bejuco*, *yateví* or *pito*. However, the term that is most commonly used is *pito*, especially in Caquetá, Putumayo, Guaviare and Meta, which are zones where the armed conflict and the presence of guerrilla groups have been particularly prominent. The biomedical terminology used for the disease, as well as the broad heterogeneity of nonbiomedical names, reflect diverse experiences rather than a unified or uniform understanding.

<sup>44</sup> The ecological understanding of infectious diseases often involves a reservoir, that is, a species, generally an animal, in which a pathogen lives and reproduces. Although not always the case, the pathogen usually does not cause disease to the reservoir.

<sup>45</sup> *Anopheles* mosquitoes transmitting malaria do not only inhabit the *selva*. They are often found in urban and peri-urban areas, living with humans in or around houses (Montoya-Lerma et al. 2011). Moreover, malaria is considered an anthroponosis, which means that humans are sources of infection and the disease can be transmitted by the mosquito from human to human, without the need of a mediating mammal or bird. While this can also be true for leishmaniasis, sandflies are primarily *selva* beings, insects that need the humid and forested ecologies of the *selva* to survive, even in the few cases when they spend part of their lives around and within rural houses (Ocampo et al. 2012). Leishmaniasis in the American continent is generally regarded as a zoonotic disease, that is, an illness that is transmitted by sandflies that feed on infected *selva* mammals. While transmission from human to human (anthroponotic transmission) is plausible and a matter of scientific debate (Ferro et al. 2015; Martínez-Valencia et al. 2017; Vergel et al. 2006), scientists agree that the predominant transmission cycle of leishmaniasis takes place within the *selva*.

<sup>46</sup> Besides the article by Valederrama-Ardila et al. (2010) that I already mentioned, there are some exceptions such as the papers by Mónica Zuleta and Iván Darío Vélez (2014), and by Patino et al. (2017).

<sup>47</sup> The leishmaniasis case surveillance report form the state uses (INS 2019a) has two pages. The first gathers information about the patient and the type of notification. It collects the following data about every patient: name; ID type; ID number; birth date; age; sex; nationality; country, department, area (*cabecera municipal* [main center of the municipality], *centro poblado* [populated area other than the municipal center], or *rural disperso* [dispersed rural area]), locality, neighborhood, and vereda [village] where the leishmaniasis case occurred or where the patient comes from; the patient’s occupation (it has to be reported as a code that comes from the International Standard Classification of Occupations (ISCO)); the type of health coverage the patient has; ethnicity; other groups to which the patient belongs (disabled, migrant, pregnant, displaced, prisoner, indigent, children under state care, community mothers, demobilized, psychiatric center, victim of armed violence, other); *estrato* [a proxy variable for household income]; type of health care activity in which the case was detected (routine notification, institutional active search, community active search, intensified surveillance, research); place of residency and address; medical consultation date; symptom onset date; classification of the case (suspicious, probable, confirmed by laboratory test, clinical confirmation, confirmation by epidemiological link); if the patient was hospitalized or not, and when; if the patient is alive or death. The second page of the form collects information about the disease form affecting the patient (cutaneous, mucosal or visceral), the location of the lesion, the treatment the patient received, and the laboratory test performed.

<sup>48</sup> In recent years, statisticians have plead for the embracement of uncertainty in science and the abandonment of the “statistically significant” terminology, based on the rigid rule of rejecting *p* values above 0.05 (see Oransky 2019). An editorial in a special issue of *The American Statistician* published in March 2019 offers an enlightening and refreshing perspective on this regard. “As we venture down this path”, the editorial says, “we will begin to see fewer false alarms, fewer overlooked discoveries, and the development of more customized statistical strategies. Researchers will be free to communicate all their findings in all their glorious uncertainty, knowing their work is to be judged by the quality and effective communication of their science, and not by their *p*-values (Wasserstein, Schirm, and Lazar 2019, 1).

