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Université de Montréal

The Orientalist Sore

Biomedical Discourses, Capital and Urban Warfare in the Colonial Present

par  
Louis-Patrick Haraoui

Département d'anthropologie  
Faculté des arts et des sciences

Mémoire présenté à la Faculté des études supérieures  
en vue de l'obtention du grade de maître  
en anthropologie  
option ethnologie

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Faculté des études supérieures

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The Orientalist Sore

Biomedical Discourses, Capital and Urban Warfare in the Colonial Present

Présenté par :

Louis-Patrick Haraoui

a été évalué par un jury composé des personnes suivantes :

Monsieur Bob White  
président-rapporteur

Madame Maria Rosaria Pandolfi  
directrice de recherche

Monsieur Vinh-Kim Nguyen  
codirecteur

Monsieur Pierre Fournier  
membre du jury

## Résumé

Ce mémoire examine les processus menant à l'émergence d'épidémies similaires de leishmaniose cutanée au sein de deux populations très différentes, soit des citoyens de Ouagadougou et des soldats américains déployés en Iraq, et les réponses divergentes des autorités biomédicales à ces éruptions. Basée sur du travail de terrain au Burkina Faso et des recherches savantes, la discussion sera cadrée en termes spatiaux examinant les trajectoires intersectées de la logique "souple" de l'accumulation de capital et de la logique "dure" de la guerre, qui toutes deux ciblent et transforment le paysage urbain. Cependant l'ascendance de ces logiques devient mystifiée par un imaginaire microbiologique qui simultanément orientalise les espaces urbains et les maladies d'un prétendu Autre, et pourtant perçoit les défis militaires posés par les insurrections urbaines et la leishmaniose cutanée comme des pathologies logistiques particulières. Pour ce faire, ces régimes discursifs emploient des géographies imaginaires probantes qui établissent des différences entre *nous* et *eux*, et entre *ici* et *là*, dans le but de brouiller les liens entre les logiques du capital et de la guerre. Essentielle au maintien de cette mytification est la construction de discours orientalistes se basant sur les discernements et les outils de la théorie des microbes comme agents de la maladie, qui débute avec les travaux des Pasteuriens et persistent jusqu'au présent colonial.

Mots clés: leishmaniose; Ouagadougou; Ouaga 2000; accumulation par dépossession; biomédecine; médecine tropicale; orientalisme; dromologie; armée.

## Abstract

This thesis examines the processes leading to the emergence of similar cutaneous leishmaniasis epidemics in two very different populations, citizens of Ouagadougou and U.S. soldiers deployed to Iraq, and the diverging responses of biomedical authorities to these two outbreaks. Based on fieldwork in Burkina Faso and on scholarly research, it frames the discussion in spatial terms examining the intersecting pathways of the “soft” logic of capital accumulation and the “hard” logic of warfare which both target and shape the urban landscape. However the ascendancy of these logics becomes mystified by a microbiological imaginary which concomitantly orientalizes the urban spaces and diseases of a purported Other, yet perceives the military challenges posed by urban insurgencies and by cutaneous leishmaniasis as particular logistical pathologies. To do so, these discursive regimes employ powerful imaginative geographies that establish differences between *us* and *them*, and between *here* and *there*, in order to blur the ties between the two logics of capital and warfare. Essential to the upholding of this mystification is the ongoing construction of Orientalist discourses relying on the insights and tools of the germ theory of disease which span the work of Pasteurians and extend to the colonial present.

Keywords: leishmaniasis; Ouagadougou; Ouaga 2000; accumulation by dispossession; biomedicine; tropical Medicine; orientalism; dromology; military.

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## Abbreviations

ACL : Anthroponotic Cutaneous Leishmaniasis  
 AD : *Anno Domini*  
 AFRC : Armed Forces Revolutionary Council  
 AIDS : Acquired Immunodeficiency Syndrome  
 a.k.a : also known as  
 AVL : Anthroponotic Visceral Leishmaniasis  
 CDAD : *Clostridium difficile* associated diarrhea  
 CDC : Centers for Diseases Control and Prevention  
 CEA : Cost-Effectiveness Analysis  
 CHU : Centre hospitalier universitaire  
 CID : *Clinical Infectious Diseases*  
 CL : Cutaneous Leishmaniasis  
 D.C. : District of Columbia  
 DRC : Democratic Republic of Congo  
 EID : *Emerging Infectious Diseases*  
 FAO : Food and Agriculture Organization  
 FCFA : Franc de la communauté financière africaine  
 HNTPO : HealthNet TPO  
 HIV : Human Immunodeficiency Virus  
 ID : Infectious Diseases  
 IDF : Israeli Defense Forces  
 IMF : International Monetary Fund  
 IND : Investigational New Drug  
 I.V. : Intra-venous  
 LCP : Leishmaniasis Control Program  
 LSHTM : London School of Hygiene and Tropical Medicine  
 MMWR : Morbidity and Mortality Weekly Report  
 MOUT : Military Operations on Urbain Terrain  
 NATO : North Atlantic Treaty Organization  
 NGO : Non-Governmental Organization  
 NPFL : New Patriotic Front of Liberia  
 ODSS : Operations Desert Storm/Shield  
 OECD : Organization for Economic Co-operation and Development  
 OEF-A : Operation Enduring Freedom – Afghanistan  
 OIF : Operation Iraqi Freedom  
 OWCL : Old World Cutaneous Leishmaniasis  
 PCR : Polymerase Chain Reaction  
 RDA : Rassemblement démocratique africain  
 RUF : Revolutionary United Front  
 SAP : Structural Adjustment Program  
 SbV : Pentavalent Antimony  
 SSG : Sodium Stibogluconate  
 TAB : Tallil Air Base



TRSTMH : *Transactions of the Royal Society of Tropical Medicine and Hygiene*

UK : United Kingdom

UN : United Nations

UNAIDS : The Joint United Nations Programme on HIV/AIDS

U.S. : United States

VL : Visceral Leishmaniasis

VTL : Viscerotropic Leishmaniasis

WB : World Bank

WHO : World Health Organization

WER : Weekly Epidemiological Record

WRAMC : Walter Reed Army Medical Center

WWII : World War Two

ZACA : Zone d'activités commerciales et administratives

ZCL : Zoonotic Cutaneous Leishmaniasis

ZVL : Zoonotic Visceral Leishmaniasis

*À mes parents*

## Remerciements

I much prefer the French word *remerciements* to its more formal English equivalent, acknowledgments, which to me does not translate and evoke the depth of the gratitude I owe to the many individuals who helped me complete what began almost a decade ago as a youthful infatuation with anthropology.

In no particular order other than a rough chronological account of the encounters and events that punctuated what continues to be an ongoing affair with anthropology, I start by thanking my close friend Nicolas, without whom I probably would not have given any consideration or granted much esteem to the social sciences in the midsts of my adolescent obsession with getting into medical school. In hindsight, it is rather ironic that Nic's own decision to enroll into anthropology was the result of a misunderstanding about the field's subject matter. He was quickly won over however, and so would I be. Nic's enthusiasm for anthropology fortunately distorted and invalidated my shortsighted vision of the (academic) world and led me to entertain the idea of signing up as a freshman student in an anthropology class.

In the Fall of 1998 I registered in Kristin Norget's *Anthropology of Religion* during my first term as an undergraduate student majoring in Microbiology and Immunology at McGill University. Though intrigued and interested by Professor Norget's lectures and the assigned readings, I initially struggled with my inabilities to grasp and to discuss the (social) world without mathematical formulae or memorizing key texts. Weekly meetings with Sean Brotherton, then a PhD student and one of the teaching assistants for the course, helped me immensely. Sean's patience with me during the office hours he held in the then crumbling and ancient Linguistics Department building gave me the confidence to cultivate and to pursue my budding enthusiasm for anthropology.

The following semester, I attended Margaret Lock's masterful undergraduate *Medical Anthropology* course. I felt then as I do now, without a jot of an overstatement, that Professor Lock's course changed my life. It ignited a spark which eight years later fills me with a sense of pride in writing the words that preface this thesis. The turning point was undoubtedly reading Paul Farmer's *Aids and Accusation* which (thankfully) eroded naive assumptions I held about the profession I aspired to practice. Until then, medicine had represented the purest of ideals and the most noble of vocations. Farmer's capacity to critically discuss the prejudices inherent in the practice of biomedicine as an insider with the added viewpoint of an anthropologist struck a deep chord years before I witnessed these inequalities firsthand. His spotlight on the social causes and ramifications of one of the major diseases disproportionately affecting the global poor broadened my horizons.

Paul Farmer's message also effectively led to a greater attention to and reconsideration of "international health" issues among many medical students and residents. He became a model to look up to. However, getting into medical school remained my primary objective. That desire somewhat eclipsed my newfound interest in the social sciences, which lay dormant over the ensuing years of my undergraduate degree, only to be punctuated and revived while attending the late Don Bates' wonderful introductory class on *The History of Medicine*.

As a first-year medical student at McGill, I looked forward to the international health conference organised in the Spring of 2002 by my classmates. The keynote speaker that year was Jim Kim, who with Paul Farmer had established Partners in Health at Harvard. However, it was the encounter with another physician/anthropologist presenting at the conference that year which would propel me to embark on an adventure presently culminating in the writing of this memoir. Before he gave his talk, I approached Vinh-Kim Nguyen and exposed my shared interests in anthropology and medicine. He encouraged me and suggested I contact him after the conference. A few weeks later, I came up with the the crazy idea (and the courage) of asking him to recommend a reading list for the upcoming Summer, during which I was going to Vancouver to complete a medical elective. I left with four books. Little did I know that Hannah Gilbert contributed in drawing up the list, something she and I would laugh about when we realized it a few years later.

I devoured Adam Hochschild's eloquently written *King Leopold's Ghost*, dismayed by the extent of the brutality perpetrated in the wake of Europe's colonial adventures, the lack of attention payed to the genocide committed by the Belgians in the Congo and the ongoing repercussions of these atrocities. I was then utterly frustrated by what I then perceived to be the lack of comprehension displayed by Hmong immigrants in following recommendations made by American physicians to treat their daughter's epilepsy. Only later did I grasp the effects of confronting different perceptions of the body and of disease, the complexities of which Anne Fadiman had so beautifully portrayed in *The Spirit Catches You and You Fall Down*. I hung on to Michel Foucault's every word in *Surveiller et punir*, underlining passages on every page, although at the time I couldn't fathom the influence Foucault would have on my own work. Didier Fassin's *L'espace politique de la santé* dovetailed the subject matter of the three other books.

Upon my return to Montreal I was excited to discuss my thoughts on my Summer readings with Vinh-Kim. At our meeting, he suggested I attend a few sessions of the upcoming graduate anthropology seminar he was about to give at McGill, *The Anthropology of Health Inequalities*, during which the group would discuss Fassin and Foucault. Unbeknownst to myself, I somehow was given the arduous task of co-presenting Fassin's book in front of graduate students, and eventually found myself attending the seminar every week, skipping most of the lectures in med school to go over the assigned readings and participate in the course. In December, Vinh-Kim surprised me when he strongly encouraged me to apply to the Master's program in Anthropology. I got accepted, and decided to pursue it on a part-time basis along with my full-time engagements in medicine. The following year, the most gruelling of medical school as my classmates and I began as clerks in the hospital, Vinh-Kim purposefully arranged to give his *Theory* seminar in the evenings so that I could attend.

Had it not been for Vinh-Kim, my youthful aspirations would have remained just that. I could not have hoped for a better suited supervisor, not the least because of his unique ability to understand how to juggle the particular demands of the two disciplines of medicine and anthropology, a combined feat that he so exceptionally pursues unlike most MD/PhDs who find themselves sacrificing one passion to commit to the other.

I value Vinh-Kim's unfailling support, evident from the moment I approached him, his tremendous wisdom and guidance, and his extensive influence on me over the years. Not to mention my last-minute requests for reference letters, the stage at clinique L'Actuel, the lunches and dinners and innumerable meetings. I could go on and on.

Vinh-Kim set up the medical elective in Burkina Faso during which I encountered the Ouaga 2000 sore, suggested to me that I explore this epidemic as part of this Master's and accompanied me along the many twists and turns over the four years it took to making it all come to fruition. His constant availability, his formidable humility, his sense of humour and his unfailling support made this arduous intellectual journey into one of the most fulfilling and outstanding experiences of my life. With the years, I have finally come to catch on that Vinh-Kim's companionship extends beyond our relationship as supervisor and student, and I now fully appreciate the friendship that has developed over the years.

Most recently, Vinh-Kim's advice led me to take a year off from medical residency to complete my Master's. When he took up a job at Université de Montréal, I followed his recommendation to transfer my Master's to the anthropology department on the other side of the hill that separates Montreal's two oldest university campuses. There I was most welcomed by Mariella Pandolfi who gladly stepped in as my co-supervisor. Her incredible capacity to organize stimulating colloquiae where she attracts the brightest academics is unsurpassed, and her students greatly benefit from her incredible passion and energy. As well, her drive to support the work of her graduate students by encouraging our participation at various meetings and conferences is exemplary. Her invitation to present at Casca in Toronto in May 2007 led me to explore what would become the theoretical core of this memoir. I cannot thank Mariella enough.

The resulting sabbatical from medicine and the change of scene after eight years at McGill was highly welcomed. For the first time since starting my Master's, I was able to concentrate full-time on anthropology and have since fully appreciated the richness of this discipline by abandoning myself entirely to it.

Anthropologists who taught me over the years contributed to my training in their discipline, and challenged me along the way. In her first graduate seminar as faculty, Nicole Couture demonstrated the maturity of an experienced professor, with her impeccable professionalism, impressive teaching skills and the breadth of her knowledge. Bernard Bernier's fondness for his work and his dedication to ALL the students in the anthropology department at Université de Montréal, not just his own, are truly remarkable.

I was privileged to attend the last ever graduate seminar led by Margaret Lock, which she gave along with Vinh-Kim. Seven years ealier, I had already been greatly awed by Professor Lock's ability to arouse the curiosity of hundreds of undergraduate students from all disciplinary backgrounds attending her introductory course on medical anthropology in a packed lecture hall. Last Fall, I was fortunate to witness in a more intimate setting Margaret Lock's uncomparable capacity to challenge graduate students, transforming the meetings of our initially shy group that attended the seminar she and Vinh-Kim gave into a weekly venue of smart

discussions and sheer, absolute fun that unfailingly exceeded the original scheduled time.

Mariella Pandolfi showed an equally impressive ability to bring the best out of the students attending her *laboratoire* on *Violences contemporaines*. Her unequalled and comprehensive mastery of the scope of the theoretical literature of the humanities and the social sciences, and the unwavering trust she placed early on in her students allowed us to tackle the challenging and multifaceted work she expected from us.

Marie-Pierre Bousquet impressed on me the quality of anthropological research coming from outside the dominant Anglo-Saxon world, and skilfully wove a seminar mixing lectures with more practical ethnographic assignments. Finally, Deirdre Meintel, head of postgraduate studies in the anthropology department at Université de Montréal, greatly facilitated my transfer from McGill and was always available and supportive, even while on her sabbatical leave.

I must give particular thanks to all the people I met and worked with while in Ouagadougou. Many cannot be named to avoid breaching the confidential nature of this research. I therefore opted not to single out those who did not directly participate in this project and preferred to collectively thank all those who contributed to make my stay and experience in Burkina Faso unforgettable.

I cannot overstate the role of friends, family and staff in making this prolonged adventure such an exhilarating experience. Many graduate students helped me along the way and reinvigorated my occasional lack of confidence in my abilities to pursue research in anthropology : Karine Peschard, Hannah Gilbert, Wilson Will, Pierre Minn, Julie Désalliers and Marie-Claude Haince to name a few. More recently fellow physician and Anthropology graduate student Omar Al-Dewachi generously commented sections of my manuscript.

I owe a special debt of gratitude to the UCSF/UC Berkeley students who organised the MD/PhD conference held in the Bay area in May 2005, particularly Ippolytos Kalofonos and Seth Holmes. It was there that I got the idea of taking a leave of absence from medicine. I am only saddened by the relative lack of support given to Canadian MDs wishing to pursue graduate work in the social sciences. We have much to learn from the elaborate joint programs and the financial support offered to our colleagues South of the border.

The support of medical staff prior to embarking on my this whirlwind year will always be remembered. Dr. Tom Maniatis consented to my unorthodox request for a leave of absence and was extremely patient and helpful in the long proceedings of the process. Dr. Patrizia Zanelli graciously stood by my decision despite the loss of a full-time resident for a year. Dr Marcel Behr further encouraged me to pursue this undertaking. So did many of my good friends, namely fellow residents Stéphane Voyer, Faiz Khan, Jay Johnston, Vikas Chaubey and Ted Clark, as well as close friends Nic, Mathieu, Martin and of course Dédé.

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A quick thank you to the many individuals, many of whom I have never had the chance to meet, yet who kindly responded to innumerable emails I sent across the

world, even when they felt they could not provide me with the answers to the (often esoteric) questions I sought from them. In no particular order : AbdouMaliq Simone, Wallace Peters, Stephen Ellis, Kam and Nasser Shojania, Jean-Jacques Mandel, Neil Reiner, Brigitte Hibou, Jean-François Bayart, Rémi Bazenguissa, John Igué, Sylvie Debomy, Christian Diou, Catherine Farvacque-Vitkovic, Richard Stren, Michael Cohen.

To my parents, I dedicate this Master's. Words cannot express the undying gratitude I owe them. They stimulated my intellectual curiosity from an early age on. They opened my eyes to the world. As a child and teenager, they painstakingly organised exciting annual family trips for my sister and I, then supported me to do the same with friends later on, unknowingly sowing the seeds that would make anthropology such an attractive discipline for the science geek I was. They always encouraged me to do what I wanted with an implied understanding, to do it to the best of my ability. They stood by me at every step of the convoluted process of this undertaking. They were always very keen to read papers I had written, as well as sections of my thesis, and to follow its overall progress. Discussions I had with them greatly helped me to frame my research and reflections. I hope they appreciate the extent to which I value their unabiding support, that they recognize the important lessons they have taught me, and that they will accept this Master's as a way of thanking them for their comforting and unfailing presence over the years.

I cannot go on without equally thanking my sister and my *nonna* whose constant support (and many supplies of goodies) lightened my daily load. My relative absence in their lives in no way reflects my immense love for them.

As always, I have kept the best for last. *Je remercie Michèle*. Her entry into my busy world has transformed me through and through. Her desire to be part of the crazed objective and the ensuing pace I imposed on myself in order to complete, almost from scratch, a Master's within a year and to help and accompany me at every step of the way speaks to her generosity and flawless support. She read innumerable versions of various term papers and presentations, and always gave me highly valued commentaries and criticisms. At times, she understood the direction of this project better than I did, and helped me guide it along. Thanks to Michèle, I found and developed the assertiveness to express myself with a voice which now confidently reaches out. After aimlessly drifting for months, radically switching my outlook for this thesis from a purely medical perspective to one too deeply embedded in the social sciences, Michèle helped me achieve what I believe to be a much-needed balance between these two poles. The thesis, nonetheless, remains primarily an anthropological *œuvre*, although one in *medical* anthropology, and I cannot deny it owes much to my background in medicine.

In the end, however, I bear sole responsibility for the shortcomings of this memoir, and accept and encourage criticisms directed at the opinions and thoughts elaborated in the following pages.

Louis-Patrick Haraoui

Montréal, August 10, 2007

## Introduction

This thesis examines the processes leading to the emergence of similar cutaneous leishmaniasis epidemics in two very different populations, citizens of Ouagadougou and U.S. soldiers deployed to Iraq, and the diverging responses of biomedical authorities to these two outbreaks. To do so, I frame these epidemics as products of specific spatial processes linking the “hard” logic of warfare to the “soft” logic of capital accumulation. Using Lefebvre’s dual approach to space as *produit et producteur du social* (Lefebvre, 2000), this thesis traces the history of the events that triggered these outbreaks, and explores the biomedical discourses that came to be elaborated in response to these epidemics. My intention, borrowing from Foucault, is to build a history of the present, spanning the formal colonial period and extending to the colonial present (Gregory, 2004), in order to present the genealogy of the discourses and of the practices shaping these social facts.

The thesis is divided into three chapters. The first chapter examines the emergence of the cutaneous leishmaniasis epidemic in Ouagadougou in the mid-1990’s and its link to Ouaga 2000, an urban development project built in the outskirts of the capital at the site of the village of Zempasgo whose residents were driven off their lands. These farmers and their families were relocated to a nearby *trame d’accueil*, their livelihoods radically transformed.

In 2003, while navigating the wide deserted streets of Ouaga 2000, it was clear to me, as to countless others before and since, that the lavishness of this neighbourhood defied all explanations in a poverty-stricken country such as Burkina Faso. As it turns out, this new district of Ouagadougou was largely financed by a local elite enriched by the plunder of West African countries devastated by civil wars during the past two decades. The government of Burkina Faso and its apparatchik have taken advantage of this regional instability, amassing enormous fortunes from the trafficking of arms and of resources over whose control rival factions have fought. These riches have since been poured into building the numerous villas and mansions being erected in Ouaga 2000, an urban space which in effect crystallizes the links between the logics of warfare and capital through such practices as “accumulation



by dispossession”. At the same time, these processes led to the emergence of cutaneous leishmaniasis epidemic, an assertion put forth independently by Burkinabè physicians and Ouagalais, the latter amusedly dubbing the ailment the “Ouaga 2000 sore”.

Despite the robust response of Burkinabè healthcare workers, their concerns were largely muted by the World Health Organization (WHO) which in 2002 published an article in which it implicated urbanization as a risk factor for leishmaniasis<sup>1</sup>. In that report which presented an overview of the global foci of these parasitic diseases, including that of Ouagadougou, the WHO collapsed all these distinct outbreaks into one universal risk factor, all the while ignoring the work of local physicians in addressing these epidemics.