<sup>49</sup> I decided to visit Ernesto at the end of 2015, in a trip to Candelario that I did in preparation of my research proposal. Thus, the visit took place during the peace negotiation in Havana, a year before the peace agreements between the government and the FARC were reached. Although I was somewhat afraid to leave the urban area of Candelario, that political context was reassuring, as well as being accompanied by Ernesto and his family. More than three years have passed now. As I write this dissertation, the current government’s opposition to peace and the lack of political will to materialize the agreements—especially the implementation of coca substitution projects that would benefit hundreds of thousands of peasants—have

caused the arrival of new armed groups to Candelario and a renewed wave of violence. Today, visiting Ernesto would be impossible for me, and I permanently have concerns about his safety and his family's.

<sup>50</sup> This is a pseudonym.

<sup>51</sup> *Monte* is another word commonly used to refer to the *selva*.

<sup>52</sup> If we do the math, 17.29 ml of Glucantime for 20 days correspond to 69.16 ampoules, each one containing 5ml of the drug. However, once a vial has been opened, remnants should not be saved for the next day. Thus, 17.29 ml of Glucantime demand the use of four ampoules a day, that is, 80 ampoules for 20 days of treatment.

<sup>53</sup> The case of *raspachines* is especial because, as I explained in Chapter 3, they often overnight next to coca plantations where they are highly exposed to sandfly bites. However, the Colombian central government has conventionally stigmatized peasant populations who grow and harvest coca as criminals and guerrilla auxiliaries deserving nothing different than state repression and violence (Ramírez 2005; Tobón 1996). Since their status as legitimate citizens and political actors remains unrecognized, public health measures directed to small coca producers and *raspachines* will probably continue to be denied.

<sup>54</sup> In a Colombian study about the indoor behavior and the effects of insecticide-treated bednets on sandflies, Cabrera et al.(2018) mention that the lack of academic interest in the indoor feeding habits of these insects is related to the typical behavior of sandflies, which tends to be ecologically independent of humans and their domestic environments.

<sup>55</sup> Nonetheless, the US and the Colombian governments have learned little and, despite its prohibition in 2015, they are trying to introduce this poisonous practice once again (Kalmanovitz 2019; Miranda 2019).

<sup>56</sup> According to Barrett's (2004) definition, "[a] disease is controlled if, by means of a public policy, the circulation of an infectious agent is restricted below the level that would be sustained by individuals acting independently to control the disease. A disease is eliminated if it is controlled sufficiently to prevent an epidemic from occurring in a given geographical area. Control and elimination are achieved locally, but a disease can only be eradicated if it is eliminated everywhere."

<sup>57</sup> Tartar emetic was prepared by letting stand sour wine in cups made of metallic antimony (Goodwin 1995, 339).

<sup>58</sup> From a biomedical point of view, leishmaniasis, sleeping sickness and Chagas disease are all caused by flagellated parasites that are collectively known as kinetoplastids, characterized by a DNA-containing granule called kinetoplast.

<sup>59</sup> At the Wellcome Chemical Research Laboratory in London, William Solomon was in charge of testing different compounds in hamsters to find a replacement for Solustibosan. This work concluded with the registration in 1946 of a very similar molecule under the name of Pentostam (Barbeitas 2020). In the same year, Durand and his colleagues reported, for the first time, the successful use of meglumine antimoniate (Glucantime) to treat six patients suffering from leishmaniasis in France (Durand, Benmussa, and Caruana 1946). Another clinical study on Glucantime appeared in the French literature in 1947 (Davis Marsden 1985, 187), and further trials were conducted in Italy in 1948, leading to the commercialization of the drug by a French company called Specia (Greenwood 2008, 309). Specia—Société Parisienne d'Expansion Chimique—was a subsidiary of Poulenc Frères-Usine du Rhône, which later merged with an American and a German company to constitute the group Aventis in 1999. In 2004, Aventis merged with Sanofi, and Sanofi-Aventis emerged as one of the largest pharmaceutical companies in the world (Ravina 2011, 54). In 2011, Sanofi-Aventis changed its name to Sanofi.

<sup>60</sup> Exceptionally, Peru is the only country in Latin America that has traditionally used Pentostam (sodium stibogluconate) and not Glucantime (meglumine antimoniate) (see Oré et al. 2015).

<sup>61</sup> Between 2000 and 2018, the Colombian Ministry of Health (MinSalud) has produced three guidelines—three CPGs—to standardize the clinical management of leishmaniasis. The first one was issued in 2000, the second in 2010 and the third in 2018.

<sup>62</sup> Miltefosine was sold from Asta medica to Zentaris, then resold from Zentaris to Paladin, and then from Paladin to Knight Therapeutics.

<sup>63</sup> This test is also known as the Leishmanin Skin Test. See Krolewiecki et al. 2017.

<sup>64</sup> According to the guideline for the selection of blood donors in Colombia, "[p]eople who have suffered from leishmaniasis may have viable parasites in circulation for long periods, even after clinical recovery, therefore those who have suffered from leishmaniasis should be definitively deferred as blood donors, regardless of whether they have received treatment" (INS and MinSalud 2018, 75).

<sup>65</sup> In Chapter 6 and 7, I show how bad this can get for soldiers. This population is always intramuscularly treated with Glucantime at the CRL.

<sup>66</sup> ThermoMed is a box-like, relatively simple machine, weighing less than 3 kg, produced by a US-company called Thermosurgery Technologies (Phoenix, Arizona). It delivers radio-frequency to a small area of the skin, producing heat at the cellular level. ThermoMed has approval from the US Food and Drug Administration (FDA) to treat not only cutaneous leishmaniasis but also sixteen other skin conditions. It is the only product of Thermosurgery Technologies (see <https://www.thermosurgery.com/>).

<sup>67</sup> Of 308 children ( $\leq 14$  years of age) treated by CIDEIM (International Center for Medical Research and Training) in southwestern Colombia between 2004 and 2010, 26% and 53% could have been treated with local therapies according to PAHO and WHO eligibility criteria, respectively (Blanco et al. 2013). Of 1,891 adolescents and adults ( $\geq 12$  years of age) treated by CIDEIM in southwestern Colombia between 2004 and 2014, 56.3% and 23% could have been treated with local therapies according to PAHO and WHO eligibility criteria, respectively (Uribe-Restrepo et al. 2019). This means that approximately, following the less stringent criteria of the WHO, one thousand people treated by a single institution in Colombia between 2004 and 2014 could have avoided the toxic effects and health deterioration caused by Glucantime and other systemically administered antileishmanial drugs.

<sup>68</sup> In 2017, 13,049 FARC ex-combatants initiated the reintegration process into civilian life (Fundación Ideas para la Paz and Oficina del Alto Comisionado para la Paz 2019).

<sup>69</sup> The FARC completed disarmament in June 2017 (see El Tiempo 2017).

<sup>70</sup> As I mentioned in the footnote 21 of the Introduction, names within single quotation marks are war names that guerrilla members choose and start using once they become part of guerrilla organizations.

<sup>71</sup> As I discussed in the previous Chapter, according to the MinSalud clinical practice guideline, the treatment of a single patient weighing 70 kg requires 80 Glucantime ampoules.

<sup>72</sup> Meta is a *departemento* located in the center-east of the country.

<sup>73</sup> In a journalistic article published by *El Colombiano*, entitled “Glucantime, the other dispute of the war” (Guarnizo Alvarez 2010), military dermatologist Claudia Marcela Cruz Carranza admits that the control over the drug is related to the need guerrillas have.

<sup>74</sup> *Secretarías departamentales de salud* and *secretarías distritales de salud*.

<sup>75</sup> These facilities are officially known in Colombia as *Instituciones Prestadoras de Servicios de Salud* or IPSs.

<sup>76</sup> In the case of antibiotics, for example, existing legislation establishes that their sale is prohibited without a medical prescription since 2005. However, the enforcement of this norms has been only restricted to Bogota, and, as Vacca et al. (2011) showed in a study using undercover careseekers, most pharmacies in Bogota require no prescription to sell these drugs (80.3% of 239 pharmacies involved in the study).

<sup>77</sup> Although it is misleading and unethical to fuse into one entity civilians and members of guerrilla and paramilitary groups, this slippage in language reflects how these two populations are hardly discernable in a guerrilla warfare, and get easily and dangerously conflated.

<sup>78</sup> For an analysis of the emergence and the implications of WHO’s global public health security framework, see (Lakoff 2017).