Building on a critique of this reductionistic approach, chapter two traces the genealogy of biomedical discourses on leishmaniasis. To do so, I will begin by reviewing the rise of tropical medicine as a distinct medical specialty, and then focus on the radical shift enacted by the elaboration of the germ theory of disease in the late 19<sup>th</sup> century. Although much of the medical corps was initially reluctant to recognize the groundbreaking work of the Pasteurians, military medicine featured as the notable exception, rapidly embracing the idea of microbes. Soon after accepting the existence of these microscopic actors, military doctors led the way in pursuing the work of Pasteur and his followers, greatly contributing to the field of tropical medicine, including the discovery of the parasites causing the leishmaniasis. However, the nosology that subsequently developed to describe these diseases was, and remains, flawed, as exemplified by the current discourses of the WHO and of biomedicine at large. Their approach increasingly fails to account for the myriad manifestations of diseases caused by *Leishmania* parasites. Military doctors, particularly in the United States (U.S.), have expressed renewed concerns with regards to these diseases which have emerged as frequent infections among their troops due to the recent military operations in endemic areas in Central and SouthWest Asia. Indeed by 2005, cutaneous leishmaniasis had become the

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<sup>1</sup> As will become clear to the reader in the text that follows, the term “leishmaniasis” is often used to refer to what are actually numerous distinct infections caused by over twenty different species of parasites. A significant portion of this thesis will critique this simplistic nosology.

“commonest global war on terror-associated reason for outpatient infectious diseases consultation” at the Walter Reed Army Medical Center in Washington D.C. (Zapor and Moran, 2005: 395), largely as a result of the changing logistics of war being encountered in Iraq. Interestingly, this growing attention to *Leishmania* parasites on the part of U.S. army doctors appeared around the same time that military analysts began to call for urgent measures to adapt to the rising problem of urban insurgency. Chapter three thus moves to tie these two concomitant shifts in the logistics of the U.S. army, from the need to develop urban counterinsurgency programs to the response to the cutaneous leishmaniasis epidemic among its troops. Once again, these particular social processes are shown to result from historical conjectures. As I will show, practices to counter these logistical pathologies are couched in a microbiological imaginary that sees both processes as “viral” and that understands combat in terms of sterilisation. These imaginative geographies in turn mask and mystify the connections between the logics of capital accumulation and warfare that perpetuate a state aptly described as the colonial present.

## Chapter 1 - Ouaga 2000

### *Introduction*

The Summer months in Ouagadougou are host to the Sahel's rainy season. Almost every day falls a hard rain foreseeable only half an hour before by the heavy and dusty winds that descend on the city hurling menacing dark grey clouds ready to erupt. The storm rarely lasts more than a couple of hours, the warm air gaining back whatever space it had abandoned during the downpour, drying up the puddles of water, the only sign remaining of the recent rainfall.

With the start of the "*hivernage*" – rainy months – in June, comes a sharp decrease in the number of cases of the still deadly annual meningitis epidemic, which so fill the wards of the University Hospital Yalgado Ouédraogo that patients are laid out on mats in the courtyards, some attached to I.V. poles if they can afford the life-saving juice that runs through them. However, in recent years, the start of the rainy season heralds the reappearance of another infectious disease with pronounced seasonal peaks, cutaneous leishmaniasis (CL). Historically considered an endemic country, Burkina Faso counted only twenty reported cases of the disease between 1962 and 1987. Though undoubtedly an incomplete account, this small figure nevertheless indicates how unproblematic cutaneous leishmaniasis was, making rare headlines when a handful of infections would be noted. However, in the mid-1990's, this trend would drastically change. While only 28 cases of the disease were reported in 1995, between 1996 and 1998, close to two thousand cases of cutaneous leishmaniasis were observed in Ouagadougou, at the time a city with a population of just over 700,000. By the year 2000, the reported incidence of CL was 2,375. As many authors agree, these figures surely stand as a stark underestimate given the limits, financial and others, for many Ouagalais to consult with a doctor (Traoré et al, 2001 : 54).

When I left for Ouagadougou in 2003, I had yet to see a case of cutaneous leishmaniasis, knew next to nothing about the disease, let alone about the epidemic I was to witness. Like many medical students of my generation interested in

international health, my mind was caught up in the dismaying accounts of HIV/AIDS devastating sub-Saharan Africa. I had arranged a medical elective with the University Hospital's infectious diseases service, hoping to learn and participate in the care of HIV-infected individuals<sup>2</sup>. At the time, the world's leaders were far from adopting their current rhetoric of treatment access for the global poor, an engagement that to this day still lags behind their trumpeting speeches.

### WEST AFRICA



Figure 1 : Map of West Africa<sup>3</sup>

<sup>2</sup> Though for some Burkina Faso's incidence of HIV/AIDS may pale in comparison to countries of Central or Southern Africa, the country counts some 200,000 people living with HIV, one of the largest epidemics in West Africa (UNAIDS/WHO, 2006)

<sup>3</sup> [http://farm1.static.flickr.com/70/191280298\\_f10aabf48d.jpg](http://farm1.static.flickr.com/70/191280298_f10aabf48d.jpg)

When I arrived at CHU Yalgado Ouédraogo, the infectious diseases (ID) staff were still recovering from the terrible meningitis epidemic that had swept over the country in the preceding weeks<sup>4</sup>. The service was calm, the mood was upbeat. However, after a few days rounding with the team, I quickly realized that there were no admissions or consultations related to HIV/AIDS. Indeed, I had been used to a medical system in which HIV-infected individuals were looked after mainly by ID specialists, with serious complications being attended to in a hospital-setting. However, in a country delegating much of the care of HIV-infected individuals to community-based organizations, the responsibility was taken up by a few dynamic physicians working mostly within a cluster of non-governmental organizations (NGO's) focusing their energies on raising awareness about HIV/AIDS, helping out HIV-infected individuals and providing essential treatments. They were quickly joined by a few courageous doctors, specialists established within larger healthcare facilities, who were increasingly confronted with cases of opportunistic infections hinting at an underlying diagnosis of AIDS – dermatologists biopsying various skin conditions, respirologists attending to reactivated tuberculosis, gastro-enterologists investigating intractable diarrhea.

Following the advice of a friend, I changed departments and found myself working alongside a dermatologist, calm, caring, methodical. My knowledge of dermatology was scant, my prior interest non-existent. As soon as I began taking part in his clinic, I witnessed a series of patients all affected with similar skin ulcers. Many presented as the textbook description of cutaneous leishmaniasis – shallow, painless lesions, usually found on the extremities or the face, the parts of the body exposed at night at the time of the insect bite that introduced the parasites. However, some patients presented with unexpected findings, their lesions diffuse, polymorphous, requiring prolonged and repeated treatment regimens. Most of these variants occurred among AIDS patients, some who knew of their diagnosis, others who were about to find out.

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<sup>4</sup> 7,859 cases of meningitis were reported in 2003, with 1,181 deaths, a 15% case-fatality rate (WHO, 2005 : 317).

Soon after I witnessed my first cases of cutaneous leishmaniasis, I learned that many in Ouagadougou linked the emergence of this epidemic to “Ouaga 2000”, a recent development project in the outskirts of the city, the local population dubbing the epidemic the “Ouaga 2000 sore”. While construction for the new urban zone began in 1994, this colossal undertaking remains over a decade later largely incomplete. However, to accurately narrate the story of Ouaga 2000 and the cutaneous leishmaniasis epidemic that ensued from it, it is essential to recount the history of the city where it is being built.

### ***History of Ouagadougou***

The history of the city of Ouagadougou is intimately and inextricably tied to that of the Mossi people and Empire<sup>5</sup>. “The origin of Mossi society lies buried in myths that not only sanction the power of the ruling families but support the political system with rich traditions of migrations and conquest” (Skinner, 1989 : 7). Nevertheless according to Skinner, the most widespread version of their history originates some forty generations ago with Nyennega, the daughter of Naba Nedega who ruled over the Dagomba, the Mamprusi and the Nankana in what is now present-day Ghana. The ruler so highly valued the warring skills of Nyennega that he prevented his daughter from marrying. She fled north on horseback, where she met and married Rialle. The couple had a son, Ouédraogo (Stallion), “in honor of the horse that had carried Nyennega in her flight to the north” (id. : 8). After a few years, Nyennega sent Ouédraogo to her father to recount her story and to seek his aid. Naba Nedega welcomed his grandson and took him in.

When Ouédraogo left a few years later, he was accompanied by Dagomba horsemen seeking opportunities away from their crowded homeland. The group invaded Busansi villages and settled in Tankourou, present-day Tenkodogo. “The Mossi bards relate that Ouédraogo and the Dagomba horsemen intermarried with the Busansi women and that these unions gave rise to a new group of people called the Mossi” (id.). The ranks of the Mossi continued to swell with the arrival of more

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<sup>5</sup> Some of the information collected in this history of Ouagadougou is drawn, with kind permission, from Julie Désalliers’ annotated bibliography on the classic anthropology of Upper Volta.

Dagomba horsemen, with whom they pursued their struggles to subdue neighbouring groups and to expand their territory.

Ouédraogo had three sons : Rawa, Diaba Lompo, and Zoungourouna. He sent the first two to control and extend regions of the growing empire. He kept his youngest, Zoungourouna, with him in Tenkodogo. Village chiefs from around present-day Ouagadougou, seeking an alliance with Ouédraogo, sent him a wife. Ouédraogo accepted this request and gave the woman to his son Zoungourouna. The two had a son, Oubri. At the death of Ouédraogo, Zoungourouna took over his father's place in Tenkodogo. At the behest of the village chiefs from around Ouagadougou, Zoungourouna sent Oubri, their daughter's son, to rule over their territory. Oubri successfully continued the Mossi wars of expansion. After beating the Ninsi in Kumbeen-Tenga, Oubri renamed the region under Ninsi control Wogodogo, meaning "where people receive honors and respect"<sup>6</sup>. The name was subsequently deformed, and changed, to Ouagadougou.

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<sup>6</sup> Loose translation by the author of information found on the website of the Ouagadougou City Hall : <http://www.mairie-ouaga.bf/Vie%20Municipale/frame2.htm>, last consulted August 1, 2007.



Figure 2 : Map of Burkina Faso<sup>7</sup>

The newly established Mossi kingdom of Ouagadougou quickly eclipsed all those founded by Ouédraogo's other sons. With the rise in prominence of Ouagadougou, Oubri became the first Mogho Naba, chief of Mossi country. To this day, the Mogho Naba gets elected among local chiefs and lives in Ouagadougou where he continues to hold the highest office for the Mossi. His functions, however, are now largely ceremonial.

Historically, the Mossi were a patrilineal society, practicing exogamy. The land, so important to their way of life, did not belong to the Mogho Naba or to the chiefs, but to the ancestors and the Mossi people. The Mossi empire reached its peak in the 16th century. Despite a relative decline in regional influence after this period, it continued

<sup>7</sup> [http://www.smarttraveller.gov.au/zwiki/images/regions/maps/jpeg/Burkina\\_Faso.jpg](http://www.smarttraveller.gov.au/zwiki/images/regions/maps/jpeg/Burkina_Faso.jpg)



to exert a major political force in the Voltaic area, maintaining important political and commercial ties with other groups until the colonial period.

European accounts of the Mossi empire first appeared in the mid-19th century. Following the Berlin conference in 1884-5, the burgeoning colonial powers vied to extend their sphere of influence to Mossi areas. “The three European powers established in the vicinity [the Germans in Togoland, the British from the Gold Coast (Ghana) and the French in Dahomey (Bénin) and Sudan] realized that by controlling the markets of the Mossi, they could become masters of all the commercial routes in the interior near the bed of the Niger River” (Marc, 1909, quoted in Skinner, 1989 : 145-6). “[A] German by the name of Krause became the first European to enter Ouagadougou” in 1886 (Skinner, 1989: 144). However in 1893 the French took advantage of a request by a Mossi chief for aid in a conflict in neighboring Yatenga to support a ruler favorable to their presence and protection. In 1896, a battalion of the French army took over Ouagadougou, whose king fled. Unsuccessful attempts to regain his kingdom only further consolidated the presence of the French who did not waste time to weaken the Mossi political structure by replacing their chiefs, choosing others to serve in their place, as well as eliminating those opposed to their rule. The French then proceeded to erode the powers of the new chiefs, curbing their roles in judicial, economic and religious affairs. Furthermore, they requested that these chiefs provide them with additional revenues levied from their dwindling constituency due to the head taxes imposed on villages, with men forced to serve in the colonial army and to migrate to labor in the fields and mines in the neighbouring colonies.

Wages were poor and working conditions difficult. Mortality on the construction of the Abidjan-Niger railroad was so high that “white man’s work” earned a reputation for “eating people”, an expression interpreted by the French anthropologist Labouret in 1938 as evidence of a belief in mythical cannibals (Skinner, 1965 : 55). Conscription into the army, forced and contract labour served to drive migration of Northerners, largely Voltaics, to Côte-d’Ivoire and to the Gold Coast, where pay and economic opportunities were better. The labour measures competed with each other, sapping Upper Volta of all its able bodied men and in further fuelling the demographic crisis that so worried metropolitan authorities. The incoherence of colonial policy was illustrated by the failure of the French to initiate cotton production in Upper Volta. Natives refused to plant, as it was more profitable to migrate and sell one’s labour on the plantations to the South than to stay around to harvest the cotton in December, long after the staple, millet, had been harvested in late October (Skinner 1965 : 70).

Partly because of such irrational management, but largely because of the impact of the Great Depression [...], the colony of Upper Volta [established after the Great War in 1919] was declared insolvent in 1931. As French colonies had to be self-financing, the Voltaic colonial administration attempted to compensate for the shortfall in export revenues by raising head taxes during the Great Depression. The strategy was a disaster, impoverishing the native population to the point of famine, and the French administration dissolved the colony, and folded it into Côte-d'Ivoire. Ivoirian planters had lobbied for integration of the Voltaic colony in order to have easier access to Mossi labour, effectively using the colonial state to institutionalise the migratory system between Upper Volta and Côte-d'Ivoire (Skinner 1965 : 64). (Nguyen, 2001 : 55-6)

The period leading up to the second World War was marred by much instability and chaos, with the intensification of the exodus of Voltaics towards Côte-d'Ivoire. During the Brazzaville conference in 1944, Général de Gaulle, head of the *Forces Françaises Libres* reaffirmed France's close ties to its colonies who largely opposed the Vichy régime. In 1946, the Fourth Republic's constitution allowed African representatives to France's National Assembly. The initially pan-African *Rassemblement démocratique africain* (RDA), led by Félix Houphouët-Boigny, became one of the leading voices for independence. The RDA attempted to ally itself with the political party of the Mogho Naba. The latter refused and, taking advantage of France's growing concerns with the radicalism of the RDA's claims, sought the independence of Upper Volta. The French quickly reconstituted the colony of Upper Volta in 1947, where a bitter conflict ensued among members of the RDA, those allied to the Mogho Naba's political party, *l'Union voltaïque*, and among representatives of other ethnic groups. In time, however, the Mossi chiefs lost much influence, and politicians with various affiliations gained increasing prominence. The Upper Volta branch of the RDA, led by Yaméogo, emerged victorious in 1957 concurrently with the death of the Mogho Naba Sagha II. The latter was replaced by Mogho Naba Kougri, who by the time of his election could exert only little influence in the face of the newly consolidating political structure. "France finally agreed that the Upper Volta should become independent on August 5, 1960. [...] Mogho Naba Kougri was only a spectator at the National Assembly when Yaméogo, praising Houphouët-Boigny and General de Gaulle, announced the coming of independence" (Skinner, 1989 : 204). Ouagadougou, which for four centuries had served as the seat of the Mossi empire and around which the French

had (twice) constructed the colony of Upper Volta, became the capital of the newly independent country.

Upper Volta suffered from much political instability in the first three decades after independence. In 1983, the socialist captain Thomas Sankara led yet another bloody coup after which he outlined and implemented widespread and extensive reforms. He changed the name of the country to Burkina Faso – “the land of upright people” – and initiated much needed urban plans and reforms, including the nationalisation of land. Most of Sankara’s urban project focused on the capital. Indeed, while Ouagadougou boasted 59, 126 citizens in the 1960-61 demographic census, its population had swelled to 442,223 by 1985 (Compaoré et Nébié, 2003 : 10; Prat 1996, 18). In 1996, that number had almost doubled to 709,736 (Compaoré et Nébié, 2003 : 10). Today, the population of Ouagadougou exceeds well over one million.

Thomas Sankara was subsequently killed in 1987 by one his close political allies, Blaise Compaoré, who took over as President and to this day rules Burkina Faso. Compaoré elaborated on many of Sankara’s projects, albeit substantially modifying a great number of them. One of Sankara’s long-term projects involved the reorganization of Ouagadougou’s commercial and governmental infrastructures located in the downtown area. This grand design, originating during the Sankara years, gave birth to two major undertakings under Compaoré : the *Zone d’activités commerciales et administratives* (ZACA), and the Ouaga 2000 project.

### ***Urban Reform in Ouagadougou***

Officially set out in the early 1990’s, ZACA and Ouaga 2000 rapidly and dramatically changed the face of Ouagadougou. Quite an astonishing feat, given that both projects remain far from completed more than a decade after they were conceived. Indeed, in the opinion of many Ouagalais, these undertakings are noteworthy for what they have undone, rather than what they have accomplished.

The earliest and most prominent feature of both projects were the *déguerpissements*, massive and forced population displacements to a *trame d’accueil* – welcoming zone – in the Southern edge of the capital, meters away from the projected affluent residential zones of Ouaga 2000. The population making up the *trame d’accueil*

were resettled from the downtown area in the case of ZACA, and from neighbouring villages that now make up the urban extension that is Ouaga 2000. This forced, artificial and precipitously established community of suburbanites lacks much of the basic infrastructures, with clinics, schools, street lighting and tar-paved road promised to them yet lagging behind by years. Furthermore, most of the citizens of the *trame* cannot afford the exorbitant prices to connect to the city's water system. And to make matters worse, municipal authorities have forbidden them from building their houses in *banco* – dried red earth – common throughout the Sahel and most of Ouagadougou : they must use concrete. Consequently most houses remain unfinished, lacking a roof or windows, as the cost of construction materials has skyrocketed and is simply prohibitive to these citizens, many of whom have lost their basic means of survival as a consequence of their resettlement. Vendors who lived nearby Ouagadougou's famed central market and who were *déguerpis* to make room for the ZACA have lost their stalls and access to a regular and centralized supply of goods to sell, while laborers tilling the land on the outskirts of the city and displaced for the Ouaga 2000 project no longer have access in the *trame d'accueil* to a parcel to cultivate.

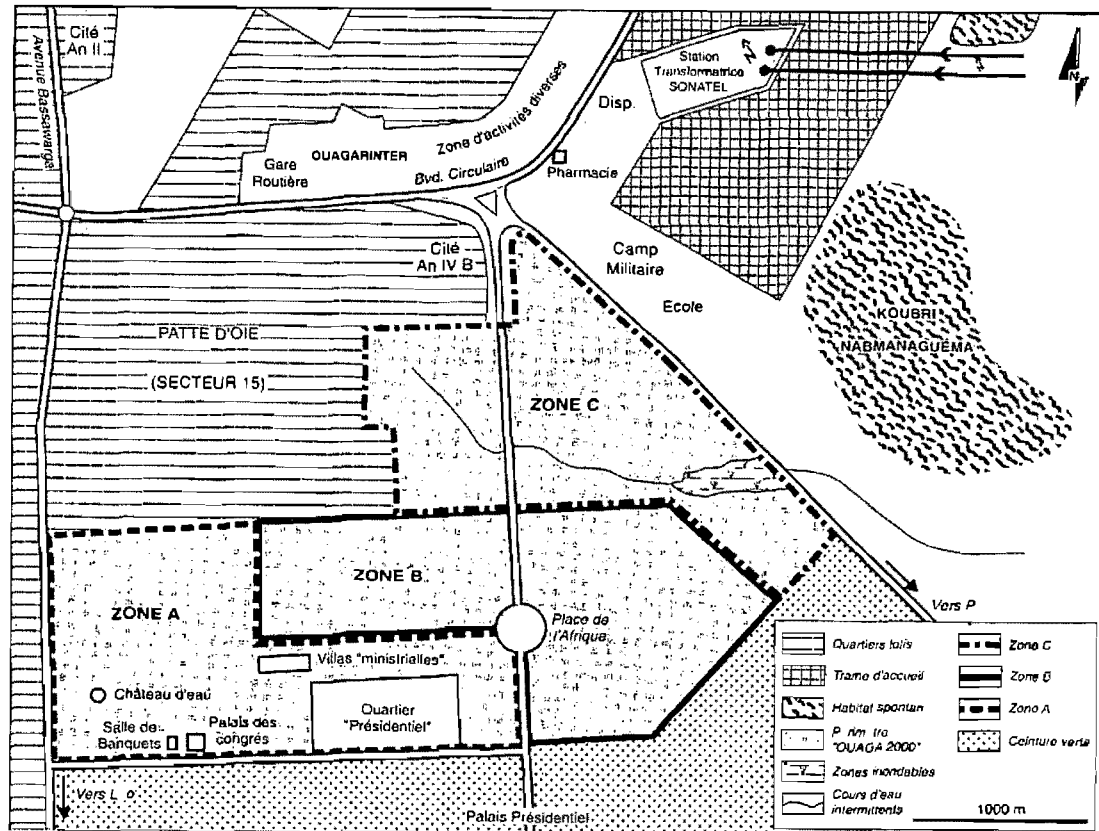
In the span of two years between November 2000 and 2002, two hundred hectares of Ouagadougou's historic downtown area, accomodating various shops and a dense multicultural population estimated at 20-50,000, were razed to the ground in preparation for the ZACA.