<sup>79</sup> Biomedical research institutions, whose clinical facilities are officially constituted as IPSs, are an exception to this rule.

<sup>80</sup> In Spanish, “seguridad” means both security and safety.

<sup>81</sup> With the war de-escalation process initiated through the peace negotiations between Juan Manuel Santos’ government and the FARC—notably with the bilateral ceasefire that began on August 29, 2016—confrontations between this armed group and the Army became less frequent, and finally over in November 2016. Also, the presence of soldiers in the *selva* for extended periods decreased. According to a MinSalud public servant official I interviewed, soldiers accounted for 36% of the national leishmaniasis totals in 2016. This figure, however, still represents a large proportion of the leishmaniasis cases in the country.

<sup>82</sup> The values in U.S. dollars are calculated based on the average exchange rate in 2016, equivalent to 3050.98 Colombian pesos for one U.S. dollar (see <http://www.banrep.gov.co/es/estadisticas/trm>).

<sup>83</sup> For Colombians, these stories of corruption are outrageous but not surprising. Corruption is perceived as one of the most pressing, deep-rooted and widespread problems in Colombia (Gallup Colombia 2017; Henao and Isaza 2018). According to Transparency International, an NGO that each year scores countries according to the perceived levels of public sector corruption, in 2018, Colombia ranked 99 among 180 countries, and obtained a score of 36, where 0 is highly corrupt and 100 is very clean (Transparency International 2018). For the sake of comparison, Canada ranked 9/180 and obtained a score of 81/100. Venezuela, whose current government is facing a profound legitimacy crisis, has the worst ranking in Latin America—168/180—and



obtained a score of 18/100. Importantly, in recent times, several corruption scandals have exploded within the Army, resulting from information that members of this institution leaked to the media (El Espectador 2019a).

<sup>84</sup> See also (US Embassy in Colombia 2005d).

<sup>85</sup> See, for instance, El Tiempo 2006, 2008, 2009b, 2009c, 2009a; MOE and Fundación Ciudad Abierta 2017; RCN Radio 2015; Monsalve Gaviria 2017.

<sup>86</sup> See, for example, AFP 2013; Areacucuta 2013; Canal Uno 2011; Diario del Huila 2011; El Colombiano 2005; El Espectador 2014; Llanera 2011; Territorio Chocoano 2011; Vanguardia 2014.

<sup>87</sup> Before becoming a political party in 2016, the FARC was headed by a Commander in Chief, followed by a group of 7 male guerrilla leaders called the FARC Secretariat.

<sup>88</sup> See Contexto Ganadero 2014; El Nuevo Siglo 2011; El Tiempo 2001; La Patria 2013; Semana 2015; Guarnizo Alvarez 2010; Acevedo Serna 2012.

<sup>89</sup> A military doctor also told me that, in a confiscation of Glucantime in the hands of the guerrillas, the Army realized that the ampoules did not contain the medicine. “We do not know if they [the guerrillas] wanted us to use it seeking another result. Finally they [the ampoules] were destroyed” she concluded.

<sup>90</sup> Right before I started my fieldwork at the CRL, in October 2016, all Glucantime treatments within the Army were centralized at this clinical facility. Before that, Glucantime administration was also conducted at the Tolimaida Military Regional Hospital (Tolima) and at the Military District in Carepa (Antioquia). During the time I spent at the CRL, the number of soldier-patients under Glucantime treatment oscillated between 50 and 120.

<sup>91</sup> Throughout the 20 days of Glucantime treatment, leishmaniasis patients lose several kilograms of weight. Unlike other places, in the Army the dose is adjusted daily according to the measured weight loss. If this is not done, patients may be overdosed.

<sup>92</sup> Secondary school students with 18 years or more can delay this obligation until they obtain their school diploma.

<sup>93</sup> The following men may be exempted from compulsory military service: persons with permanent physical and sensory disabilities, indigenous people residing in their territory, victims of the internal armed conflict, demobilized people, single children, clergy and religious persons, married persons sentenced to penalties, siblings or children of persons who have died or acquired an absolute and permanent disability as a member of the Public Force, children of parents unable to work or over 60 years of age, and orphans of parents if they financially support their siblings (Ambito Jurídico 2015).

<sup>94</sup> Although to a lesser extent, secondary school graduates may also be recruited by the Police as *auxiliar de policía bachiller* [secondary school graduate police assistant].

<sup>95</sup> That quota is equivalent to 1% of the family’s assets plus 60% of the family’s monthly income divided by the number of siblings enrolled in education institutions (Ejército Nacional 2019a).

<sup>96</sup> One of those valuable initiatives is the Collective Action of Conscientious Objectors. See <https://www.facebook.com/objetoresyobjetorasdeconciencia/>

<sup>97</sup> A few majors enter the area of operations when they are commanders within counterinsurgency battalions.

<sup>98</sup> Data from the DAICMA (Directorate for Integral Action Against Antipersonnel Mines) database available here: <http://www.accioncontraminas.gov.co/estadisticas/Paginas/Bases-de-Datos.aspx>. These figures include mortal and non-mortal victims of both landmines and unexploded ordnance.

<sup>99</sup> Urabá is a region in northwestern Colombia with a strong presence of armed actors since the 1970s and profoundly affected by violence linked to the armed conflict since the mid-1990s (see Verdad Abierta, 2015).

<sup>100</sup> According to Ariel Avila (2019), the decade between 1995 and 2005 corresponds to the period of greatest intensity of the war in Colombia.

<sup>101</sup> “Casualty” refers to the withdrawal of combatants from military duties, due to death, injury, illness, capture, or desertion. Any member of the Army who is killed, injured, sick, or hospitalized is a casualty. Although the word is commonly used as a synonymous of fatality, non-fatal injuries and disease also lead to military casualties.

<sup>102</sup> The 1998-2003 leishmaniasis figures, which include both the cutaneous and the mucocutaneous forms of the disease, come from a document of the Army (DGSM 2010). The 2004-2016 figures, also including cutaneous and mucocutaneous leishmaniasis cases, were kindly provided by the Army upon my request. The 1998-2016 landmine figures, which includes Public Force (Army, Police, Navy and Air Force) victims of both landmines and unexploded ordnance, come from the DAICMA (Directorate for Integral Action Against Antipersonnel Mines) database available here:

<http://www.accioncontraminas.gov.co/estadisticas/Paginas/Bases-de-Datos.aspx>. Although this database do



not discriminate between Public Force institutions, Army members constitute the most numerous victims of landmines among the four state armed forces (see CNMH and Fundación Prolongar 2017).

<sup>103</sup> These figures, kindly provided by the Army upon my request, include both cases of cutaneous (98.2%) and mucocutaneous leishmaniasis (1.8%). However, the actual number of servicemen with leishmaniasis is hard to determine as some soldiers have been affected by the disease in more than one occasion. Thus, some have been counted more than once.

<sup>104</sup> The Public Force uses a typology to classify psychophysical lesions and determine the associated institutional obligations and compensations. These typology, enforced by the Decree 1796 of 2000 ([https://www.sanidadfuerzasmilitares.mil.co/english/the\\_entity/normativity/decrees/decreto\\_1796\\_2000](https://www.sanidadfuerzasmilitares.mil.co/english/the_entity/normativity/decrees/decreto_1796_2000)), is known among the military as “*los literales*,” which correspond to four types of circumstances under which psychophysical lesions may occur:

*Literal A:* In the service but not for cause and reason thereof, that is, illness and / or common accident.

*Literal B:* In the service, for cause and reason thereof, that is, occupational disease and / or work accident.

*Literal C:* In the service, as a result of combat or in an accident related to it, or by direct action of the enemy, in tasks of maintenance or restoration of public order or in international conflict.

*Literal D:* In acts carried out against the law, the regulation or the superior order.

Thus, leishmaniasis is considered a *Literal B* type of lesion.