Aujourd'hui, le centre ville tient [...] d'une citée rasée par un bombardement. Dans l'entrelacs des destructions, de rares petits immeubles ont survécu, cernés de terrains vagues. Ils attendent l'édification, sans cesse retardée sous une absurde justification de « zone inondable », d'un centre commercial et administratif délirant, flanqué de banques, d'hôtels de luxe, de boutiques chics, de piscines et de cinémas ... (Mandel et Huguier, 2006 : 158)



Figure 3 : Map of Ouagadougou Indicating ZACA and Ouaga 2000<sup>8</sup>

<sup>8</sup> Mandel and Huguier, 2006 : 150.



**Figure 4 : Blueprint of Ouaga 2000<sup>9</sup>**

The Ouaga 2000 project, though elaborated along with the ZACA, was started much earlier. Construction work began in earnest in 1994. The site chosen for Ouaga 2000 were the villages of Zempasgo and Kosyam, residential and agricultural peri-urban zones on the southern edge of Ouagadougou, conveniently located close to its international airport. As would befall the downtown residents a few years later, the citizens of Zempasgo and Kosyam were *déguerpis* and resettled nearby in the *trame d'accueil*.

Despite the Burkinabè's government pledge to provide 90,000 zoned plots of land in Ouaga 2000 to the capital's crowded population in an effort to relieve congestion in the downtown area, the 730 hectares devoted to the project primarily involved the relocalisation and consolidation of the governmental and business districts, to be

<sup>9</sup> Compaoré, 2003 : 38.

eventually surrounded by a posh residential neighbourhood. In 2003, zooming along the wide, paved and empty streets of Ouaga 2000 on the back seat of a moped, I found myself in the middle of an area filled with deserted huge mansions, most of them yet to be completed, scattered across a vast abandoned territory. I couldn't shake off the impression of feeling like an intruder in the middle of this no-man's land. The only sign of life occasionally discernable were young men, pacing in front of certain villas. Security guards watching over the handful of small palaces where construction work had been completed, their wary, absent owners fearing their investment would attract robbers. Ironic, given that most of these manors were financed by the fruits of plunders amassed by a West African elite – many of which maintain close ties or even actively participate in the Burkinabè government – engaged in the trafficking of arms and natural resources during the myriad civil wars that so brutally decimated and ravaged Burkina Faso's neighbours – Liberia, Sierra Leone, Côte d'Ivoire.

Ils [les spéculateurs] sont, dit-on, accourus en masse, pour blanchir des fortunes captées des diamants sanglants du Libéria, des détournements de cacao ivoirien et des trafics d'enfants du Bénin et du Gabon. Certains des « rebelles étrangers » en fuite qui circulent en 4x4 vitres fumées ne sont-ils pas hébergés ici dans de luxueuses villas en attendant les jours meilleurs? (Mandel et Huguier, 2006 : 150)

En deux ans, ce gigantesque  
chantier néo-moderne a avalé  
1000 hectares de terre nourricière



146 GEO

Figure 5 : Unfinished villas in Ouaga 2000<sup>10</sup>

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<sup>10</sup> Id.: 146.





GEO 147

Figure 6 : Unfinished villas in Ouaga 2000<sup>11</sup>

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<sup>11</sup> Id. : 147.

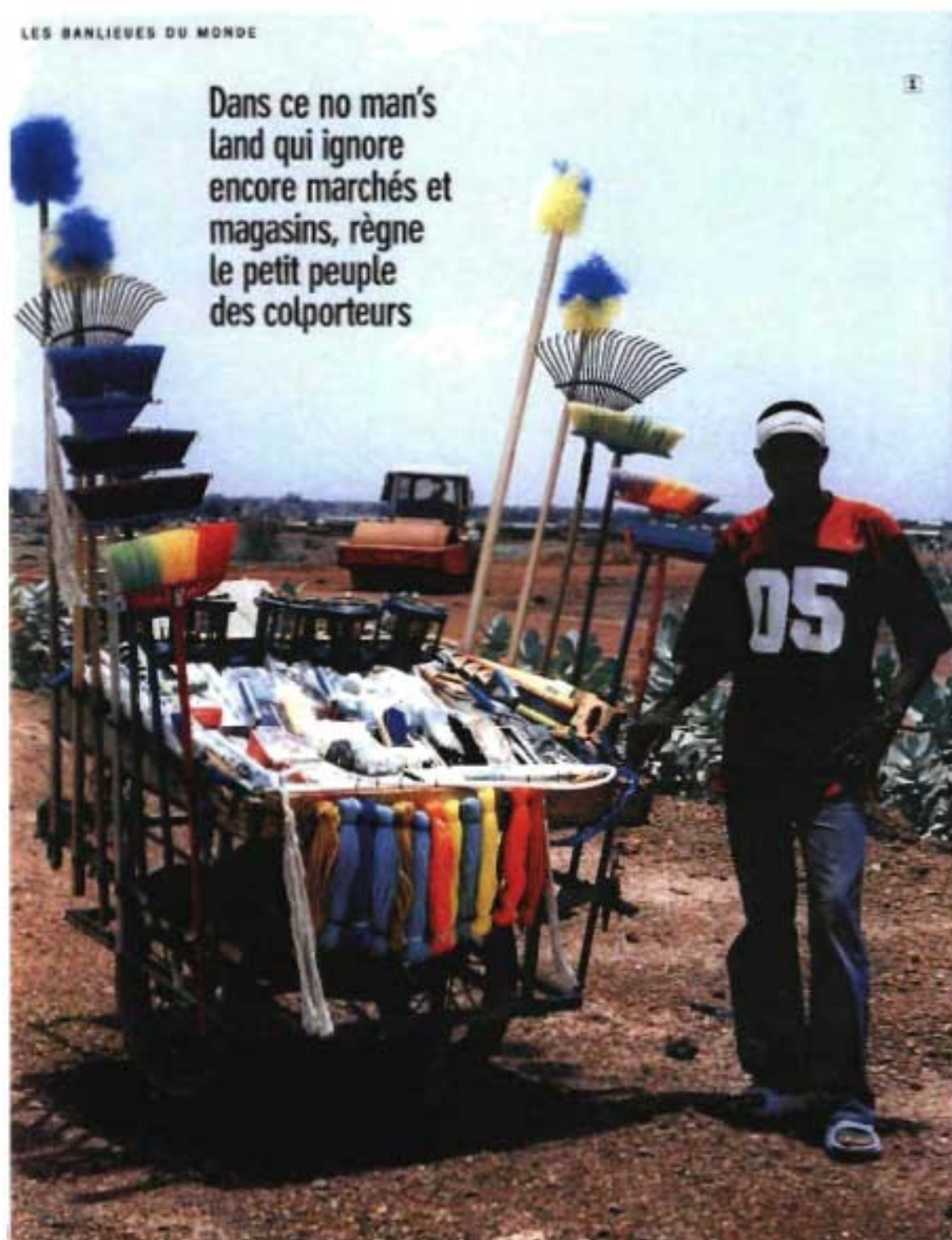


Figure 7 : Street vendor in the *trame d'accueil*<sup>12</sup>

<sup>12</sup> Id. : 148.

The exorbitant prices of the Ouaga 2000 lots remain out of reach for the large majority of Ouagalais. According to 1998 government figures, 45.5% of the population of Burkina Faso lived under the *seuil de pauvreté* – poverty line – fixed at 72,690 FCFA<sup>13</sup> per adult per year. The asking price for Ouaga 2000 parcels for residential purpose vary between 5,000 – 12,000 FCFA per m<sup>2</sup> – equivalent to European property prices – each covering an average surface area of 300 to 400 m<sup>2</sup> such that the total cost for the parcel ranges between 1.5 to 4.8 million FCFA. Notwithstanding the fact that the potential buyer then must have the means to build a house after purchasing the plot. Then again, he or she may be tempted by one of the many ready-built villas : price tag between 35 to 150 million FCFA – between 75,000 and 315,000 US dollars – equivalent to 500 to 2000 times the annual poverty line mentioned earlier. All this has raised more than a few eyebrows in Ouagadougou among the local population and foreigners, chiefly because most of these lavish residences remain uninhabited, without any potential buyers (Mandel et Huguier, 2006 : 156). To make matters worse, compared to the adjoining densely populated *trame d'accueil* lacking in essential services, the relatively desert Ouaga 2000 is replete with the basic amenities – as well as extras such as a posh night-club, *le Top 2000* – with every aspect of the planning being closely supervised.

Tout cela est renforcé par la présence de l'Administration centrale. Toute la zone destinée aux aménagements a été entièrement viabilisée. Les rues principales sont déjà bitumées, les équipements de base existent (électricité, téléphone et adduction d'eau); enfin un réseau d'assainissement moderne est en place. (Compaoré, 2003 : 40)

Where Ouaga 2000 has failed as a residential neighbourhood, it has more than compensated as the new hub for businesses and governmental affairs, obviously for Burkina Faso, but increasingly for the region. There, one may find a cutting-edge conference centre, European chains of hotels including the “Ouaga 2000 Sofitel”, and gradually more and more of the offices of the country's ministries. Soon after construction began, Burkina Faso was able to host two large-scale political events. In 1996, representatives of the France-Afrique summit met in Ouaga 2000 – with more than a little financial help from France to accelerate completion of the

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<sup>13</sup> On August 6, 2007, 1 US dollar was worth about 475 FCFA (<http://www.xe.com/ucc/convert.cgi>), this exchange rate being relatively stable over the past few years. Thus, the 1998 poverty line stood at 153 US dollars, or less than 50 cents per day.

necessary infrastructure to house the delegates and the conference. Two years later, Ouaga 2000 hosted the African Union summit, with the most senior members that attended staying in “Presidential” villas grouped in small hamlets each displaying different architectural designs typifying the various traditional styles of African houses : “*sahélien, équatorien, oriental, maghrébin*” (Jeune Afrique).

Around the time of these governmental gatherings, local reports began appearing of an increase in the cases of cutaneous leishmaniasis in the areas surrounding Ouaga 2000. The link between this urban project and the epidemic of cutaneous leishmaniasis was put forward by Burkinabè physicians. These findings were based on epidemiologic studies mapping out the reported cases of cutaneous leishmaniasis, which started around the Ouaga 2000 neighbourhood with documented spread from year to year from there to *secteurs* to the East, gradually intruding on the core of the city. Along with the local doctors, the local population also started intuitively pointing the finger at the gigantic urban project, amusedly dubbing the ailment *plaie de Ouaga 2000*, the “Ouaga 2000 sore”.





### ***Theorizing Space***

The French philosopher Henri Lefebvre, considered to be a marginal marxist intellectual among many of his contemporaries, published a series of books on the city, on the urban theatre, and on space, starting in the late 1960's and culminating in 1974 with the widely acclaimed *La production de l'espace*, from which I will predominantly draw my theoretical construct of space.

At the time of embarking on his reflections, Lefebvre presents what he deems to be a distressing lack of theorising in philosophy on matters pertaining to space. When and where this dimension of Being is discussed, it is relegated to a secondary role behind the overwhelming attention paid to Time.

La réflexion épistémologico-philosophique n'a pas donné un axe à une science qui se cherche depuis longtemps à travers un nombre immense de publications et de travaux : *la science de l'espace*. Les recherches aboutissent soit à des descriptions (sans atteindre le moment analytique, encore moins le théorique), soit à des fragmentations et découpages de l'espace. Or beaucoup de raisons induisent à penser que descriptions et découpages n'apportent que des *inventaires* de ce qu'il y a *dans l'espace*, au mieux un discours *sur l'espace*, jamais une connaissance *de l'espace*. Faute d'une connaissance de l'espace, on transfère au discours, au langage comme tel, c'est-à-dire à l'espace mental, une bonne part des attributions et « propriétés » de l'espace social. (Lefebvre, 1974 : 13-4; emphasis in original)

There lies the crucial tri-partite distinction brought forward by Lefebvre, between “inventories of what *exists in space*, [... of] a *discourse on space*, [which] cannot ever give rise to a *knowledge of space*” as these inventories and discourses do not take into account the social aspects of space (Lefebvre, 1974, translated by Nicholson-Smith, 1991 : 7; emphasis in original).

Lefebvre's influence on the theoretical approach to (social) space remains largely unequalled to this day. When Edward Soja presented his spatialized ontology almost two decades later, the echo of Lefebvre's thought was profoundly obvious. For Soja, the social sciences had the tendency to discuss space according to a dual illusion. On the one hand, distorted by a confusing myopia such that only near objects were clearly visible, such that one could only list the inventory and physical aspect of what *exists in space*. On the other hand, an opposite illusion prevails, much like a far-sighted individual whose vision is partially handicapped as he perceives only what lies at a distance, thereby limiting his reflections to a *discourse on space*. These discourses on space however remain abstract and disconnected from the social

relations which produce and are produced by space. Understanding and discussing space as presupposition and embodiment of social relations is what Soja calls the socio-spatial dialectic.

The inclination to give predominance to Time over Space can be found among all the great thinkers, particularly Marx. One need only to think of Marx's writings on *historical* materialism, of his depictions of class struggle acting as the motor of *History*. Yet, one should not view in Lefebvre a disavowal of Marx. Rather, he carries out a spatialization of the marxist analysis of the commodity fetish. If, as Marx has it, relations of production can be outlined beyond the physical and inanimate aspect of the objects of daily life, Lefebvre seeks to draw out the social relations implicated in the production of space. However,

[l]'espace n'est jamais produit comme un kilogramme de sucre ou un mètre de toile. Il n'est pas davantage la somme des lieux et places de ces produits : le sucre, le blé, la toile, le fer. Non. Il en serait plutôt la condition et le résultat : l'État, et chacune des institutions qui le composent, supposent un espace et l'aménagent selon leurs exigences. L'espace n'a donc rien d'une « condition » a priori des institutions et de l'État qui les couronne. Rapport social? Oui, certes, mais inhérent aux *rapports de propriété* (la propriété du sol, de la terre en particulier), et d'autres part lié aux *forces productives* (qui façonnent cette terre, ce sol), l'espace social manifeste sa polyvalence, sa « réalité » à la fois formelle et matérielle. *Produit* qui s'utilise, qui se consomme, il est aussi *moyen de production*. (Lefebvre, 2000 : 102; emphasis in original)

The discussion that follows will borrow from Lefebvre to demonstrate that Ouaga 2000 is the product of particular developments within Burkinabè society, namely the emergence of a local elite that has embraced the practice of accumulation by dispossession. This is materialized in the incipient spread in Ouagadougou of splintering urbanism to satisfy a desire to etch out a stake in the rise of the network society. This picture will reflect Lefebvre's view that “[c]haque société [...] produit un espace, le sien” (id. : 40).

### ***Recent West African Politics***

As stated earlier, Upper Volta attracted only very little interest from colonial powers except for the control of its territory and the predominantly male laborers forced into the army or to work in the resource-rich coastal regions. Burkina Faso was and remains devoid of any large deposit of natural resources and the agricultural sector

cannot compare with other regional markets as the Sahelian climate and soil conjoined with the absence of any large body of water – the mighty Niger river mockingly flows around Burkina Faso without ever crossing its border – make the modest local production uncompetitive. Add to these bare characteristics the fact that the country is landlocked, the paucity of any industries, the continued seasonal migration of its young and able male population even after independence, and a relatively uninterrupted period of political instability that rocked the country until the late 1980's, and it should be no wonder that Burkina Faso still ranks as one of the poorest countries in Africa. Finally, the dearth of any important urban centre in Burkina Faso until recently, along with the numerous factors hindering economic development listed above, go a long way to explain the longstanding absence of a substantial local economic elite in the country.

This situation would start changing in the mid-1980's due to a variety of national and regional events. Briefly, these are the relative political stability in Burkina Faso since the late 1980's – a first since its independence – following the last bloody coup which saw Blaise Compaoré depose Thomas Sankara, as well as the concomitant spread of brutal civil wars in most of the neighbouring countries, chiefly Liberia, Sierra Leone and Côte d'Ivoire. The Compaoré government and its apparatchik have taken advantage of this double reversal in regional politics, interfering and intervening in the dynamics fuelling these conflicts which revolve around the lucrative control of mineral deposits and agricultural production. Acting as intermediaries in the trafficking of arms, diamonds and other resources, actors close to the political elite of Burkina Faso have been able to amass sizeable fortunes. But before going into detailed accounts of these political games, it is important to survey the fascinating debates within the academic literature dealing with the formation of social classes in post-colonial contexts.

### ***The Second Economy, Productivity in the Margins, and the Emergence of a Local Elite***

Arriving in the Democratic Republic of the Congo (DRC, formerly known as Zaïre) in 1979 in the midst of a severe economic crisis, anthropologist Janet MacGaffey



was surprised to note that many local entrepreneurs benefited from an enviable economic situation. Her fieldwork observations led her to criticise many of the prior analyses dealing with the emergence of “indigenous capitalism in peripheral economies” (MacGaffey, 1987 : 12), such as evolutionary perspectives as well as so-called dependency theories. According to the former, economic under-development appears as a local historic phase, from which a group or society eventually evolves from. For its part, dependency theory, with André Gundersen Frank as its leading proponent, situated the emergence of peripheral capitalism in a global perspective, however assigning the indigenous capitalists a relation of dependency towards international capitalism (id. : 12-6). Yet for MacGaffey, the arguments of these two theoretical views did not match with the circumstances she saw in Kisangani, DRC, where she witnessed the emergence of a successful local class of capitalists with no contacts with industrialised countries, and in the context of overall worsening economic indices for the rest of the population. For MacGaffey, the local articulation of capitalist and non-capitalist modes of production offered a better perspective from which to discuss the formation of social classes<sup>15</sup>.

In her monograph, MacGaffey also allocates a major segment of her analysis to what she calls “the second economy” in which she includes “unmeasured and unrecorded” economic activities (id. : 23).

The second economy is as much a political as an economic phenomenon. [...] [P]osition in the state brings access to resources and such access is crucial for certain activities in the second economy. It allows state personnel to consolidate their class position with massive accumulation of wealth in activities such as smuggling, bribery and embezzlement, and speculation and middleman activity (id. : 23-24).

More recently – although without making reference to MacGaffey’s work – Janet Roitman would provide a more detailed description of the role of the state and its actors in carving out what she has termed “productivity in the margins” (Roitman, 2004).

Generally interpreted as beyond the state or even antistate, these activities are often quite misleadingly called the “informal economy”. However, while they often share the

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<sup>15</sup> The idea of the articulation of modes of production was first put forth through the works of French economic anthropologists of the 1970’s such as Claude Meillassoux, Maurice Godelier, Pierre-Philippe Rey and Emmanuel Terray.

characteristic of circumventing state economic regulation, these economic activities cannot be described or understood as marking out a realm distinct from state power, either in terms of their organization or their functioning [...]. To the contrary, such activities are fundamentally linked to the state and even essential to the very repositioning of state power in present conditions of extreme austerity. The tactics of mobility and misdemeanor inherent to activities associated with unregulated markets circumscribe targets of wealth, etching out new economic spaces, and constitute, in themselves, objects of economic regulation. In this latter capacity, they are at the heart of the postcolonial state's endeavor to fill its coffers and finance its constituents. By underscoring that point, this presentation of productivity in the margins does not necessarily confirm predictions about the demise of state power on the African continent. Nor does it demonstrate ways in which unregulated economic activities are potential bases for capitalist economic activity (de Soto 1989), shadow economies that sometimes surpass nodes of state power (Nordstrom 2001), or parallel economies that undermine internal state legitimacy but not juridical sovereignty (Reno 2001). (id. : 192-3)

Also working in sub-Saharan Africa, in the region of the Chad Basin which includes northern Nigeria, northern Cameroon, Chad and the Central African Republic, Roitman asks herself similar questions to which MacGaffey sought answers while in the DRC, and to which I have alluded to with regards to Burkina Faso's new economic elite.

The general question of productivity in marginal spaces of the global economy speaks to the subthemes of how marginality is central to the generation of states of power and how it is constitutive of the very legibility of power. [...] How does one connect into the global economy from the edge of the periphery? How does one eke out a livelihood when one has no recourse to significant natural resources, a viable industrial base, or even service sector employment. (id. : 195)

The strength of Roitman's analysis lies in the way she resolves "the paradox between the increasing intensity of unregulated activities and the persistent efficacy of state infrastructures" (id. : 194). Whereas prior accounts reporting on the flourishing of unregulated activities perceived this as a sign of the loss of power and weakening of African nation-states, Roitman dispels the apparent contradiction between what some perceive to be a loss of state control – that is a loss in state regulatory authority – in the face of increasing state power.

Over the past decade, African states have been generally depicted in academic research and media commentary as "weak states" (Migdal 1988; Kaplan 1994; Zartman 1995; Reno 1995), a view often interpreted in terms of their failure to adhere to the Weberian model of the rational-legal state. In short, these kinds of states are characterized as having limited capacity with respect to resource extraction, social control, and policy implementation. Thus, they lack authority and legitimacy in the domestic realm, often leading to a loss of control over territories and populations. Likewise, and following from that depiction, African political economies have been interpreted as increasingly marginalized from the international political economy (see Callaghy and Ravenhill

1993; Bach 1998; Castells 1998 : 70-165). This portrayal maintains, somewhat tautologically, that state failure results from the state's incapacity to control resources, commercial and financial activity, and regional trade.

Contrary to these accounts, my experience in the Chad Basin was not lacking in testimony to the strengths of certain African states, such as Cameroon, Nigeria, and Chad. These states have crushed rebellions and opposition movements not only through brute force but also through savvy political maneuvering, proving their respective abilities to monopolize the means of violence and to command central parts of the bureaucratic apparatus. Yet, the efficacy of these states is also generated out of what Michel Foucault described as the capillary effects of state power, or the effective constitution of the very field of "the state" through forms of power that exceed the state bureaucracy or its central institutions. Our intuition is that states produced through highly effective forms of capillary power are "strong" states, and those that resort to the exercise of power through "right of state" and violence are "weak" states, whose legitimacy is in question. But in the Chad Basin, the emergence of unregulated economic activities and violent methods of extraction, such as economic appropriation through seizure, indicate that violent practices can also be produced as a legitimate mode of the exercise of power. That is, violence can be part of the very legibility of power. (id. : 193)

That is indeed what appears to be happening in Burkina Faso, and Ouaga 2000 offers a clear example that dovetails between MacGaffey's notion of "second economy" and Roitman's "productivity in the margins".