<sup>105</sup> As I mentioned in Chapter 5, a Ministry of Health officer told me that, in the past, “of every six [leishmaniasis] patients, five medications were in the Army and one in the civilian population.” In an access to information request, I asked the Ministry of Health to provide data of Glucantime distribution since the 1940s. Claiming that the Ministry only has data from 2010 onwards, I was only provided data from 2010 until 2018. Nevertheless, I was able to corroborate that, in 2010, when 38% of the leishmaniasis cases in Colombia were in the Army, this institution received 71.6% of the Glucantime ampoules the state purchased in that year. Except for 2012, in the subsequent years civilians have been allocated more than 50% of the Glucantime acquired.

<sup>106</sup> The average ampoule price between 1997 and 2007 was COP 6,266 (about USD 2). The average ampoule price since the participation of the Colombian state in the PAHO Strategic Fund until 2017 was COP 2,618 (approximately USD 0.8). Thus, the ampoule price has decreased in 58.2% in 20 years. These calculations are based on data provided by the Ministry of Health through an access to information request.

<sup>107</sup> As I mentioned in Chapter 4, the maximum daily volume of Glucantime a soldier receives is 20 ml. This means that high-weight soldiers—those whose calculated daily dose is above 20 ml—receive injections for more than 20 days. In the particular case of soldiers with mucocutaneous leishmaniasis, the treatment lasts 28 days.

<sup>108</sup> Nopikex® is manufactured by a small Colombian company called Salder Limitada, dedicated to the production repellents, whose lead product is Nopikex®. In contrast, Ultrathon™ is produced by 3M, formerly known as the Minnesota Mining and Manufacturing Company, a very large multinational American Company with operations in more than 70 countries. 3M manufactures a wide variety of products, Scotch® Tape being the best known.

<sup>109</sup> In 2014, miltefosine became the first and only drug approved by the U.S. Food and Drug Administration (FDA) for the treatment of cutaneous leishmaniasis.

<sup>110</sup> At the time of my fieldwork (2017), there were only four military dermatologists in the Army.

<sup>111</sup> Male nursing assistants only overtook these responsibilities on the weekends.

<sup>112</sup> This cream is commonly known in Colombia as a diaper cream.

<sup>113</sup> This medical decision is based on the assumption that leishmaniasis lesions that appeared in different moments are caused by different parasites (species). However, as I explained in Chapter 4, it is well accepted that Glucantime treatment does not warrantee parasitological cure—the complete elimination of parasites in the body. Therefore, the second time Velandia was affected by leishmaniasis might have been the result of the same *Leishmania* parasites circulating in his body from the first time he had the disease. Thus, establishing a difference between the reactivation of an “old” lesion and the manifestation of a different lesion is misleading. What is questionable, however, is to assume that Glucantime will work in the body of a person for whom Glucantime did not work in the past. As I mentioned earlier, a satisfactory scarring process depends on many factors, including the patient’s immune response, nutrition and health status (see Conceição-Silva et al., 2018). As a result, it makes sense to assume that if Glucantime did not lead to a scar formation in the past, in might be unable to do it in the future. This aspect has often been disregarded by military medicine within the Colombian Army.

<sup>114</sup> The impact of both leishmaniasis and antileishmanial drugs on fertility is a very under-researched area of study. According to Coelho et al. (2014, 98), “[t]he safety of [pentavalent antimonials like Glucantime] was not thoroughly evaluated prior to their introduction into clinical practice in the mid-1940s, and since then, major gaps in their safety profile have remained unfilled. One of these gaps in the toxicity data for [pentavalent antimonials] is the lack of pre-clinical studies on the reproductive toxicity and kinetics during pregnancy and lactation.” Nonetheless, the Colombian Army does recognize the loss of fertility as a consequence of leishmaniasis treatments and pays compensation to members of the Army who have undergone antileishmanial therapy and who medically demonstrate, through a spermogram, deficiencies in their reproductive ability.

<sup>115</sup> Soldiers frequently complain that despite these recommendations, the refreshments they receive at the CRL often include Coke.

<sup>116</sup> Glucantime is toxic to the heart. Therefore, it is important for patients not to force this vital organ. Nonetheless, in military clinical settings different than the CRL, soldiers are not exempted from labor and physical activities.

<sup>117</sup> Throughout the treatment, soldiers are often told not to have any sexual activity and not to take any psychoactive drugs.