The overall financing of the Ouaga 2000 project has primarily been from the coffers of the Burkinabè state, with substantial support from long-time political allies France, Taiwan and Libya. As stated earlier, Ouaga 2000 has also attracted investments from individuals searching to launder vast amounts of money acquired through illicit means. Although the links are at times tenuous, accounts drawn from the United Nations (UN) Sanctions Committee's numerous reports on the civil wars in Liberia and Sierra Leone clearly demonstrate Burkina Faso's prominent role in the trafficking of arms and diamonds. Indeed in August 2000, the Briton Stephen Pattison, Head of the United Nations Department of the Foreign and Commonwealth Office, concluded his declaration to the Sanctions Committee addressing the illegal trade in Sierra Leonean diamonds by stating that "as much as 40 percent of the diamonds mined in Sierra Leone reach the outside world via Burkina Faso, with the other 60 percent going via Liberia" (UN, 2000a : 11). Others before and after him offered testimony as to the role of the Burkinabè government in the smuggling of diamonds and the sale of arms. Should Mr. Pattison's and others' assessments have been remotely accurate, this would represent tens if not hundreds of millions of American dollars in blood diamonds passing through Burkina Faso before making

their way to the markets in Europe, North America and Israel, in addition to the significant profits earned from the trafficking of arms in clear violation of United Nations Sanctions. It would be doubtful that such important transactions between countries with no common border could occur without the knowledge of Burkinabè governmental authorities. In fact, they took place in total collusion with them.

As stated earlier, Libya has been a close ally of Burkina Faso's government at least since the Sankara revolution, as well as of important rebel leaders who recently waged brutal wars in West Africa. Without providing all the details of the complicated history of the conflicts that devastated Liberia and Sierra Leone during the last two decades, a few key figures need brief introductions nonetheless.

In the late 1980's, Charles Taylor, who headed the New Patriotic Front of Liberia (NPFL), launched an attack on the Liberian government, fuelling a civil war that would wax and wane for over a decade during which he ruled over much of the country, at times through brute force, at others through more formal means. The political instability in Liberia quickly spread to neighbouring Sierra Leone, where in the early 1990's outright civil war erupted. Cross-border alliances among warlords already existed and they supported each other's personal initiatives, with Taylor's NPFL joining forces with Foday Sankoh's Revolutionary United Front (RUF) which many see as having initiated and committed most of the atrocities of the Sierra Leonean conflict. When Foday Sankoh was arrested for two years starting in 1997, another RUF commander, Sam Bockarie, took over at the helm of the rebel.

Browsing through various UN Sanctions Committee reports, a clear picture of regional political ties emerges.

The personal connections between President Charles Taylor and Foday Sankoh go back ten years to their training in Libya, to their combined efforts on behalf of Blaise Compaoré in his seizure of power in Burkina Faso, and to Sankoh's involvement in Charles Taylor's struggle as head of the NPFL to take power in Liberia in the early 1990's. (UN, 2000b: 32)

Ralph Hazelton of Partnership Africa Canada offers a similar story placing the control of diamond-rich areas of Sierra Leone at the heart of the matter :

Charles Taylor's connections with the current President of Burkina Faso dated from the mid-1980's. Since then, Burkina Faso and the Libyan Arab Jamahiriya had provided a base for Taylor's National Patriotic Front of Liberia (NPFL). At training camps in both countries, NPFL soldiers became acquainted with Foday Sankoh, and other Sierra

Leoneans in the fledgling RUF, whose emphasis from the start was on diamond areas around Koindu and later the Kono district. (UN, 2000a: 8)

In the same report, Richard Holbrooke, then permanent representative of the United States to the UN

welcomed the participation of Liberia and Burkina Faso in the hearing and stated that the Governments of those countries, including through the actions of their Presidents, were fuelling the war in Sierra Leone and profiting from the arms-for-diamonds trade. [...]

Stating that conflict diamonds have provided RUF leaders the means to fund their nine-year insurgency, he estimated that RUF had garnered \$30 to \$50 million and as much as \$125 million a year from the illicit sale of diamonds. The principal vendor appeared to have been RUF leader Foday Sankoh until his arrest. Other RUF commanders, including Sam Bockarie, a.k.a. "Mosquito", had been selling as well. [...] In the last several years, Liberia had exported 6 million carats of rough diamonds worth \$300 million even though its estimated productive capacity was only 100 to 150,000 carats, worth less than \$10 million. RUF leaders and the President of Liberia had undoubtedly been taking large commissions. (id. : 7)

A different UN report from around the same time goes into more details, naming other key individuals.

The name of 'Ibrahim Bah' arises frequently in the RUF diamond story. He is said to be a Burkinabe military officer. He is also known as Ibrahima Baldé and Baldé Ibrahima. He was a key player in the RUF-AFRC [Armed Forces Revolutionary Council] axis, and has been instrumental in the movement of RUF diamonds from Sierra Leone into Liberia and from there to Burkina Faso.

[...]

197. The President of Burkina Faso is a close ally of President Charles Taylor and Burkina Faso has acknowledged the presence of over 400 Burkinabe soldiers in Liberia during the time Taylor was leading his rebellion in 1994 and 1995. Provision was made in the government budget to cover salaries for the services rendered during this period. Burkina Faso has repeatedly denied the involvement of its nationals in supporting the RUF. Eyewitnesses and former RUF combatants, however, confirm the active involvement of Burkinabes with the RUF. A Burkinabe, 'General' Ibrahim Bah (a.k.a. Baldé) [...] handles much of the financial, diamond and weapons transactions between the RUF, Liberia and Burkina Faso. He shuttles regularly between Monrovia and Ouagadougou. (UN, 2000a: 17 and 35)

In addition to holding a critical position in the triangle connecting Sierra Leone, Liberia and Burkina Faso, Ibrahim Bah, a Libyan-trained soldier who had fought with the mujahedin in Afghanistan in the 1980's, was a key player and intermediary who facilitated Al-Qaeda's access to West African diamonds. Indeed, following the bombings of U.S. embassies in East Africa in 1998, the international community, led by the U.S., acted swiftly to freeze all Taliban and Al-Qaeda financial assets. Having lost overnight much of its monetary sources, Osama Bin Laden's group turned to

material commodities that could be easily smuggled to finance its activities. Blood diamonds became the prized source of currency for Al-Qaeda (Farah, 2001).

Burkina Faso also served as a meeting point for NPFL and RUF leaders.

Some key points regarding President Taylor's meetings with RUF commanders, which he chaired in Monrovia or co-hosted with President Blaise Compaore in Burkina Faso, were highlighted by Mr. Pattison. In particular :

(a) Commanders included Issa Sesay, Gibril Massaquoi, Morris Kallon and Augustin Gbow (based in Sierra Leone); Sam Bockerie [*sic*] and Edward Kanneh (based in Liberia); and Ibrahim Bah (based in Burkina Faso);

(b) On 5 June 2000, Sam Bockerie [*sic*], Gibril Massaquoi and Edward Kanneh had accompanied President Taylor on a trip to Ouagadougou, Burkina Faso, to meet President Compaore. Massaquoi was carrying a quantity of diamonds and a Liberian helicopter had flown him from Kono diamond area to Monrovia, whence he was flown to Ouagadougou;

(c) On 10 June 2000, Gibril Massaquoi had flown to Monrovia to meet President Taylor taking with him more diamonds and obtaining six trucks to transport material back to Sierra Leone. (UN, 2000a : 10)

As stated earlier, the government of Burkina Faso also sold arms to the Liberian and Sierra Leonean militias. The following detailed case study, likely one of many unrecorded activities during the conflicts, further enlightens the connections between the Burkinabè government and the NPFL and RUF.

#### **IV The role of aircraft in supplying the RUF**

##### **A. Direct Flights into RUF territory**

198. Having no access to the sea, the RUF can import weapons and related *matériel* only by road or by air. The role of aircraft in the RUF's supply chain is vital, especially over the past two years, as their sphere of influence in Sierra Leone has widened. Given the state of the country's roads, it would be impossible to supply RUF operations such as those undertaken at Pamelap in Guinea late in 2000, for example, without aerial support.

199. Most Sierra Leonean landing strips in the areas under RUF control were destroyed or have not been maintained because of the war. [...]

200. The absence of reports in itself, however, is not very meaningful, as there is a total lack of governmental oversight of Sierra Leonean airspace due to insufficient infrastructure at the country's airports and in the subregion in general [...].

201. This problem notwithstanding, it is known that the RUF have been supplied with weapons by helicopter on a sporadic basis before 1997 and on a regular basis since then. [...]

### **B. Weapons flights into Liberia**

202. Virtually all of the weapons shipped into RUF territory are trans-shipped through at least two other countries between their point of origin and RUF territory in Sierra Leone. In virtually all cases, the last transit point before shipment into Sierra Leone is Liberia. The weapons reach Liberia in a variety of ways – occasionally by sea but most frequently by air. The Panel went to considerable lengths to document some of these shipments in order to demonstrate how the supply chain works.

#### **Case Study : Burkina Faso delivery of Ukrainian weapons**

203. A shipment of 68 tons of weapons arrived at Ouagadougou on 13 March 1999. It included 715 boxes of weapons and cartridges, and 408 boxes of cartridge powder. The inventory also included anti-tank weapons, surface-to-air missiles, and rocket propelled grenades and their launchers<sup>16</sup>.

204. This shipment has now been well documented. Documentation provided in April and June 1999 by the Ukraine government to United Nations Sanctions Committees shows that the weapons were part of a Gibraltar-based company representing the Ministry of Defence of Burkina Faso, and the Ukrainian State-owned company Ukrspetsexport. An aircraft of the British company Air Foyle, acting as an agent for the Ukrainian air carrier Antonov Design Bureau, shipped the cargo, under a contract with the Gibraltar-based company, Chartered Engineering and Technical Services. A Ukrainian licence for sale of the weaponry was granted after Ukrspetsexport had received an end-user certificate from the Ministry of Defence of Burkina Faso.

205. The end-user certificate was dated 10 February 1999. The document authorized the Gibraltar-based company to purchase the weapons for sole use of the Ministry of Defence of Burkina Faso. The document also certified that Burkina Faso would be the final destination of the cargo and the end-user of the weaponry. The document is signed by Lieutenant-Colonel Gilbert Diendéré, head of the Presidential Guard of Burkina Faso. During a visit by a Panel Member to Ukraine, this sequence of events was reconfirmed.

206. The authorities of Burkina Faso, in correspondence with the United Nations Sanctions Committee on Sierra Leone, denied allegations that the weapons had been re-exported to a third country, Liberia, and during a visit to Burkina Faso, the Panel was shown weapons that were purportedly in that shipment.

207. The weapons in question, however, were not retained in Burkina Faso. They were temporarily off-loaded in Ouagadougou and some were trucked to Bobo Dioulasso [the second largest city of Burkina Faso, located to the SouthWest of the country, close to its borders with Mali and Côte-d'Ivoire]. The bulk of them was then trans-shipped within a matter of days to Liberia.

208. Most were flown aboard a BAC-111, owned by an Israeli businessman of Ukrainian origin, Leonid Minin. The aircraft bore the Cayman registration VP-CLM and was operated by a company named LIMAD, registered in Monaco. Minin was, and may remain, a business partner and confidant of Liberian President Charles Taylor. He is identified in the police records of several countries and has a history of involvement

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<sup>16</sup> The end-user certificate had indicated that 3,000 AKM (Kalashnikov assault rifles), 50 machine guns, 25 rocket-propelled grenade launchers, 5 Strela-3 (also known as SA-7) missiles and 5 metis anti-tank missile systems, as well as ammunition for all of the above. (UN, 2000a : 8)

in criminal activities ranging from east European organized crime, trafficking in stolen works of art, illegal possession of fire arms, arms trafficking and money laundering. Minin uses several aliases. He has been refused entry into many countries, including Ukraine, and travels with many different passports. Minin offered the aircraft mentioned above for sale to Charles Taylor as a Presidential jet, and for a period between 1998 and 1999, it was used for this purpose. It was also used to transport arms.

209. Regarding the shipment in question, the aircraft flew from Ibiza in Spain to Robertsfield [*sic*]<sup>17</sup> in Liberia on 8 March 1999. On 15 March, two days after the arrival of the Ukrainian weapons in Ouagadougou, the plane flew from Monrovia to Ouagadougou. On 16 March the plane was loaded with weapons and flew back to Liberia. On the 17th, it returned to Ouagadougou. After a flight to Abidjan in the Ivory Coast, the plane flew again from Ouagadougou to Liberia with weapons on the 19th. On the 25th the plane flew again from Liberia to Ouagadougou and returned on the same day with weapons. On the 27th the plane flew again to Ouagadougou and from there to Bobo Dioulasso for the weapons and Liberia. On 31 March the plane flew back to Spain. Because the plane had a VIP configuration, it had only limited cargo capacity, which is why so many flights were necessary.

210. A second plane, an Antonov operated by a Liberian company named Weasua, is reported by eye-witnesses to have flown part of the cargo to Liberia from Bobo Dioulasso. (UN, 2000b : 35-6)

Though one of the most detailed case studies of the trafficking of arms, others can also be found in the UN Sanctions Committee reports, notwithstanding the untold and unrecorded flights that took place.

In addition to the implication of Burkina Faso in the smuggling of diamonds from war-torn Sierra Leone and Liberia, it has recently emerged that the landlocked country has been importing cocoa from areas of Côte d'Ivoire controlled by rebel leader Adama Bictogo. Côte d'Ivoire, formerly the economic powerhouse of West Africa and still the world's largest producer of cocoa, remains gripped by political instability since 1999, with the country divided between government-controlled areas in the South, rebel-led areas in the North, with a predominantly French peacekeeping force patrolling between the two. In a recent report, the NGO Global Witness which focuses on the links between the exploitation of natural resources and human rights abuses, provides damning evidence of the role of Burkina Faso, itself not a cocoa-producing country, in facilitating the export of cocoa from rebel-controlled regions of Côte d'Ivoire (Global Witness, 2007). Most of the cocoa smuggled from Côte d'Ivoire to Burkina Faso gets then transported to Togo, where from the Lomé harbour it reaches the rest of the world.

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<sup>17</sup> Roberts Field is the airport in Monrovia, capital of Liberia.



Compared with the sale of arms and diamonds, the extent of these operations and the revenues reaped from them are even harder to document. Whereas Côte d'Ivoire and Togo are separated by Ghana, Burkina Faso shares borders with both countries, such that most of the shipments of cocoa takes place in trucks passing through their porous borders with important customs taxes levied on trucks hauling cocoa. Lomé, the capital of Togo and one of the main harbours of West Africa, has seen its level of activity rise since the Ivoirian civil war erupted, as the conflict has often paralyzed the Abidjan harbour and shipping companies have preferred to divert their commerce to Lomé.

Global Witness furthermore accuses Soeximex, "a French company and a member of the Federation of Cocoa Commerce" (id. : 40), of financing the purchase of machines to help process the cocoa in Southern Burkina Faso, as well as maintaining a company representative in Lomé dealing with Ivoirian cocoa smuggled through Burkina Faso. The NGO therefore calls for a ban on smuggled cocoa, which like the trafficking of other natural resources, helps finance the purchase of arms and contributes to fuel the civil war in Côte d'Ivoire.

What could possibly have happened to the fortunes amassed from the plunder of West Africa, from the commissions earned by Burkinabè controlling as much as 40% of the market of Sierra Leonean diamonds, from the sale of arms to warlords engaged in these brutal conflicts, from the smuggling of Ivoirian cocoa? I am certainly not the first to posit a link between the riches accumulated from these activities and the construction of Ouaga 2000. Yet these two sets of events, the trafficking in diamonds and arms fuelling the rapes, maiming and deaths of tens of thousands, then displacing from their lands several thousand more to build lavish mansions to launder the fruits of the rapine, display a similar and increasingly common practice of perpetuating the enrichment of a minority at the expense of vulnerable populations which the urban geographer David Harvey has so sharply termed "accumulation by dispossession".

### ***Accumulation by Dispossession***

The investigations as to the reasons behind the tendency for cyclical economic crises within the capitalist mode of production have caused much ink to flow. Analyses primarily blaming underconsumption, as proposed by Rosa Luxemburg, conflict with the opposing view that overaccumulation of idle capital which does not get reinvested plays the predominant role. Proponents of the latter reasoning include Hannah Arendt and more recently David Harvey. To palliate to real or possible economic crises, each of the two thinkers reworked Marx's principle of "primitive accumulation" which he outlined in the first volume of *Capital*.

[A] primitive accumulation (previous accumulation of Adam Smith) preceding capitalistic accumulation [is] not the result of the capitalist mode of production, but its starting-point. [...] The process, therefore, that clears the way for the capitalist system, can be none other than the process which takes away from the labourer the possession of his means of production; a process that transforms, on the one hand, the social means of subsistence and of production into capital, on the other, the immediate producers into wage-labourers. The so-called primitive accumulation, therefore, is nothing else than the historical process of divorcing the producer from the means of production. It appears as primitive, because it forms the pre-historic stage of capital and of the mode of production corresponding with it. (Marx, 2002 : 521-522)

Thus for Marx, primitive accumulation represents the initial condition from which arises the capitalist mode of production, those particular circumstances never being reproduced afterwards.

While examining the principle of "endless accumulation" – the essential condition of the capitalist mode of production operating on the basis of constant economic growth – Hannah Arendt would revise Marx's notion of "primitive accumulation" in *The Origins of Totalitarianism*. In the light of events which took place in Europe and abroad in the second half of the 19th century, Arendt argued that "primitive accumulation" was not an original and unique phenomenon, but rather would repeat itself. Indeed, analysing the financial crises which struck many European countries in the 1860's and 1870's, Arendt demonstrated that the economic instabilities of the period resulted from the overaccumulation of capital in the context of opportunities for reinvestment limited by national borders and markets. To remedy this situation, the bourgeoisie, which regrouped the greater part of the financiers affected by the economic crises, found itself driven to get involved in politics, what Arendt referred to as "the political emancipation of the bourgeoisie". Until then largely uninterested

by public administration, satisfied by any system of state control which guaranteed its rights to private property and free trade, the bourgeois realised they had to convince their governments to open new markets where they could reinvest their stagnating capital. It is within this historical conjecture that arose the colonial adventure, opening up new markets which overflowed with resources that could be exploited at a lesser cost. Thus were outlined major political transformations arising from the necessity for endless accumulation, leading Arendt to state that “endless accumulation requires the endless accumulation of political power” (cited in Harvey, 2003 : 140). The private interests of a few became major issues for the state. Territorial expansion as a political end therefore appeared as a fix for economic problems.

Arendt thus adds an important dimension to Marx’s concept of primitive accumulation. According to her, primitive accumulation necessarily reappears, however in *another* region from where it has already engendered capitalism. But after all, there exist limits to the expansion of primitive accumulation. If its ‘export’ through colonialism during the second half of the 19th century offered an ideal solution to the crises resulting from overaccumulation, this recourse would eventually become secondary and useless once all the corners of the globe were transformed by capitalism and subjected to its mode of production. That is indeed what David Harvey demonstrates by elaborating the concept of accumulation by dispossession, this practice becoming the dominant form of perpetuating endless accumulation when the opportunities for the extension of capitalism have largely run out.

Primitive accumulation that opens up a path to expanded reproduction is one thing, and accumulation by dispossession that disrupts and destroys a path already opened up is quite another. (Harvey, 2003 : 164)

Through primitive accumulation, as conceived by Arendt, the foundations of the capitalist mode of production get introduced where they have yet to penetrate. Eventually having to deal with the overaccumulation of capital in a global context where capitalism has made forays almost everywhere, accumulation by dispossession stands out as the privileged solution. By reproducing the original conditions of

primitive accumulation, by dispossessing people of their land and of its natural resources, accumulation by dispossession allows these capitalists to have access to and monopolise goods at a lesser cost to maintain and perpetuate endless accumulation.

Ouaga 2000 thus stands out as the product and producer of accumulation by dispossession, allowing an emerging regional elite with close ties to the Burkinabè government to forcibly displace thousands of individuals in order to launder the riches accumulated from the plunder of West Africa, pursuing their drive for endless accumulation. This situation further highlights the vulnerability of the dispossessed – read vulnerable, poor – populations living in a context with no formal recourse against such practices, whether judicial or other. While individuals around the world continually suffer from varied forms of dispossessions, from losing their jobs in massive company lay-outs to being forced to relinquish parts of their property, there exist safeguards and mechanisms of appeal in many Western countries. That is not the case for the Burkinabè and Sierra Leoneans of this world, who endure, their voices, concerns and opposition ignored and muted. All the while, the infrastructures built in Ouaga 2000, from the cutting-edge conference center to the hotels, allow this local Burkinabè elite to converse with other important players through business meetings as well as various international gatherings, such as the France-Afrique and African Union summits held there in 1996 and 1998 respectively. In doing so, the emerging elite in Burkina Faso is attempting to carve out a place as a major player in regional and international affairs and thus earn a stake in the rising network society.

### ***Castells and the Rise of the Network Society***

Since the publication of *La question urbaine* in 1972, Manuel Castells has continued to examine social changes in postindustrial cities in the light of urban transformations. Recently his research deals with “the information age” which he claims is reconfiguring the capitalist economic mode of production through the spread of communication technologies permitting the sharing of data and the flow of financial transactions to proceed uninterruptedly across the globe. For Castells, these changes signal “the rise of the network society”, conditioned by “flows” whose

intensity and reach are ceaselessly expanding, such that the economy has become global for the first time. Though he recognizes the pioneering research of Fernand Braudel and Immanuel Wallerstein examining the worldwide circulation of capital connecting all regions of the world as early as the 16th century, Castells insists that the information age should qualify as the first true age of global economic circuits as it allows these exchanges to occur in real-time at the scale of the planet.

Focusing on the modalities supporting these large-scale processes, Castells recounts the material consequences issuing from this economic structure whose domain remains primarily social. These observations lead him to state that

[t]he materiality of networks and flows creates a new social structure at all levels of society. It is this social structure that actually constitutes the new informational society, a society that could be more properly named as the society of flows, since flows are made up not only of information but of all materials of human activity (capital, labor, commodities, images, travelers, changing roles in personal interaction, etc.). (Castells, 1996 : 34)

These changes in economic practices strongly influence the social structures that permeate the urban landscape, as cities represent the most convincing site of the variations within the capitalist mode of production. To record these changes, Castells proposes to consider a new spatial logic, “the space of flows”, appearing as the dominant manifestation of these network societies, which he defines as “the material organization of time-sharing social practices that work through flows” (Castells, 2000 : 442). The space of flows gradually erases and replaces the historic and common experience of spatial organisation, which he terms the “space of places”. Many authors who shared Castells’ views early on in the 1980’s predicted the demise and disappearance of cities. Castells’ analysis provides proof that the reverse is happening, with cities growing at an ever larger pace.

Yet, despite the emergence and spread of spaces of flows, Castells insists that the vast majority of individuals across the world still predominantly perceive their own experiences and construct their lives according to dynamics governed by contiguity, the space of places. Indeed, information technologies simultaneously favor the spread and concentration of space (id. : 428). To demonstrate this, Castells outlines what he perceives to be the three layers that make up the material content of the space of flows. The first layer is constituted by a circuit of electronic exchanges, the

second by nodes and hubs – “the space of flows is not placeless, although its structural logic is” (id. : 443) – and the third layer “refers to the spatial organization of the dominant managerial *elites (rather than classes)* that characterize the directional functions around which such space is articulated” (id. : 445; emphasis added). Thus by operating within the space of flows, the emerging cosmopolitan elite dominates and controls these localized populations whose lives remain anchored in the space of places. While these elites converse and manage affairs on the global scene, they establish themselves within new urban forms Castells calls mega-cities.

Yet what is most significant about mega-cities is that they are connected externally to global networks and to segments of their own countries, while internally disconnecting local populations that are either functionally unnecessary or socially disruptive. I argue that this is true of New York as well as of Mexico or Jakarta. It is this distinctive feature of being globally connected and locally disconnected, physically and socially, that makes mega-cities a new urban form. A form that is characterized by the functional linkages it establishes across vast expanses of territory, yet with a great deal of discontinuity in land-use patterns. Mega-cities’ functional and social hierarchies are spatially blurred and mixed, organized in retrenched encampments, and unevenly patched by unexpected pockets of undesirable uses. Mega-cities are discontinuous constellations of spatial fragments, functional pieces, and social segments. (id.: 436)

Through projects such as Ouaga 2000, the new Burkinabè elite vies to establish Ouagadougou as a mega city, as a major pole of influence in West Africa and beyond. Despite a relatively small population compared to most other mega-cities, Ouagadougou nevertheless competes with other major regional hubs such as Dakar and Abidjan, and demonstrates that Castells’ mega-cities need not have undergone an industrialised period prior to assuming the role of informational city. As long as it facilitates the flow of information among the Burkinabè elite and the outside world, urban nodes such as Ouaga 2000 will provide the local elite with the necessary support to reach out to the global economy.

AbdouMaliq Simone has stood as one of the only voices to elaborate on Castells work in the African context, appropriately grasping its effects on contemporary dynamics for the continent.

Nodes in complex networks of interactions among cities [...] work to constitute a kind of transnational urban space, where the primary reference of cities are other cities regardless of their location, and thus establishing a circuitry of movements of all kinds, and producing an intensifying marginalization of those whose residence and labour exists largely outside of such movements. (Simone, 1997: 27)

Thus, urban divisions like Ouaga 2000 are initiated by changes occurring on a global scale yet materialize through local practices, erecting barriers between the cosmopolitan elites and the local population. Such practices, increasingly common around the world, have been referred to as “splintering urbanism” (Simon and Marvin, 2001). This fracture within the urban tissue – this *ségrégation sociale* wrought by Ouaga 2000 (Compaoré, 2003 : 41) – strongly echoes the early practices of colonial powers who settled in the cities they sought to rule, and are akin to contemporary forms of “splintering occupation” as has been reported for occupied Palestine (Mbembe, 2003).

### **Conclusion**

Within the first pages of *The Wretched of the Earth*, Frantz Fanon alludes to the divided colonial city, describing the effects of this violent partition on the psyche of the colonized. “*La zone habitée par les colonisés n’est pas complémentaire de la zone habitée par les colons. Ces deux zones s’opposent, mais non au service d’une unité supérieure*” (Fanon, 2002 : 42). Indeed, this visible separation of the two worlds of the colonizer and the colonized violently demarcates the urban space and by extension the consciousness of the *colonisés*. This “*violence qui a présidé à l’arrangement du monde colonial*” (id. : 44), once established, must be perpetuated to maintain and diffuse this domination. This takes place through practices that demarcate different zones of the city, reinforced by the presence of the military and the police who use violence to maintain this colonial order. Within a dense and restricted environment, a forced cohabitation ensues. The city of the colonizer, where order, cleanliness and abundance prevail stands as an enclosure which rejects and protects itself from all that swarms beyond its limits. Beyond the fence that surrounds the colonial enclave springs up the zones teeming with densely packed inferior, unhygienic and immoral beings.

There exist striking parallels between this urban apartheid of early colonization described by Fanon, and the contemporary situation arising from “*l’utilisation particulière des lieux urbanistiques*” (Pandolfi, 2006 : 52) during contemporary

humanitarian or military interventions. Whether in Tirana during the 1990's, or currently in Bagdad's Green Zone (Langewiesche, 2004), the parcelling of urban space in order to establish within a "secured" perimeter the physical basis for the new ruling power constitutes one of the first steps to be taken. The deterritorialized international community (id. : 43) reterritorializes itself within these places by a process of migrating sovereignty (id. : 48).

*Souvent les experts, les journalistes ou les hautes hierarchies militaires des missions internationales construisent leur rhétorique, renforcent leurs stratégies, écrivent et font circuler leurs rapports exclusivement à l'intérieur de ces zones « protégées », reconnues comme zones de la communauté internationale" (Pandolfi, 2006 : 53).*

As will become obvious in the next chapter, other means than the brute physical occupation of these cities coexist in order to preserve a state Derek Gregory has termed the "colonial present" (Gregory, 2004). Indeed, discursive regimes – "imaginative geographies" – serve the interests of the powerful who seek to maintain from a distance their hold on various populations and their space. The case of the cutaneous leishmaniasis epidemic resulting from the construction of the Ouaga 2000 project will demonstrate how certain diseases become conflated within authoritative discourses with orientalist views about the populations affected, these imaginative geographies being deployed to ensure the continued control of their cities.



## **Chapter Two - The Orientalist Sore**

### ***Introduction***

The previous chapter introduced the cutaneous leishmaniasis epidemic in Ouagadougou and mentioned its links to the Ouaga 2000 urban project. It proposed a theoretical approach – first outlined by Henri Lefebvre – to perceive Ouaga 2000 as an element of space produced by particular social processes. This chapter will pursue the counterpoint of Lefebvre’s theoretical framework, arguing that Ouaga 2000 as a spatial entity should also be described as producer of certain realities, namely the CL epidemic. However, to simply establish this correlation without further examining how this particular relationship was presented and subsequently reappropriated by the World Health Organization (WHO) would disregard how contemporary accounts on the leishmaniasis extend a long history of orientalist discourses to construct these “tropical” diseases. Today, just as a century ago when the parasites causing the leishmaniasis were first identified, military interests drive the taxonomy and description of these diseases. Interestingly, the discussion of the resurgence of CL in Ouagadougou and a contemporary epidemic of CL among U.S. soldiers deployed to Iraq at first glance appear as quite different entities. This chapter will begin to demonstrate that these distinct epidemics –though caused by the same pathogen, *Leishmania major* MON-26 (Weina et al, 2004 : 1676; Niamba et al, 2007 : 33) – occurring in two very different populations result from similar practices increasingly focusing on the cities of the global South.

### ***Urbanization as a Risk Factor***

By the late 1990’s, Burkinabè physicians were linking the emergence of the CL epidemic in Ouagadougou to the Ouaga 2000 urban project (Traoré et al. : 54). Independently from their findings, Ouagalais intuitively connected the two, amusedly dubbing the ailment the “Ouaga 2000 sore”, a new toponym to add to the already long list of nicknames accumulated by CL over the centuries.

In 2002 the World Health Organization (WHO) published an article entitled “Urbanization: an increasing risk factor for leishmaniasis” appearing in the institution’s *Weekly epidemiological record* in which it reported the Burkinabè epidemic and its link with Ouaga 2000, albeit without mention of the dispossessed Zempasgo and Kosyam residents. In that same article, the WHO also presented a global overview of active foci of CL and visceral leishmaniasis – a more serious and potentially fatal disease – both diseases being grouped under the problematic single heading of leishmaniasis. The conclusion of their report addressing this “severe public health problem, with an estimated global prevalence of 12 million cases and a yearly incidence of 1.5-2 million cases” posits that “urbanization is clearly one of the major global risk factors for leishmaniasis, and contributes in large measure to the persistence of the burden of the disease”<sup>18</sup> (WHO, 2002 : 370).

Between the studies produced by local medical authorities addressing their own leishmaniasis outbreaks and the WHO’s appropriation and repackaging under the conceptual apparatus of the risk factor implicating ‘urbanization’, “the difference is both tiny and total” (Foucault, 2003 : x). From this report intended to condense the realities of epidemics of the leishmaniasis transpires the means by which biomedical discourses dealing with “tropical diseases” continue to produce certain representations that perpetuate and actively shape imaginative geographies, folding “distance into difference through a series of spatializations” (Gregory, 2004 : 17). These imaginative geographies, originating long before the diffusion of the germ theory of disease and the establishment of the field of tropical medicine, materialized in the confusing classification and associated nosology of these “tropical” diseases. These imaginative geographies continue to be perpetuated, as in the WHO report which insists on the chaotic nature of urban environments in the tropics with their propensity to breed disease. In the discussion that follows, I will demonstrate how

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<sup>18</sup> Shortly after this report was published, U.S. medical military personnel were increasingly confronted with similar cases of cutaneous leishmaniasis acquired by troops deployed to Iraq. Over 1,000 cases of this parasitic disease were reported by teams of physicians attending to soldiers serving in Operation Iraqi Freedom (OIF) within the first two years of the invasion. Interestingly, the same strain – *Leishmania major* MON-26 – is responsible for both the Ouagadougou epidemic and the cases among U.S. soldiers in Iraq.

such discourses in turn facilitate the elaboration of practices to intervene on these pathological zones.

My principal objective in this chapter does not rest in the rehabilitation of specific populations disempowered and denigrated by medical discourses on risk. This approach can be found in the works of Paul Farmer and Charles Briggs, who respectively examine accusations blaming Haitians for spreading HIV to the United States and narratives implicating the *indigenas* population for the re-introduction of cholera in Venezuela in the 1990's (Farmer, 1992; Briggs and Mantini-Briggs, 2003). Nor do I intend to cast the "interplay between socio-economic factors and medical science" by focusing on the true and deplorable lack of recognition owed to researchers in resource-poor countries (Stepan, 1978). My contention is altogether different, and at the same time reaches beyond the works of Farmer, Briggs and Stepan. Rather, I wish to trace the origins and dissect the increasing depiction of the urban theatre as a site of disease and a locus for intervention justifying the continued domination of Western views on health and the management of tropical populations and space<sup>19</sup>.

The objective then is to build a history of the present, to borrow from Foucault, to locate present practices and discourses within their particular genealogy. To do so, this chapter will initially chart the historical conditions which led to the emergence of the field of tropical medicine and demonstrate the Orientalist framework within which this medical specialty was set in from its origins. Then, focusing on the leishmaniasis, and specifically "Old World cutaneous leishmaniasis", I will highlight the yet unrecognized effects of the germ theory of disease and associated microbial taxonomy on further enmeshing tropical medicine within an Orientalist perspective, and finally extend this analysis to the "colonial present" (Gregory, 2004).

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<sup>19</sup> Although this paper deals primarily with the regions of the world commonly referred to as "the tropics", I thank Toby Morantz for pointing out that the arguments in this paper linking certain biomedical imaginative geographies with the management and control of tropical populations could in large part apply to many of the Native communities of Canada.

### ***The Rise of “Tropical” Medicine***

The historical research examining the emergence of tropical medicine has recently highlighted its truncated temporality. Indeed, its origins have usually been attributed to the work of Patrick Manson, founder in 1899 of the London School of Tropical Medicine. Closer scrutiny reveals many shortcomings with regards to this version of history. The first of these relates to the lack of recognition of longstanding efforts by European physicians from the 16th century onwards to describe and act upon diseases occurring abroad. Much of the literature dealing with these early European medical interventions describe their endeavors as tools to secure the growth and spread of economic activities beyond Europe. Tropical medicine prior to the 19th century stood as a response to the medical needs of merchants, sailors and their human cargo.

With the transition from an emphasis on trade to the conquest of territories and the colonial adventure, medicine extended its reach to the peoples of these foreign lands and its increasing European settler population. The nineteenth century brought about dramatic shifts in the perception and position of medicine within colonial affairs. First, the incorporation of statistics, the science of the state, to the descriptions of diseases which now included morbidity and mortality rates, conferred upon medical texts a critical value stemming from their power to offer quantitative data. This information was used most notably in comparative analyses that demonstrated the discrepancy in rates of disease between Europe and its colonies.

Second, the elaboration and adoption of the germ theory of disease demonstrated to the State the significance of the presence within the body politic of microscopic, invisible actors capable of attaining to the health of its population (Latour, 1989). This recognition drove the State to intervene in order to detect, control and treat. In doing so, this brought about a change in “the nature and status of medical practitioners and their patients, to the role of physicians as colonial, rather than simply medical, experts and observers” (Arnold, 1996 : 6).

The germ theory of disease itself brought about two significant shifts in the discourse of medicine within the colonies, the one mainly political in nature, the other mostly representational in effect. The first led to what many colonial

administrators came to perceive as tropical medicine's outright competition in organizing and managing the colonies. This point has been brilliantly discussed by Jean-Pierre Dozon in his account of the various expeditions organized in the French colonies by teams of Pasteurians intent on controlling and eradicating African sleeping sickness (Dozon, 1985). By the end of the nineteenth century and throughout the first few decades of the twentieth, this disease was judged to act as a severe impediment to the extraction of resources from the African continent. Yet it wasn't so much the results effected by these Pasteurians, in many ways quite limited, but the systematic approach with which they professed and extended their methods that brought them fame and success. This success offered them a privileged vantage point, granting them at times a central role in the spatial organization of the colonies.

The second major consequence of the adoption of the germ theory of disease by the leading medical practitioners contributed to the accentuation of the ongoing demarcation between diseases of "temperate" regions and those of "tropical" zones. This pursued reliance and emphasis on "recurrent northern notions of tropical alterity" participates in constructing what David Arnold calls "tropicality", his term for the discursive representation of the tropics. Indeed, the identification of microbes as the causative agents of infectious diseases led to further distinguishing between those microbes found within the tropics and those that didn't, in effect leading to the establishment of "the only medical specialty defined by relation to a specific geographical area" (Arnold, 1996 : 3). Yet in doing so, tropical medicine further enmeshed itself within an orientalist discourse – a fact which to this day plagues this specialty – such that "even when environmental theories of disease yielded to bacteriology theories in the late nineteenth century, the connective imperative between tropical nature and tropical culture was retained" (Gregory 2001 : 101).

Although I agree with Gregory's statement, I believe that the microbial taxonomy emerging from the germ theory of disease and dealing with infectious agents of tropical diseases had even more damaging effects than simply retaining this connective imperative. This taxonomy yielded imaginative geographies which further erased a variety of descriptive names for diseases – local biologies (Lock,

1993) – which were gradually condensed into two main clinical entities, cutaneous leishmaniasis and visceral leishmaniasis, obscuring the heterogeneous spectrum of ailments subsumed within these two categories. The rest of this chapter will show this to be the case through particular emphasis on “Old World cutaneous leishmaniasis”. By doing so, I will break with the historical bias of recording the effects of tropicality only within the colonial period, and will pursue this analysis beyond the granting of independence to the colonies. Indeed, there has been a deadening silence about the ongoing role of tropical medicine and its discourses in shaping the perception about the “tropics” and effecting certain practices within the postcolonial world. By extending Arnold’s notion of “tropicality” to contemporary events, I intend to demonstrate tropical medicine’s role in shaping the colonial present.

### ***The Germ Theory of Disease and Microbial Taxonomy***

All microbes, whether bacteria, fungi, or parasites<sup>20</sup>, are living organisms and hold an elaborate latinized taxonomic classification akin to that of other beings, such as fauna or flora, including at least Kingdom, Phylum, Class, Order, Family, Genus and Species names. This microbial taxonomy continually undergoes modifications, mostly with the ongoing discovery of new organisms. However, some of these changes result from intense debates about the characteristics of certain microbes leading to rearrangements within the whole classification.

The taxonomy of microbes initially developed following Linnaeus’s publication of the tenth edition of *Systema Naturae* in 1758, when parasites were first included. Many of these organisms, visible to the naked eye, had been recognized for centuries (Roberts and Janovy Jr., 2000: 1). However, it was only with the establishment of the germ theory of disease by Pasteur and his followers in the mid to late 19th century, and the recognition of the existence of microscopic living organisms – microbes – that their classification really expanded. Originally, this taxonomy was based on morphological aspects – using various culture media,

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<sup>20</sup> Viruses are not included among microbes, as they are not thought to be living organisms, being dependent on the host cells they infect for their survival and reproduction.

microscopic techniques and staining methods – and metabolic characteristics – analyzing for instance the preferences of microbes with regards to the amount of surrounding oxygen, or to the types of sugars they could digest. Although these features still remain essential to the taxonomy, the use of more refined tools and particularly the advent of genetic sequencing have shed new light on the similarities and differences amongst microbes within the whole classification. Some initially believed to belong to the same genus or family were separated, while others that were kept distinct were joined together under the same heading.

The reference to microbes by their taxonomic name is a crucial aspect of the learning and practice of biomedicine and appears in immeasurable daily instances in case discussions, laboratory reports, and public health endeavors. However, in order to avoid the long list of taxonomic descriptives, microbes are usually referred to by a short-hand binomial notation including their genus and their species names, with the genus often abbreviated to the initial capitalized letter. For instance, the infectious agent which causes syphilis is *Treponema pallidum* – or *T. pallidum* – and *Clostridium botulinum* is the bacterium which leads to botulism. As these two examples illustrate, the latin taxon may or may not bear any resemblance to the clinical name of the disease they refer to. Furthermore, similar to the taxa of flora and fauna, a given microbial genus may hold multiple species. These different species can cause very distinct clinical syndromes, while others are harmless to humans or infect animals only. For example, members of the genus *Mycobacterium* include *M. tuberculosis*, the cause of human tuberculosis, *M. leprae*, the agent of leprosy, *M. marinum*, which causes skin lesions, and many other species of no clinical significance to humans.

Although many microbes that are listed within the same genus may present similarities, such as the susceptibility to the same antibiotics or analogous modes of transmission, they invariably cause such distinct diseases – eg tuberculosis and leprosy – that discussions and research on infectious diseases tend to give pre-eminence to the clinical syndromes observed rather than to the taxonomic classification of microbes. While tuberculosis experts may learn from and exchange with specialists on leprosy, these two diseases that are caused by infectious agents

that belong to the same genus are so clinically different that they rarely bring about joint conferences or research projects. Indeed, *M. tuberculosis* and the spectrum of diseases it causes are much more likely to be talked about in conjunction with other causes and features of pneumonia, of systemic diseases, or of complications of AIDS than they are to be discussed along with *M. leprae* and leprosy.

This crucial independence between the clinical description of infectious diseases and the formal taxonomy of microbial agents does not apply to many of the infections largely limited to the tropics, such as the leishmaniasis. Following the identification and classification of the microbes responsible for tropical diseases, biomedical discourses – through epidemiological surveys, clinical accounts and research endeavors – imposed novel and homogenizing clinical names to these infections based on their recently established taxonomy.

Le kala-azar ou fièvre noire de Bengale [...] nous a parue intéressante à étudier et à mettre en lumière vue l'importance qu'elle a prise ces dernières années en faisant tâche d'huile, en s'étalant peu à peu vers l'Europe, en prenant comme intermédiaire et allié parasitaire le Bouton d'Orient et la fièvre infantile de Tunisie.

Depuis 1903, et à la suite des découvertes de Leishman, Rogers, Wright, Nicolle, on est maintenant certain que ces diverses maladies sont produites par des parasites très voisins les uns des autres, sinon identiques. Ce sont des protozoaires que leur évolution permet de rattacher aux flagellés. Ils forment le genre *Leishmania*, ainsi nommé en l'honneur de LEISHMAN, qui découvrit le premier le parasite de kala-azar. Il est donc tout naturel de désigner ces maladies sous le nom de LEISHMANIOSES dans la nomenclature nosologique.