<sup>118</sup> Kenneth MacLeish has documented a similar way of blaming soldiers for their own illnesses and health problems within the U.S. military. According to him, “claiming to suffer from pain and discomfort typically earns a soldier little more than the suspicion of his commanders, fellows, and doctors” (K. MacLeish 2013, 104).

<sup>119</sup> See (Mercado 2012)

<sup>120</sup> Military men often call each other *curso* or *cursito* in a friendly and affectionate way. “*Curso*” literally means “course.” The word indicates that you and your *curso* were in the same military training cohort. However, a *curso* is not necessarily a classmate. A *curso* is a friend, a “military buddy,” someone you appreciate especially because of the many experiences shared within the Army.

<sup>121</sup> Interestingly, scientists who study leishmaniasis also like to call themselves *leishmaniacs*. While soldiers do it in Spanish—*leishmaníacos*—scientists, no matter their nationality, usually employ the Anglicism.

<sup>122</sup> One scientific article states that out of a sample of 221 soldiers with leishmaniasis, 31% had previously had leishmaniasis at least once (Patino et al. 2017).

<sup>123</sup> Antioquia is a *departamento* in northwestern Colombia. See Chapter 2, footnote 12.

<sup>124</sup> In *Fresh Leaves*, Kristina Lyons (2014) has ethnographically and creatively explored the violent, complex and multilayered conflicts that arise when coca plantations are forcibly eradicated by members of the Army or the Antinarcotics Police. See Ramírez (2017) for better understanding the historical implications of militarized coca eradication in rural areas of Colombia.

<sup>125</sup> Army soldiers and guerrilla members use the word *trillo* to refer to traces left in the *selva*, marks or trails that could indicate the enemy was in that area not long ago. Former FARC guerrillas told me that erasing the *trillo* was an important activity in times of war, which involved planting plants, moving leaves, and stirring the soil a little in order to leave the *selva* as if no one had ever been there (see also FARC-EP 2019).

<sup>126</sup> As I explained in Chapter 3, there are “asymptomatic individuals,” that is, people who have been bitten by sandflies and infected with *Leishmania* parasites, but who do not manifest lesions. The same happens for dogs. There might be dogs that do not develop ulcers despite having parasites circulating in their bodies.

<sup>127</sup> The Colombian Police—especially the antinarcotics Police—also owns several anti-explosive dogs. They are commonly used to detect antipersonnel mines planted by armed groups in order to protect coca plantations from forced eradication done by members of the Police, the Army, and civilians hired by the state (see Semana, 2019; Urango, 2016).

<sup>128</sup> Private security companies represent an important sector of the economy in a country like Colombia. In 2016, this sector accounted for 1% of the GDP in 2016 (C. Pérez 2018).

<sup>129</sup> See Decree 1796 of 2000, available at [https://www.sanidadfuerzasmilitares.mil.co/english/the\\_entity/normativity/decrees/decreto\\_1796\\_2000](https://www.sanidadfuerzasmilitares.mil.co/english/the_entity/normativity/decrees/decreto_1796_2000).

<sup>130</sup> The economic compensation is calculated based on a classification and score system established by the Decree 0094 of 1989 (available at

[https://www.sanidadfuerzasmilitares.mil.co/english/the\\_entity/normativity/decrees/decreto\\_94\\_1989](https://www.sanidadfuerzasmilitares.mil.co/english/the_entity/normativity/decrees/decreto_94_1989)). Leishmaniasis scars on the face, for example, have a higher score—involve a higher compensation—than leishmaniasis scars located in other parts of the body.

<sup>131</sup> When military dogs were treated with Glucantime, the drug was administered systemically, at a dose of 75-100 mg of meglumine antimoniate per kilogram of body weight, for a period of 30 days. However, the

paper by Travi et al. (2006, 250–51) mentions that local therapy with Glucantime—subcutaneous injections at different sites around and under the lesions—has been employed to successfully treat various cases of canine cutaneous leishmaniasis. Thus, dogs inside and outside the Colombian Army, like soldiers and civilians, could also benefit from intralesional therapy with Glucantime in order to avoid the intoxicating and harmful effects of the systemic treatment (see Chapter 4).

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