Ce terme rentre ainsi dans le cadre de la nomenclature étiologique que les parasitologues ont adopté. Il est nécessaire, comme le fait remarquer le Prof. R. Blanchard, d'abandonner toutes autres expressions compliquées qui nuisent à la précision du langage; dès que l'agent pathogène d'une maladie est connu, on doit désigner cette maladie par le nom du parasite auquel on ajoute la terminaison *ose*. On dira donc : uncinariose, filariose, trypanosomose, babésiose, leishmaniose, etc. L'emploi de ces expressions pourra seul permettre d'avoir une nomenclature précise, formée de dénominations spécifiques, indiquant immédiatement la nature de la maladie. (Verdier, 1908 : 3-4; emphasis in original)

As Verdier states in his doctoral thesis in medicine, by 1908 there were already three parasites recognized under the new genus *Leishmania* – established by Ross in 1903 – each causing a very distinct infection : kala-azar, Oriental sore and Tunisian infantile anemia. Today there are over twenty *Leishmania* parasites causing disease in humans, yet the over-arching term of the leishmaniasis, and quite often its singular form, persist in contemporary accounts that aim to describe the myriad clinical entities caused by these microbes, such that cutaneous leishmaniasis and



visceral leishmaniasis are invariably reviewed together. However, because these two headings describe such distinct infections and encompass many *Leishmania* parasites, numerous confusing qualifiers have been added to further distinguish between these clinically-different infections. The result has been that, far from effecting the “abandonment of all other complicated expressions that harm the precision of the language”, the use of Blanchard’s nomenclature only obscured what in many cases local (pre-colonial) medical semiology had attempted to differentiate. Indeed, the reference to older (colonial) toponyms – Oriental sore, Baghdad boil, Aleppo ulcer – or pre-colonial surnames – espundia, kala-azar – persists and is frequently used to palliate the inability of medical nosology to prune this thicket of diseases.

It is crucial to recognize that this discursive collapse of taxonomy and clinical syndromes, favoring the former at the expense of the latter, appears particularly salient with regards to infectious diseases historically and to this day predominantly found in the tropics. Note that following the identification of the infectious agents of tuberculosis and leprosy, to return to the previous examples, their clinical names were not renamed pulmonary mycobacteriosis and cutaneous or neurological mycobacteriosis<sup>21</sup>. Indeed, for most infectious diseases present in “temperate” regions, medical nosology usually retains at least one clinical name for every infectious organism causing human disease. The genus *Clostridium* includes *C. botulinum*, the agent of botulism, *C. tetani*, the cause of tetanus, and *C. difficile*, currently a major cause of nosocomial infections (*C. difficile*-associated diarrhea). These three infections, and those caused by other *Clostridia*, are never referred to as the *clostridiosis*, which would invariably cause much confusion. Unfortunately, this systematic emphasis on infectious entities over and above their microbial taxonomy does not apply to many tropical diseases.

The reasons for this discrepancy are, I believe, primarily three-fold and necessarily interconnected. I have already alluded to the first; the geographic distribution of these diseases – such as the leishmaniases, the trypanosomiases, and the

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<sup>21</sup> Although tuberculosis and leprosy are arguably mostly encountered nowadays in the “tropics”, they were recognized by European medicine centuries before the germ theory of disease and remained endemic to most of Europe until the 20th century.

schistosomiasis – has predominantly been limited to the colonized world. As such, most of the clinical features of these infections were only itemized by European medicine with the advent of colonial expansion after which they attracted limited attention until the end of the nineteenth century. Second, with the transition from the extraction of human and natural resources from these foreign lands to the imperialist conquest of these territories, colonial agents and soldiers were sent to populate these annexed regions, thereby exposing them to these tropical diseases. Lastly, and concurrently with the last point, the germ theory of disease paved the way for the identification of the infectious agents responsible for the myriad causes and confusing array of fevers and bizarre symptomatology found in the tropics. It was therefore this concatenation, around the turn of the century, of the recognition of and increasing attention to these tropical diseases with the diffusion of the powerful tools of the germ theory of disease and the associated science of taxonomy, which led European physicians – military doctors mostly – to focus their attention on the microbes they were isolating. The case of the leishmaniasis, a group of diseases caused by protozoan parasites of the genus *Leishmania*, will serve to demonstrate how the privileging of taxonomy over clinical description further obscures rather than facilitates the definition of these (tropical) diseases.

### ***Military Medicine***

It is important to note that while the germ theory of disease was not rapidly embraced by the majority of medical practitioners, who feared a loss of prestige brought on by a change in their social status, military doctors featured as the great exception.

[T]o understand the activity of these army doctors, it is not enough to believe that they were looking for “legitimacy”. This vague word deriving from sociology almost always hides the real content of actions. Their essential problem was that men died in the barracks in peacetime. If we do not jugulate epidemics, someone else writes, the “nation will be afraid of the barracks where it sends its sons and from whence not all return” (Anon. : 1881, pp. 72-78).

There was something more serious still. In wartime, as is well known, there are more deaths from microbes than from the enemy. [...] In war there had always been two enemies, the microscopic and the macroscopic. If the doctor succeeded in jugulating the second, far more lethal one, he gained enormously in importance and became almost the equal of those who fought against generals and canon. In a country like the France of that time, inspired by ideas of revenge, obsessed with its falling birthrate, it

soon became unthinkable that whole battalions should be lost to microbes against which Pasteur, the great Frenchman, had produced the remedies. Army medicine was converted to Pasteurism without putting up the slightest resistance. This development is not to be attributed entirely to the Pasteurians, but to those army doctors who seized on the Pasteurians and invested massively in them. The army doctors in turn owed their credit to all those who wanted a strong army and of whom the doctors easily became the spokesmen. (Latour, 1988 : 114-6)

Thus the focus of military medical endeavors, whose main objective had always been the prevention of the spread of infections among its troops, became these newly discovered microbes.

The adoption of the germ theory of disease by army doctors coincided with the period of imperial conquest, during which the non-immune troops of colonial armies were falling prey to foreign diseases largely attributed to microbes. Not surprisingly, military interests acted as the major thrust to study these new diseases from abroad and played a central role in the expansion of the field of tropical medicine which to this day continues to garner much attention from military medicine. However, due to army doctors' primary concern with prevention, the attention paid to these tropical diseases, which disproportionately affected in much greater numbers the local populations, focused on their etiology over and above clinical aspects and treatment of these tropical diseases. Military medicine was especially puzzled by the complex life cycle and the modes of transmission of many of the parasites that were being isolated. Indeed, it took a lot of work and imagination to realize that many of these tropical diseases depended on an insect vector for their transmission to humans. The French military physician Alphonse Laveran is credited as the first to have identified the *Plasmodium* parasite which causes malaria while stationed in Algeria in 1880. However, it was not until 1898 that another military doctor, Ronald Ross of the Indian Medical Service, proved that the *Anopheles* mosquito – which he called dapple-wings – was the vector of *Plasmodium*, offering for the first time the complete picture of the life cycle and transmission of these parasites<sup>22</sup>. As I will show later, both Ross and Laveran – who each went on to earn the Nobel Prize in Medicine in 1902 and 1907 respectively –

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<sup>22</sup> The Cuban physician Carlos Finlay was the first, in 1881, to have implicated insect vectors in the transmission of another tropical disease, yellow fever. His pioneering work, however, has gone largely unrecognized (Stepan, 1978).

played critical roles in the initial description and classification of *Leishmania* parasites.

Army doctors, early converts to Pasteur's ideas, would thus soon recruit and be joined by entomologists who to this day play a major role in the field of military medicine. Indeed, "[a]cross the globe, U.S. military entomologists and biologists conduct sand fly surveys regarding *Leishmania* carriage and distribution of various species" (Crum et al., 2005 : 18). What transpires from these accounts is the considerable focus given to these microbes, the causative agents of the diseases, at the expense of clinical description, diagnosis and treatment. A healthy army, and thus a successful military operation, is principally achieved through the prevention of infectious diseases that would otherwise deprive it of fit soldiers and slow down its progress.

This work on the parasites had a direct influence on colonization, because parasites directly limited the extent of the empires formed by the macroparasites (McNeill : 1976). The identification and movement of each parasite made it possible to advance further. The extent of this shift in favor of the whites can be seen quite clearly. It is one of those dramatic proofs beloved of so many scientists. With each parasite conquered, the columns of soldiers, missionaries, and colonists became visible on the map of Africa and Asia, sailing up the rivers and invading the plains, just as, thirty years before, the surgeons tackled new organs with each step in the progress of asepsia [...]. This politicomilitary role given to the biologist was explicitly claimed by the Pasteurians. Roux, praising the work of Laveran in 1915, exclaims : "Thanks to them (the scientists), lands that malaria forbade to the Europeans are opened up to civilization. It is thus that the work of a scientist may have consequences for mankind that go well beyond those of the conceptions of our greatest statesmen" (1915, p. 40). (Latour, 1988 : 141-2).

Thus, attempts to control tropical diseases owes considerably more to efforts to prevent these infections among soldiers rather than to treat the infected local populations.

The role of both preventive medicine and the rise of the standard of living in the decline of the great infectious diseases in Europe has been a matter of dispute. But there has never been any doubt as to the direct and determining role of the Institut Pasteur in colonization. If it had been necessary to make colonial society only with masters and slaves, there would never have been any colonial society. It had to be made with microbes, together with the swarming of insects and parasites that they transported. It is not enough to speak shyly of the "influence of parasitology on social or institutional interests" (Stepan : 1978). With only whites and blacks, with only miasmatic regions and health or dangerous climates, that Colonial Leviathan which spread across the globe could never have been built. (Latour, 1988 : 144)

Increasingly, however, tropical medicine is hindered by its flawed approach at describing diseases caused by *Leishmania* parasites. Though actors within the field are not openly critical of the nosology, there are increasing reports that highlight the limits of the faulty classification of these diseases. Not surprisingly, these accounts deal with our own populations, whether AIDS patients co-infected with *Leishmania infantum* in Southern Europe, or U.S. soldiers returning from the Persian Gulf with previously unreported and serious clinical variants of *Leishmania tropica* infections. With these new problems at hand, increasing attention has shifted towards genetics in helping to elucidate these recent variations from previously accepted medical classifications. But before turning to these contemporary matters, I would like to delve deeper into the history of *Leishmania*. This will reveal the imaginative geographies, which “made visible a colonial ‘order of things’ by means of a thoroughgoing specialization of knowledge that brought various non-European natures within the sovereign grid of European scientific culture. Those ‘natures’ were dis-placed in order to be re-placed within a taxonomy” (Gregory, 2001 : 95).

### ***Leishmania***

The leishmaniases form a group of infectious diseases caused by protozoan parasites of the genus *Leishmania*. There are over twenty species of *Leishmania* known to cause disease in humans. Infections occur when a female sandfly – the insect vector – carrying *Leishmania* parasites acquired from a previous blood meal bites a non-immune or susceptible person. According to the WHO, there are 350 million people annually at risk of infection from these parasites. The leishmaniases are endemic on all continents except Australia and Antarctica, in 88 countries, “21 in the New World and 66 in the Old World” [sic], of which “16 are developed countries [and] 72 are developing countries, and 13 of them are among the least developed” (Desjeux, 1996 : 417). The actual global incidence is difficult to evaluate accurately, as the infections are reportable diseases in less than half of the endemic countries. However, the WHO estimates that between 1.5 and 2 million people contract the leishmaniases annually, three-quarters of which are classified among the more benign cutaneous variants.

The large spectrum of clinical manifestations of the leishmaniasis are usually grouped according to three main characteristics : the predominant clinical symptoms – usually divided between cutaneous or visceral disease; the main mammalian reservoir of the parasites – anthroponotic if human, zoonotic if within other animals; and finally the geographic distribution of the foci – “New World”, encompassing the Americas, and “Old World”, including Europe, Africa and Asia. Combining the first two of these parameters yields what the WHO calls “eco-epidemiological entities” (Desjeux, 2001 : 77). Following this WHO scheme, the eco-epidemiological entity of the CL epidemic in Ouagadougou would be referred to as (Old World) “zoonotic cutaneous leishmaniasis”, whereas the various foci of VL in Brazil are denoted as (New World) “zoonotic visceral leishmaniasis”.

Increasingly, I would argue, these attributes used to define the encountered clinical entities of the leishmaniasis offer limited value in dealing with the growing public health problems caused by these parasites. But before I address these critical issues, it is important to return to the historical medical records to demonstrate how the myriad names of the numerous clinical entities caused by *Leishmania* parasites which have been described by affected populations and physicians for centuries were all regrouped under the over-arching clinical designation of “leishmaniasis”.

As opposed to most other contagions whose clinical name predates and remained unchanged after the identification of the infectious agent(s) that causes them, all the descriptives – indigenous and European – used to refer to the spectrum of diseases caused by *Leishmania* parasites were quickly trumped by the all-encompassing term “leishmaniasis” shortly after the proposal by Ross to establish the genus *Leishmania* in 1903. Prior to that, there existed a rich array of descriptives to refer to all these clinical entities. The point here is not so much to rehabilitate these predominantly topographic nicknames, but to highlight the problems wrought when they were reapointed under the heading of the leishmaniasis.

### ***The (Re-)Discovery of the Leishmaniasis***

As with the often confusing contemporary medical texts dealing with the diseases caused by *Leishmania* parasites, navigating the rather limited accounts and historical

records of what came to be known as the leishmaniases can be quite daunting, as the current nosology forces the reader to hop between accounts of CL and VL to get a global picture. While most historical depictions of infections dealt with what is today referred to as CL, the work which led to the establishment of the *Leishmania* genus resulted from observations on people infected with or having succumbed to VL.

Some believe the earliest reference to these parasites comes from “[t]he library of King Ashurbapinal of Assyria in Ninewa (the part of Iraq which includes the Mosul area) [...] describing a common, painless, skin ulcer. This information probably came from early Akkadian writings from the second or third millenium B.C.” (Aronson, 2007 : 325). However, most commentators argue that it wasn’t until the 18th century AD that European medicine took notice of the particular lesions of what was to be called cutaneous leishmaniasis, and the residual scar it left behind, in effect marking the infected for life. Although the Scottish physician Alexander Russell is still credited with the first detailed account in 1756, he certainly did not stumble upon a novel entity.

The natives of Aleppo, as well as the Europeans and other strangers who have resided any time in that city, are all, or with very few exceptions, subject to a singular kind of eruption, which from the supposed time of its duration, is named by the natives the *Hebt al Sinne*, or *Botch of a year*; but by the Europeans and Turks, as if it were peculiar to that place, *Il Mal d’Aleppo*, *the Aleppo Evil*, and *Haleb Chiban*, *the Aleppo Ulcer*. (Russell (1969) [1794], vol. 2: 308)

Indeed, over the years, cutaneous lesions caused by the *Leishmania* accumulated an immeasurable list of topographic nicknames, some of which still endure, hinting at its diffuse distribution across the globe – Delhi boil, Balkan sore, Baghdad boil, clou de Biskra, Sart sore. The one which has remains the most versatile, and gets readily applied whenever a new focus of “Old World” CL is identified or discussed is “Oriental sore”.

Following the establishment of the germ theory of disease, searches were launched for possible infectious agents to the innumerable tropical fevers and their bizarre symptomatology. Although *Leishmania* parasites which are grouped under the heading of CL rarely cause pyrexia, they were identified almost two decades before

those associated with VL, probably due to the innumerable cases and the accessibility of the skin lesions. Cunningham, writing in 1885 “On the Presence of Peculiar Parasitic Organisms in the Tissue of a Specimen of Delhi boil” and later Firth, confirming Cunningham’s findings in 1891 in his “Notes on the Appearance of Certain Sporozoïd Bodies in the Protoplasm of an “Oriental Sore””, are the first authors to appear in the troubled history of the identification of these microbes.

It would thus appear that Cunningham was actually the first to have *seen* the parasites of oriental sore enclosed in the tissue-cells of the host, but he entirely misunderstood and misinterpreted their nature, for he regarded the host-cell (macrophage) as the parasite, while the leishmanias within it – which revealed no structure owing to the crude technique employed – were interpreted as spores developing in the parent plasmodium.

These findings were later confirmed by Firth (1891), who added nothing new to Cunningham’s description of the “parasitic bodies” (Hoare, 1938: 69; emphasis in original).

Indeed, Hoare and many others after him, would posthumously recognize a Russian military surgeon, P. F. Borovsky, as the first to accurately describe the parasites in his report “On Sart Sore”, reported in 1898 in the Russian *Military-Medical Journal*. However, his report would go largely unnoticed, even within his country, for close to two decades.





PETER BOROVSKY (1863-1932)  
From a photograph taken in 1895.

**Figure 9 : Russian Military Surgeon Peter Borovsky<sup>23</sup>**

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<sup>23</sup> Hoare, 1938.

In 1903, the American pathologist Wright – who incidentally devised a staining method which in its modified form, the Giemsa stain, is still used today to identify *Leishmania* parasites by microscopy – provided the first English account of “Protozoa in a case of tropical ulcer (“Delhi sore”)”. However, it was the almost simultaneous report by Major Leishman in May 1903 in the *British Medical Journal* that attracted the most attention. Leishman, thinking he had identified cases of trypanosomiasis – sleeping sickness – in India, reported autopsy findings of what he thought were the protozoan parasitic agents of trypanosomiasis within the spleen of a deceased British military soldier stationed in India. He referred to the infection – locally known as kala-azar, meaning black poison or black fever because of the associated darkening of skin pigmentation (Palmer and Reeder: 761) – from which this soldier and others like him died from, “[f]or want of a better name [...] as cases of “Dum-Dum fever”, because as far as my experience goes, the patients usually came either from this cantonment or its immediate neighbourhood” (Leishman, 1903: 1252). Whereas all previous reports listed so far dealt with parasites observed within scrapings of skin lesions, Leishman provided the first account of parasites causing the visceral variant of the diseases that would soon bear his name.

Within six weeks of Leishman’s paper, Captain Donovan, of the Indian Medical Service, further corroborated Leishman’s findings, with the difference that he identified them both in autopsies of the spleen of deceased “natives of India”, as well as within a splenic aspirate from the “puncture *intra vitam* [of] the spleen of a native boy suffering from irregular pyrexia, with no malarial parasite in his peripheral blood” (Donovan, 1904: 79). Later that year, in November 1903, Major Ross, Professor of Tropical Medicine at the University of Liverpool and Nobel Prize winner in Medicine, quickly intervened following the suggestion by the immensely renowned French Pasteurian Alphonse Laveran – credited with the identification of the parasites causing malaria *and* trypanosomiasis, and himself a later recipient of the Nobel Prize in Medicine – of including these “new” parasites which he had observed from slides provided by Captain Donovan within the genus *Piroplasma*.

Laveran has given the name *Piroplasma donovani* to these organisms; and the specific name must therefore be adopted. But if, as I suppose, they are found to belong to a new

genus, it would only be fair to give the name *Leishmania* to that genus. In that event the full name would be *Leishmania donovani*, Laveran. (Ross, 1903: 1401)

As it turned out, the parasites did not belong to the genus *Piroplasma*, and the new genus *Leishmania* was born.



Figure 10 : Lieutenant-General William Boog Leishman and Lieutenant-Colonel Charles Donovan<sup>24</sup>

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<sup>24</sup> <http://leishman.cent.gla.ac.uk/william.htm>



**Figure 11 : Sir Ronald Ross<sup>25</sup>**

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<sup>25</sup> <http://history.amedd.army.mil/booksdocs/misc/evprev/fig26.jpg>

In February 1904, Major Leishman further “point[ed] out the close resemblance of these parasitic bodies to some that have recently been described by Dr. J. H. Wright in an article entitled “Protozoa in a Case of Tropical Ulcer (Delhi Sore)” (Leishman, 1904: 303). 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. There lay the strength and power of the germ theory of disease, uniting two previously recognized diseases whose understanding was otherwise quite limited until then. It is in fact quite astonishing the speed at which actors working in India, the United Kingdom, France and the United States communicated on these matters at the beginning of the twentieth century, and in the span of a few months between 1903 and 1904 brought together their findings and discussions to establish the new genus *Leishmania* and the associated clinical entities whose previous names would be transformed.

Indeed, as stated earlier, by 1908 the graduating French medical student Félix Verdier presented his doctoral dissertation entitled “*Les Leishmanioses*” – the leishmaniasis – referring to three distinct entities: kala-azar – caused by the aforementioned *L. donovani* – and *Anémie Splénique Infantile* or infantile splenic anemia – caused by a parasite discovered later and dubbed *L. infantum* – both of which were later reappointed under the heading of visceral leishmaniasis; and the *Bouton d’Orient*, or Oriental Sore, caused by *L. furunculosa*, later renamed *L. tropica*. Laveran, who had originally proposed to include the parasites identified by Leishman and Donovan within the *Piroplasma* genus, conceded that they represented a genus into themselves. In 1917, he published a book titled *Leishmanioses* in which the opening sentence reads “[l]a découverte des Protozoaires connus sous le nom de *Leishmania* ne date que de 1903” (quoted in Hoare, 1938: 67).

Since these early writings on the parasitic agents of the leishmaniasis, the number of species and associated diseases grouped within this over-arching category have continued to grow. However, with the increasing recognition of infections due to greater numbers of *Leishmania* species, the breadth of the descriptions used to depict their epidemiological and clinical manifestations has not kept up with the

growing heterogeneity of the clinical entities being referred to as the leishmaniases. The emergence of the CL epidemic in Ouagadougou and the publication of the WHO report cited earlier, only emphasize the limited attention and lack of comprehensiveness of these infections, who we are now told are increasingly spread through the novel risk factor of “urbanization”. A cursory look at any of the current epidemic foci of leishmaniasis in the world quickly leads to the dismissal of this Orientalist attitude. That urbanization in the tropics is to be implicated as a risk factor for leishmaniasis once again demonstrates a reductionistic view which stands as another fold in the imaginative geographies deployed to discuss these tropical diseases.

### ***The Contemporary Leishmaniases***

From the outset, the recent WHO account “Urbanization : an increasing risk factor for leishmaniasis”, although referring to all the leishmaniases, is plagued by many shortcomings. The report is divided into four sections, corresponding to each of the four WHO eco-epidemiological entities mentioned earlier – zoonotic CL (ZCL), anthroponotic CL (ACL), zoonotic visceral leishmaniasis (ZVL) and AVL – under whose heading are listed the various foci that correspond to each entity. The cutaneous and visceral leishmaniasis epidemics cited in its report are collapsed onto each other and reduced to a single homogenizing perspective, with vague generalizing statements about “urbanization” in endemic areas, the tropics. Quite remarkably, the fact that “[t]he correlation between AVL and urbanization is less well documented than for the other eco-epidemiological entities” (WHO, 2002 : 370) leaves one wondering about the point of implicating urbanization when it does not apply to AVL, arguably the most serious entity from a public health perspective. Furthermore, by citing only the number of reported cases and ignoring the views expressed by local physicians investigating their own epidemics, not the least by failing to reference the source of the data it presents, the WHO imposes itself as the single agent and authority on the issue. Indeed, it is quite convenient for the WHO that its mandate and authority does not require it to be present in epidemic areas to be able to speak of these foci of infections. It simply needs to collect data presented

by governments and local health authorities. As a result, it appears only natural that statistics on outbreaks of infectious diseases should freely circulate, be appropriated and compiled, and participate in the WHO's efforts to present a global picture, albeit cleansed of any of its original accompanying interpretation. Health statistics are viewed as "immutable mobiles" (Briggs and Mantini-Briggs, 2003 : 257), allowing the UN body to shape the accounts into its own vision and act at a distance.

There is one area of institutional effort that seems to be maximally apolitical, authoritative, and safe : the collection and dissemination of health statistics. Yet these numbers play a central role in shaping how infectious diseases are perceived as global, national, or regional phenomena and in stratifying the position of nation-states in terms of the health of their populations. Here we have a global discourse par excellence, one that is produced by rural clinics, urban hospitals, and other "local" institutions and transmitted through global hierarchies to WHO, whose jurisdiction is the entire world. (Briggs and Mantini-Briggs, 2003 : 256)

Furthermore, by implicating "urbanization" as a risk factor for the (re-)emergence of certain "tropical" diseases, the WHO colludes in the increasing depiction of the urban theatre in the mushrooming cities of underdeveloped countries as a site of disease. It also identifies them as a locus for intervention, justifying the continued domination of Western views on health and the management of the affected populations and their space. In such accounts, there has simply been a switch in the image from the anarchic wilderness of colonial times infested with innumerable diseases to the modern chaotic environments of the tropical urban jungle increasingly presented as risk factor for multiple infectious diseases. This shift seemingly entails a displacement in the focus of biomedicine from the rural areas to the cities. Whereas colonial medicine infiltrated the tropical countryside to reach affected populations, contemporary biomedicine principally attends to the city, the new locus of disease.

This rural-urban distinction is a false dichotomy. That epidemics of tropical diseases are increasingly noted in urban areas simply reflects the fact that more and more of the world's poor, who struggle with greater numbers and kinds of contagions, live in cities where more health infrastructures are found. Why certain infectious diseases appear at particular points in time extends well beyond the generalizing and elusive notion of urbanization, a process that is too complex to account for and constantly changing. As Mike Davis has pointed out with great detail, the reasons for this

massive phenomenon of urbanization vary enormously from country to country, as do the very real and different devastating consequences for the people forced to cramp in the dense slums that continue to swell (Davis, 2006).

The WHO is not alone in pointing the finger at urbanization. It joins a growing body of literature describing the cities of the global South, and the processes affecting them, as pathologic. To simplify, urbanization in temperate regions is planned, systematic, yet unfortunately favors inactivity and a sedentary lifestyle. Urbanization in the global South is precipitated, disorganized, further worsening already crowded, unhygienic conditions which fuel epidemics of infectious disease. Just as the discourses on risk tend to erase the realities of those who live in the ghettos of the cities of rich countries, they caricature the urban landscape of the South<sup>26</sup>.

This geographical discrepancy in discourses appears particularly salient in the WHO's collusion of discourses with other global institutions and actors such as the World Bank – its “Urban” division was founded in 1972 – the United Nations, and the Organization for Economic Co-Operation and Development, who further describe, act on and shape the chaotic, inefficient and unhygienic urbanization processes of underdeveloped countries (Cour and Snrech, 1998; Farvaque-Vitkovic and Godin, 1998; Davis, 2006). That urbanization, through the idiom of the risk factor, increasingly appears as problematic for the emergence and spread of tropical diseases should stir some concern. That global institutions and governments of wealthy countries increasingly participate in projects that shape urban environments in the tropics should not be read as a coincidence but rather as a sign of the continued convergence of the management of populations, of the space in which they live and work and of the diseases that affect them.

### ***The Flawed Eco-Epidemiological Entities***

Within both the cutaneous and visceral forms of the disease, there are so many variants and complications seen that the WHO's eco-epidemiological entities only blur the nature of the myriad clinical entities that are recognized. Some authors

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<sup>26</sup> For a refreshingly different and eloquent account of life and processes of social change in certain African cities, see AbdouMaliq Simone's *For the City Yet to Come*, Duke University Press (2006).



argue that cutaneous leishmaniasis should further be divided to include : local cutaneous leishmaniasis, diffuse cutaneous leishmaniasis, mucocutaneous leishmaniasis, leishmaniasis recidivans, and post-kala azar dermal leishmaniasis. Moreover, to palliate the recognition of “new” disease entities that do not fit within the limits of these categories, confusing new descriptives are added, such as the term “viscerotropic leishmaniasis” (VTL) proposed by American military doctors who diagnosed, among Operation Desert Storm/Shield soldiers, mild cases of visceral disease cause by *Leishmania tropica* which usually causes cutaneous leishmaniasis (Magill et al., 1992 : 131). The recognition that other strains usually associated with CL likewise lead to more diffuse symptoms among AIDS patients further renders cumbersome the emphasis on delineating the disease manifestations according to cutaneous or visceral features, with many *Leishmania* species increasingly found to fall within both categories. “The concept of a few species, each causing a distinct clinical syndrome, is no longer valid. There is no absolute correlation between *Leishmania* sp[ecies], as characterized by isoenzymes, and clinical disease” (Magill, 1995 : 506).

*Leishmania*/HIV co-infection further confounds the tenuous delineation of *Leishmania* species and their corresponding foci as anthroponotic or zoonotic. Indeed, teaching of the traditional eco-epidemiological entities of the leishmaniases is unravelling. *L. major* was long thought to cause ZCL in many parts of Africa and Asia. However, the exponential rise and spread of the “ZCL” epidemic within the core of the city of Ouagadougou strongly indicates that only a human reservoir could have facilitated this diffusion.

[t]he lack of healing of the lesions observed in [...] CL patients co-infected with HIV renders this co-infection serious. Progression to a disseminated form may be disabling and the persistence of parasites in lesions may lead to humans becoming the principal *Leishmania* reservoir in a focus considered as exclusively zoonotic, as has already occurred in southern Europe for *L. infantum*. (Guiguemdé et al., 2003 : 169)

The presence of at least 10% of CL cases diagnosed in Burkina Faso among AIDS patients whose number of CL ulcers tends to be greater and whose length of active lesions is much longer, greatly explains why the typically rural pattern of ZCL encroached on the “urban” center of the capital, with HIV infected individuals very

likely becoming reservoirs of the “zoonotic, rural” *L. major* parasites. “In situations in which chronic lesions that are rich in parasites persist in the patient (Indian kala azar, post-kala azar dermal leishmaniasis, human immunodeficiency/*Leishmania* co-infections, diffuse cutaneous leishmaniasis), anthroponotic transmission cycles can be established” (Martin et al., 1998: 801-2). ,

Indeed, the overlap of *Leishmania* endemic countries and co-infection with HIV has been reported in Southern Europe since the early 1980’s. Countries such as Spain, France and Italy were known to have numerous foci of *Leishmania infantum* which only occasionally caused disease among humans, accidental hosts of the parasite whose reservoirs have historically been canine populations, therefore establishing this *Leishmania* species as zoonotic. However, with the spread of AIDS in these countries, two important shifts occurred in the epidemiology and transmission of *L. infantum*. The first was that immuno-suppressed individuals due to HIV developed severe forms of visceral leishmaniasis when co-infected (Molina et al., 2002; Cruz et al., 2006). And, as is common among individuals who are immuno-suppressed from AIDS and co-infected with a parasitic disease such as malaria, the parasitemia – quantitative level of parasites in blood – of *L. infantum* in AIDS patients is much higher than in the immuno-competent infected with *L. infantum* only (id. : 359). Increased parasitemia has been shown to lead to greater rates of malaria transmission within communities with high rates of HIV as the concentration of parasites and therefore the chances of transmission are greater when the insect vector’s previous blood-meal came from an HIV-infected individual (Whitworth et al., 2000). The same pattern has resulted with *L. infantum*/HIV co-infections in Southern Europe.

Faced with sky-rocketing cases of visceral leishmaniasis due to *L. infantum*, physicians in Southern Europe have proposed two hypotheses, not mutually exclusive. The first postulates that the high parasitemia among HIV-infected individuals could in effect render them reservoirs from which the sandflies could transmit the infection to other humans. The other implicates the sharing of I.V. needles among drug users – already known to act as one of the major mode of HIV acquisition in Southern Europe – as another route to explain the increased transmission of *L. infantum*. In both hypothetical scenarios, the *L. infantum* foci of

Southern Europe, which had long been thought to disseminate as a zoonosis, would have to be reconsidered as a mixed zoonosis-anthroponosis.

That is indeed the hypothesis Guiguemdé et al. have rightly exposed for the Ouagadougou epidemic. It is extremely unlikely that the “zoonotic” *L. major* would have taken such an important toll and rapid rise had there not been the presence of an important background HIV epidemic. Despite recent experiments using blood from different mammals infected with *L. major* demonstrating that human blood, as compared to the blood of rabbits or gerbils, somehow impeded the replication of *L. major* in the gut of the insect vector, therefore decreasing the chances that an infected person’s blood could serve to re-infect another human, it would be very interesting to repeat such an experiment using blood from AIDS patients (Schlein and Jacobson, 1996). Undoubtedly, the results would be very different.

Unfortunately yet not surprisingly, this concern of Burkinabè physicians has brought little attention by the WHO since its publication<sup>27</sup>. There was no mention of the possibility of co-infection in the Ouagadougou epidemic or in other non-European countries co-endemic with HIV and *Leishmania* parasites. The focus was on implicating urbanization. Nevertheless, this synergy between HIV and *Leishmania* infections in Southern Europe, Burkina Faso, and possibly other parts of the world, clearly demonstrates how the suggestion that urbanization is “an increasing risk factor for leishmaniasis” only obscures the situation in these various foci of co-infection. Whereas the presence of high rates of I.V. drug use in Southern Europe are to be primarily implicated for the spread of HIV and *L. infantum* co-infections, the situation is altogether different in Ouagadougou, where the *L. major* epidemic emerged more recently as a result of population displacement and the construction of Ouaga 2000 in the setting of an already established and much greater incidence of HIV than in Europe.

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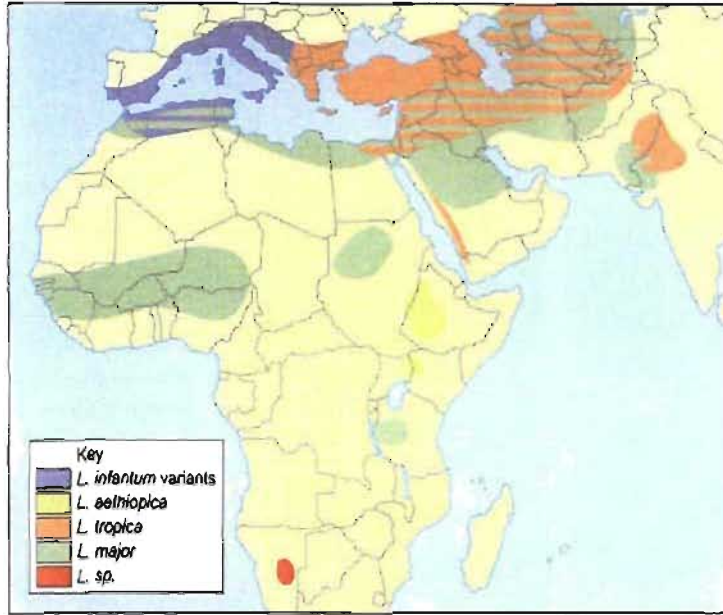
<sup>27</sup> The only time co-infection in Africa – the continent by far most affected by HIV and with two-thirds of its tropical and sub-tropical regions endemic for leishmaniasis – received more than passing mention by Western medical authorities, the article concluded by hoping “that the ongoing epidemiological surveillance will help to better recognize the emergence of *Leishmania*/HIV co-infection in African countries and allow the implementation of control measures” (Wolday et al., 2001). Yet despite this earlier report supported and co-authored by the WHO listing Burkina Faso among a list of thirteen co-endemic countries, the 2002 Weekly Epidemiological Record implicating urbanization solely focused on the concerns of *Leishmania*/HIV co-infection in Southern Europe.

Furthermore, the dated distinction between anthroponotic or zoonotic *Leishmania* parasites does not simply apply to the discovery that zoonotic species are finding ways to establish themselves among human reservoirs. *Leishmania tropica*, which causes anthroponotic (urban) cutaneous leishmaniasis in the Old World, is increasingly found in rural areas of Africa, where the low human density is insufficient to explain the maintenance of these rural foci (Jacobson, 2003). Within these rural endemic areas, *Leishmania tropica* is being isolated from animals. While their implication as alternate reservoirs of the parasites is yet to be proven, the current reasoning in the ongoing elucidation of the life-cycle of *Leishmania tropica* is that these rural foci of “anthroponotic” disease could not subsist without the implication of animals as reservoirs.

Finally, while there have yet to be reports of *Leishmania* species confined to the Old World establishing foci in the New World, or vice-versa, the increasing likelihood that this may happen with the ever-growing prevalence of these diseases tagged to the massive worldwide travel makes this aberrant distinction dating from the colonial period likely to unravel. With the insect vectors of the leishmaniases present in at least 88 countries, and the delay between the insect bite and the appearance of clinical symptoms ranging from weeks to months, the chances of an infected individual (or other mammal) developing signs of the disease outside of their country of origin and acting as the pioneer reservoir of a *Leishmania* strain outside of its region of origin should increasingly be fathomed. Though the attention remains on returning travelers and soldiers from wealthy countries being diagnosed with infection with leishmaniasis in their home country – where the insect vectors that carry the disease are generally absent – individuals from resource-poor countries are increasingly crossing international borders. The exponential surge of cutaneous leishmaniasis in areas of NorthWest Pakistan in Afghan refugee camps and amongst surrounding villages, with Afghans fleeing their war-torn country implicated as the carriers of the parasites, hints at the possibility that “Old World” strains of *Leishmania* parasites could come into contact with “New World” insect vectors or vice-versa (Rowland et al., 1999; Brooker et al., 2004; Kolaczinski et al, 2004). If there indeed could be synergy between parasites and vectors from these two

“regions” – remnants of the colonial nomenclature – the resulting confusion using the existing terminology would be enormous. The following incident, though confined to the “Old World” hints at this growing possibility :

Many of the [Fijian] soldiers [of the Multinational Force of Observers which monitored the Israeli-Egyptian peace treaty in Sinai] based in one camp became infected [with *L. major*] and there was grave concern that they would introduce the infection to Fiji, where sand-flies were known to be abundant. Fortunately, Fijian sand-flies are ceratopogonids not phlebotomines, and the problem did not arise. (Ashford, 2000 : 1278)



**277 Distribution**

Cutaneous leishmaniasis in the Old World is caused by *L. major*, *L. tropica*, *L. aethiopica* and certain zymodemes of the *L. infantum* complex (see Table 8). With the possible exception in some localities of *L. tropica*, these infections are essentially zoonoses that occur in scattered foci throughout the tropical and subtropical belts. Depending upon the area, cutaneous leishmaniasis is known as Oriental sore, Aleppo button, bouton de Biskra, Baghdad boil, Delhi sore, etc.



**278 Male and female *Phlebotomus papatasi***

This is the most important vector of *L. major* from north Africa, through the Middle East to Mongolia. The female (upper figure) has a fully engorged midgut. Note the contrast between the terminal abdominal segments of the two sexes of this pale sandfly. (x 9)



**279 Animal reservoirs of *Leishmania major***

Various rodent species such as this 'great gerbil', *Rhombomys opimus*, of eastern Iran and neighbouring parts of the former Soviet Union, and the 'fat-tailed sand rat', *Psammomys obesus* (see 280), in Libya, Israel and Saudi Arabia, are important reservoirs of *L. major*.

**Figure 12 : "Old World" cutaneous leishmaniasis<sup>28</sup>**

<sup>28</sup> Peters and Pasvol, 2007 : 97.

### ***Foregoing the Use of Eco-Epidemiological Entities***

As most of the previous examples demonstrate, the current terminology does not hold. Focusing on the two principal causative agents of “Old World CL” (OWCL), let us look at other approaches to distinguish between the “zoonotic” *L. major* and the “anthroponotic” *L. tropica*. Could the two most common infectious agents of OWCL, which arguably cause such subtly distinct clinical entities in their respective classical and various atypical presentations, be identified as two different diseases without so much as reducing them to the single overarching term of cutaneous leishmaniasis? That is, can the clinical examination of the skin lesions, with or without the help of further diagnostic methods, serve as a sufficient indication of which parasite was responsible for the lesions once they were recognized to be caused by *Leishmania* protozoa?

The notion of demaracting and individuating lesions due to *L. major* and *L. tropica* has been around for centuries, predating the identification of the parasites.

The Natives distinguish between two species of the Eruption, the male and the female [...].

What is called the Male Eruption, makes its appearance in the shape of a small, red, hard Tubercle, which as it gives little or no uneasiness for some weeks, commonly passes unregarded. It then begins to be prurient, and by degrees increasing to the size of a sixpence, becomes a little scurfy on the top. After two or three months, it discharges a little moisture, which drying as it oozes from the surface, forms a thick crusty scab. This if left undisturbed, remains till the parts beneath are healed, and then falls off, leaving a very inconsiderable but indelible mark. Its duration is various, but seldom exceeds eight months.

The female species begins nearly in the manner above described, but sooner grows troublesome, giving more or less pain according to its situation. In two or three months it grows to twice the size of the male, discharging a good deal of ichorous matter from under the scab, and by degrees casting off the scab, it assumes the appearance of an undigested scorbutic ulcer, surrounded with a narrow reddish, or livid circle. In this state it is often less painful than might be expected from its appearance, and continues running freely, though without spreading, for several months. (Russell (1969) [1794], vol. 2: 309-10)





**285 Lymphatic spread of *Leishmania major***  
The ink marks indicate a line of subcutaneous nodules along the lymphatic, passing proximally from the lesion on the lower part of this man's arm. Readily palpated, the lymphatic is sometimes referred to as a "beaded cord". The nodules usually resolve without complications when the primary lesion heals with or without specific therapy.



**284 Multiple lesions of *Leishmania major* in a non-immune man**

This Thai builder received multiple bites by infected *P. papatasi* through sleeping outdoors without protection in a highly endemic area of eastern Saudi Arabia.



**287 Cutaneous leishmaniasis due to *Leishmania tropica* transmitted by *Phlebotomus sergenti* in an Arabian child**

The lesions caused by this parasite are commonly found on the head or neck and may become chronic, leading to the condition known as leishmaniasis recidivans.



**286 Simple 'dry' lesion of *Leishmania tropica***

This parasite often produces dry, usually self-healing lesions, which, unlike the infection seen here, are generally single. This form is commonly seen in and around towns from north Africa and the Middle East to the former Soviet Union, Afghanistan, and western states of India, especially in mountainous areas. The lesions frequently contain very large numbers of parasites. Following 20 years of war it was shown in 2004 that about 67 500 residents of Kabul were suffering from anthroponotic infection with *L. tropica*, and that this number was only about one-third of the total Afghans infected, who represented 4% of the entire population of that country.



**281 'Wet' lesion of mouth**

*L. major* occurs most commonly in rural areas, causing moist ulcerative lesions that may be extensive and sometimes involve the epithelium of lips and nose.



**283 Invasive ulcerative lesion of *Leishmania major***

The extensive lesion on the lower leg of this Sudanese woman near Khartoum has exposed deep tissues, including a tendon sheath. (Courtesy of Dr. El-Safi.)

Figure 13 : Various "Wet" (*L. major*) and "dry" (*L. tropica*) lesions, as well as "diffuse" *L. major* lesions in an immuno-compromised individual<sup>29</sup>

<sup>29</sup> Id.: 98-9.



The point I am trying to make by reviving the existence of attempts predating the germ theory of disease to clinically delineate between “Male” – *L. tropica* – and “Female” – *L. major* – variants of the “Eruption” is that this distinction would actually be more helpful and accurate than the contemporary vague, ambiguous and limited uses of eco-epidemiological entities, correlating “rural”, “zoonotic” foci with species such as *L. major* and “urban”, “anthroponotic” foci with *L. tropica*. A more direct correlation between a clinical vocabulary – Male or Female variants for instance, however arbitrary or questionable the use of these terms – and microbiological diagnosis – *L. tropica* and *L. major* respectively – would be much more helpful than the flawed and unravelling categories of eco-epidemiological entities. In fact, this clinical distinction actually persists in an altered form among physicians reporting clinical accounts of CL in central Asian countries with foci co-endemic for both *L. major* and *L. tropica*, particularly Iran and Pakistan (Gelpi, 1987: 132; Manan Bhutto et al., 2003). There, they distinguish between “wet” lesions caused by *L. major* and the “dry” lesions of *L. tropica*.

This vocabulary – Male/Female, or wet/dry – distinctive from the dominating terminology of tropical medicine, is highly reminiscent of Margaret Lock’s “specific and carefully delineated notion of “local biologies”: local knowledges [...] linked via historically mediated practices to local differences in how embodied processes are narrativized as experience” (Rapp, 1995: 531)<sup>30</sup>. The result with regards to the leishmaniases has been that the scientific imperialism of tropical medicine disregarded and ultimately destroyed the rich local semiology describing these various clinical entities. This epistemological racism led these local populations to “discard their culturally ambiguous and rich categories in favor of a more scientific (read: more highly evolved and modern) discourse” (id.).

The techniques of measurement and instruments created (usually in the West) for purposes of scientific investigation are not value-free and do not produce the objective results for which they are designed (Latour and Woolgar 1979; Lock et al. 1988; Mulkay 1979). Our questions about the epistemology and objectivity of scientific knowledge have made us sensitive to the interrelations among “the researcher, the scientific community of which he is a member, the knowledge which the community shares, and the broader religious, social, and political currents within which the

<sup>30</sup> These terms – Male/Female, wet/dry – also evoke Claude Lévi-Strauss’ comments about the universal tendency of myths to explain the world through oppositional categories (Lévi-Strauss, 1969).

community exists” (Wright and Treacher 1982, 8). We cannot therefore assume that any scientific representation of the body is epistemologically free or that any enterprise engaged in the uncovering of reality can exist without argument (Young 1982, 259-60). (Lock, 1993: 375).

The result for the diseases subsumed under the clinical entity of cutaneous leishmaniasis has been a thinning of the symptomatology, such that no effort was made on the part of tropical medicine to follow-up on local initiatives and knowledge to describe these infections. Biomedicine’s lack of epistemological rigor has thus led to much confusion in classifying these diseases, establishing and perpetuating a vague nosology ironically mimicking the propensity for vague, irrational and unscientific explanations orientalist discourses have usually attributed to the Other.

Interestingly however, the ability to distinguish between infections caused by *L. major* and *L. tropica* is increasingly gaining attention and importance, as they are co-endemic in many areas of current geopolitical interest, namely Central and SouthWest Asia, in Afghanistan, Pakistan, and the Persian Gulf area, including Iraq. Indeed, with the deployment of nearly 700,000 American soldiers during Operations Desert Shield and Storm (ODSS) in 1990-91,

it was anticipated that U.S. ground troops would also be at risk [for cutaneous leishmaniasis]. However, it was not anticipated that U.S. troops would be at risk of visceral leishmaniasis, which is not endemic to this area. Nor was it expected that Persian Gulf veterans infected with *Leishmania tropica*, which causes cutaneous disease, would present with visceral infection without the classic severe symptoms and signs of kala-azar. Mildly symptomatic visceral *L. tropica* infection, named “viscerotropic leishmaniasis”, previously had not been described among Western guest workers or the local populations of Saudi Arabia [...]. (Hyams et al., 1995: 1500)

Infection with *L. tropica* among ODSS troops was associated with both its classical cutaneous manifestations and the anomalous viscerotropic variant (Kreutzer et al., 1993: 357). Depending on the references consulted, about a dozen cases of viscerotropic leishmaniasis – caused by *L. tropica* – and thirty cases of cutaneous leishmaniasis – caused by either *L. tropica* or *L. major* – were observed among the nearly 700,000 U.S. soldiers deployed to the Persian Gulf in 1990-91, a rather low incidence given the lack of prior exposure and immunity to these parasitic infections.

There are several possible reasons for a low number of cases of cutaneous and visceral leishmaniasis among U.S. troops [during ODSS]. For one, insecticides and repellents

were used against arthropod vectors in areas where ground troops were camped. Also, most combat troops were stationed in the open desert rather than in oases or urban areas where the sandfly vector and the primary leishmania host, desert rodents, thrive. Lastly, the time of the year when U.S. troops were deployed may have been critical. In this region, sandflies are most active during the hot summer months. Although the first U.S. troops were sent to Saudi Arabia on August 8, 1990, the peak of the buildup did not occur until the cooler winter season between December and February, and the majority of troops had returned to the United States by May 1991. Consequently, most troops were deployed during the lowest periods of sandfly activity. (Hyams et al., 1995: 1501)

To avoid a repeat of the scenario from ODSS, the U.S. army prepared itself in advance when it launched Operation Iraqi Freedom (OIF) in March, 2003.

One of the most significant modern day efforts to prevent and control an arthropod-borne disease<sup>31</sup> during a military deployment occurred when a team of U.S. military entomologists led efforts to characterize, prevent, and control leishmaniasis at Tallil Air Base (TAB), Iraq, during Operation Iraqi Freedom. Soon after arriving at TAB on 22 March, 2003 [recall that Operation Iraqi Freedom was launched only two days prior, 20 March, 2003], military entomologists determined that 1) high numbers of sand flies were present at TAB, 2) individual soldiers were receiving many sand fly bites in a single night, and 3) *Leishmania* parasites were present in 1.5% of the female sand flies as determined using a real-time (fluorogenic) *Leishmania*-generic polymerase chain reaction assay. The rapid determination that leishmaniasis was a specific threat in this area allowed for the establishment of a comprehensive Leishmaniasis Control Program (LCP) over 5 months before the first case of leishmaniasis was confirmed in a U.S. soldier deployed to Iraq. The LCP had four components: 1) risk assessment, 2) enhancement of use of personal protective measures by all personnel at TAB, 3) vector and reservoir control, and 4) education of military personnel about sand flies and leishmaniasis. The establishment of the LCP at TAB before the onset of any human disease conclusively demonstrated that entomologists can play a critical role during military deployments. (Coleman et al., 2006: 647)

Nevertheless, despite pre-deployment briefings about the risk of infection with *Leishmania* parasites and the best efforts of U.S. military entomologists, the picture emerging from OIF is markedly different. Hundreds of cases of CL have been diagnosed among US soldiers stationed in Iraq, contrasting with the relative scarcity of *Leishmania* infections during ODSS. “Although not a war stopper” (Gupta et al. 2002: 484), cutaneous leishmaniasis became by 2005 the “commonest global war on terror-associated reason for outpatient infectious diseases consultation” at the Walter Reed Army Medical Center in Washington D.C. (Zapor and Moran, 2005: 395). This initially caused great concern among military doctors fearing a repeat on a much larger scale of the scenario seen during ODSS, with a combination of cutaneous and

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<sup>31</sup> Arthropod-borne diseases such as the leishmaniases are infections transmitted by an insect vector.

viscerotropic disease. Their worries were quickly alleviated.

During the 2003 outbreak, Army policy required that soldiers with confirmed diagnoses [of CL] be evacuated to Walter Reed Army Medical Center [in Washington, D.C.] for treatment. This conservative policy was based on the Persian Gulf War experience with *L. tropica* – a species associated with possible visceralization, less responsive to treatment, and potential anthroponotic spread. When, in the spring of 2004, it became evident that >95% of Iraq acquired cases were commonly self-healing infections caused by *L. major*, leishmaniasis care was decentralized. (Aronson and Aliaga, 2006: 4)

Incidentally, the specific species and strain of *Leishmania* found in the Ouagadougou epidemic and among the large majority of U.S. soldiers infected in Iraq is identical, namely *L. major* MON-26 (Weina et al., 2004 : 1676; Niamba et al., 2007 : 33).

### **Conclusion**

Concurrently with much of this growing attention by actors and institutions in non-endemic countries to the previously and still largely neglected leishmaniases, the technique of polymerase chain reaction (PCR) has emerged as an increasingly valuable tool in the practice of medicine. In many instances, it has become the “gold standard” – the absolute best test available – for diagnosis of certain conditions or infections. Since its first elaboration in 1983, PCR has rapidly evolved into different applications, with one of its more recent variants referred to as “real-time PCR”, offering results within hours<sup>32</sup>.

For over a decade, there have been numerous initiatives – many coming from military research institutes – to develop real-time PCR for the different *Leishmania* parasites. Currently, this tool is so precise that it not only distinguishes *L. major* from *L. tropica* and from other species of *Leishmania*, but also can identify different

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<sup>32</sup> Briefly real-time PCR is a laboratory technique which rapidly amplifies and quantifies specific sequences of genetic material – DNA – isolated from any source. All living organisms, whether microbes, fauna or flora, contain unique genetic sequences which can be coded (sequenced). In real-time PCR, short mirror-image genetic sequences – tags – of these previously defined genetic codes are added to isolated material – for example scrapings from a skin lesion suggestive of an infection with a yet unknown *Leishmania* parasite. These tags will only bind to their exact corresponding mirror-image sequence, and allow it to be amplified exponentially. Those tags which do not bind to their photo negative, or those genetic sequences from the source material which do not get tagged – for example human cells from the scraping of a skin lesion when only *Leishmania* tags are used – will not be amplified. The amplified material is then identified.

strains of the same species which differ only in minute areas of the genetic sequence, such as the viscerotropic and cutaneous strains of *L. tropica*. Unfortunately, the endemic countries with the highest rates of cases of infection with *Leishmania* parasites will quite unlikely be able to afford real-time PCR technology in the near future.

The picture that is emerging from this heightened attention to the diseases caused by these parasites and these research projects focusing on refining the identification of and differentiation between these *Leishmania* species is very reminiscent of the initial work of army doctors such as Leishman, Donovan, Ross and Laveran. Just over a century later, the interests of military medicine are once again dictating the approach to these diseases. War is driving the reconfiguration of their classification. Since the early 20<sup>th</sup> century non-battle injuries, of which infections accounted for the great majority, have dramatically decreased. While historically infectious diseases – namely the six war pestilences, cholera, dysentery, plague, smallpox, typhoid and typhus fevers – wreaked havoc among troops, the preventive efforts of medical branches of the modern armies along with the increased lethality of weapons have largely reversed the ratio of deaths attributed to battle injuries versus diseases (Smallman-Raynor and Cliff). The horrific experience of Soviet troops in Afghanistan during the 1980's served to remind armies in general of the necessity of adopting sound and thorough measures to prevent infections, leading U.S. military analysts to state that the Soviet Army's failure to control the Afghan territory was a result of being "beaten by the bugs".

Of the 620,000 Soviets who served in Afghanistan, 14,453 were killed or died from wounds, accidents or disease – a modest 2.33 percent of the total who served. However, the rate of hospitalization during Afghanistan service was remarkable. The 469,685 personnel hospitalized represented almost 76 percent of those who served. Of these, 53,753 (11.44 percent) were wounded or injured. Fully 415,932 (88.56 percent) were hospitalized for serious diseases. In other words, 67 percent of those who served in Afghanistan required hospitalization for a serious illness. These illnesses included 115,308 cases of infectious hepatitis and 31,080 cases of typhoid fever. The remaining 269,544 cases were split between plague, malaria, cholera, diphtheria, meningitis, heart disease, shigellosis (infectious dysentery), amoebic dysentery, rheumatism, heat stroke, pneumonia, typhus and paratyphus. (Grau and Jorgensen, 1997: 31)

Despite this remarkable example of the necessity of taking into account endemic infectious diseases to be encountered in foreign missions, an altogether different obstacle is hampering the current major military operations in some of the poorest

countries of the world. Ironically yet not surprisingly, it dovetails with the discourses on urbanization and the resulting practices adopted by global institutions I have alluded to earlier.

Indeed, concurrently with the analyses of trends in the urbanization of the global South, there have been desperate calls for concern by actors in circles close to the U.S. military, delineating the impact of massive urbanization on the growing problems confronting its army abroad. Such debacles as Beirut in the early 1980's, then Mogadishu a decade later, as well as the prospect of intervening in the Balkans in the mid-1990's posed serious problems to an army that felt invincible but yet was unable to control and secure unruly cities and contain the militias hiding within them all the while managing civilian "collateral" casualties.

Since then, discussions have revolved around the urgent necessity to develop training programs of Military Operations on Urban Terrain (MOUT) for U.S. servicemen and women. Underlying such initiatives were forecasts dreading the prospect of having to increasingly engage in urban settings in a world in which the populations of poor countries were exponentially massing in cramped and disorganized cities. Indeed "[t]he future of warfare lies in the streets, sewers, high-rise buildings, industrial parks, and the sprawl of houses, shacks, and shelters that form the broken cities of *our* world" (Peters, 1996 : 43; emphasis added). Increasingly, "the likeliest "battlefields" are cityscapes where human waste goes undisposed, the air is appalling, and mankind is rotting" (Peters, 1996 : 43).

"[U]rban operations constitute the future of war" for three reasons : rampant urbanization, U.S. military supremacy and the humanitarian imperative (Kitfield, 1998). The necessary response is to revolutionize "training for urban combat".

Building realistic "cities" in which to train would be prohibitively expensive. The answer is innovation. Why build that which already exists? In many of our own blighted cities, massive housing projects have become uninhabitable and industrial plants unusable. Yet they would be nearly ideal for combat-in-cities training. While we could not engage in live-fire training (*even if the locals do*), we could experiment and train in virtually every other regard. Development costs would be a fraction of the price of building a "city" from scratch, and city and state governments would likely compete to gain a US Army (and Marine) presence, since it would bring money, jobs, and development--as well as a measure of social discipline. [...] Such a facility would address the most glaring and dangerous gap in our otherwise superb military training program. We need to develop it soon. (Peters, 1996: 50; emphasis added).

The worsening situation in Iraq, particularly in Baghdad, highlights the difficulties stemming in addressing these issues.

Urbanization has thus become the newest target of intertwined discourses on tropical diseases and war. In both cases, imaginative geographies are deployed as tools to justify interventions, to sanitize and civilize the populations of these regions, pursuing the historical interdependence of discourses and practices aimed at securing the geopolitical interests of the powerful and the health of the actors sent to secure those interests. The main issue in the “old tropics” was in bringing settlers into swamps. In the “new tropics” the major concern is in placing soldiers into decaying cities.

## Chapter 3 - Urban Warfare

### ***Introduction***

The overall argument developed so far rested on Lefebvre's dual apprehension of space – the Janus-faced socio-spatial dialectic – as product and producer of social processes. In the first chapter, the urban development project Ouaga 2000 was shown to crystallize particular historical events, as well as trigger the emergence of the cutaneous leishmaniasis epidemic in Ouagadougou. These intertwined processes, however, became mystified in discursive regimes that simplified these links, as with the contemporary implication of urbanization as a risk factor for leishmaniasis. The previous chapter also demonstrated this problem of mystification to pursue the legacy of Orientalist approaches to tropical diseases. Indeed, Edward Said's concept of imaginative geographies informed a historical critique of biomedicine's construction of the leishmaniasis through to the current depictions of these diseases by the WHO.

The WHO's analysis also failed to explain the diverging discourses and practices pertaining to contemporaneous outbreaks of identical *Leishmania* parasites in two very different populations<sup>33</sup>, on the one hand citizens of one of the poorest regions of Africa among whom a substantial number suffer from co-infection with HIV, and on the other military personnel from the most powerful country in the world whose soldiers were deployed to occupy a foreign land. While the local response of Ouagalais and Burkinabè health-care workers was largely muted and collapsed with the accounts of other foci of *Leishmania* by the distant authoritative discourse of the WHO, hundreds of American troops diagnosed with CL were flown back home to be evaluated and treated as part of a swift response to what became in the matter of months “the commonest global war on terror-associated reason for an outpatient infectious diseases consultation” (Zapor and Moran, 2005 : 395). As I will show in

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<sup>33</sup> As noted in the previous chapter, not only did the epidemics in Ouagadougou and among U.S. soldiers deployed to Iraq involve the same *species* of *Leishmania* parasites (*L. major*), but also the same *strain* (zymodeme), *L. major* MON-26. (Weina et al., 2004 : 1676; Niamba et al., 2007 : 33)



this last chapter, the upholding of Orientalizing tropes emphasizing distinctions between *us* and *them*, and *here* and *there* only serve to mask and mystify the intersecting pathways through which radiate the “hard” logic of warfare and the “soft” logic of capital accumulation.

To do so, I will pursue Lefebvre’s theoretical approach to space to outline the global spread of urban slums and the accelerated growth of their population as products of particular historical processes dating back to the formal colonial period and spanning the colonial present. In turn, these human ‘wastelands’ have emerged as intractable nodes of resistance to foreign (military) interventions as exemplified by the ongoing debacle of Operation Iraqi Freedom. In addition to the macroparasites hindering the success of the occupying forces, the U.S. army has also been at war on a separate front with microparasites, battling an epidemic of “Baghdad boil” among its troops.

In this last chapter then, I will move to delineate the rise of the cities of the global South as spaces of tremendous geopolitical significance. I will rely upon two historical perspectives, one mainly factual, the other mostly theoretical, to weave a single treatise describing the factors having contributed to producing these new spatial arrangements and transforming them from abandoned zones of “surplus humanity” (Davis, 2004a : 13) into the focal points of counterinsurgency measures. Following Mike Davis, I will trace the turbulent growth of a “planet of slums” and the intensifying worries of the military to adapt to the complex terrain of these new, overcrowded battlefields. Hand-in-hand with Davis’ reflections, I will discuss Paul Virilio’s pioneering work linking human geography, the city and war.

I will argue that the planning, logistics and undertaking of these operations highlight the intersections between the “soft” logic of capital and the “hard” logic of warfare increasingly targeting and shaping cities around the world. The designed destruction and rebuilding of urban centers, essential to perpetuating the endless accumulation of capital, occurs in tandem with the elaboration of urban counterinsurgency strategies to eliminate the foci of resistance to current military efforts. The intentional disconnect between these two interdependent logics is achieved through discursive means, imaginative geographies that emphasize differences between *here* and *there*, *us* and *them*. However, “the representations and discourses stressing

disconnection and difference [...] are continuously contradicted by the proliferation of moments and processes involving connection, linkage and similarity” (Graham, 2006 : 272). Just as the processes shaping *their* cities are intimately linked to events occurring in *our* homeland spaces, *their* diseases cause outbreaks among *our* soldiers. The objective then is to reveal urban insurgency in the global South and cutaneous leishmaniasis in the U.S. army as logistical pathologies treated in terms of a microbiological imaginary that sees both processes as “viral” and that understands combat in terms of sterilisation.

### ***Colonial Urbanization***

Contemporary alarmist accounts and predictions regarding the cities of the global South avoid to ask why urbanization in the Third world took on such a dramatic upsurge only in the second half of the twentieth century and not prior. As mentioned in the first chapter, reports dealing with Ouagadougou underline the fact that the capital counted less than 60,000 souls at the coming of independence in 1960, while its current population is twenty times that number. These comparative figures, quoted at length for most large cities and their shantytowns – including Mumbai, Dhaka, Lagos, Cairo – do not explain why they registered so little of their population growth prior to the boom which erupted in the 1950’s. In ahistorical symmetry, accounts of tropicality have focused on the pre-independence era while generic discourses on urbanization emphasize post-independence events.

The WHO’s introductory comments to its report implicating urbanization as a risk factor for leishmaniasis are no different, repeating and extending the caricatures found in the vast literature being produced on the cities of the global South.

Environment and human tropical disease are linked together by human behaviour, both personal activities and societal organization. Increasing risk factors related to natural and man-made environmental changes are making leishmaniasis a growing public health concern for many countries around the world. One of the major risk factors is the worldwide phenomenon of urbanization, closely related to the sharp increase in migration. Socio-economic, demographic, cultural, religious, political and environmental factors have forced people increasingly to abandon their villages and move to the poor suburbs of cities. Migration patterns change over time as countries develop and urbanize : migration flows evolve from being primarily rural-rural to rural-urban and finally to urban-urban. Patterns of human settlement in urban areas have led, in developing countries, to a rapid growth of “mega-cities”, where facilities for housing

and sanitation are inadequate, thus creating opportunities for the transmission of communicable diseases such as leishmaniasis.

In 1950, less than one-third of the world's people lived in cities; today, 50% do and, within the next 50 years, more than 5 billion people are likely to be city dwellers. In South America, more than 70% of the population is urbanized. This trend brought rural diseases into urban areas, where concentrated human and vector populations increase the incidence of infection. (WHO, 2002 : 365-6).

Generalizing statements such as these do little to elucidate the complex interplay of factors leading to the demographic swings that have rocked under-developed countries. Although each region, city and slum retains its own unique history, a few remarks provide key insights to frame the global phenomenon of “rampant” urbanization into socially-driven spatial processes.

Today's megacities, with few exceptions, represent those sites established and favored by the colonizers from the 16th century on. Indeed, following conquest, colonial powers imposed their own plans, setting up in coastal areas and at fixed points along major navigable routes to facilitate the shipping of resources back to the metropole *and* to offload refined products sold to the natives at exorbitant prices. They further proceeded to manage the populations of their colonies as was described in the case of the Voltaic people in chapter one, through forced labor and head taxes. The major objective, of course, lay in “the extraction of rents, crops and minerals from tropical countrysides” (Davis, 2004a : 9). The emerging colonial cities, being in many cases newly established sites – Kolkata, Abidjan, Johannesburg – initially boasted small populations, hosting settlers, comprador middle classes and the slaves and servants to accommodate their needs.

Colonial cities and entrepôts, although often vast, sprawling, and dynamic, were demographically rather insignificant.

The urban populations of the British, French, Belgian, and Dutch empires at their Edwardian zenith probably didn't exceed 3 to 5 percent of colonized humanity. The same ratios generally prevailed in the cases of the decayed Spanish and Portuguese empires, as well as in the conquests of nouveaux riches like Germany, Italy, Japan, and the United States. Although there were some important exceptions – for example, Ireland, Cuba, Algeria, Palestine, and South Africa (after 1910) – even in these cases, city dwellers were rarely more than one-sixth of the population. (id.)

In addition to forcing the colonized to labor in the countryside, the colonial authorities also set up barriers to prevent their subjects from gaining access to the cities, “in its most extreme form in the British colonial cities of eastern and southern

Africa, [denying] native populations the rights of urban land ownership and permanent residence. [...] Apartheid, of course, took this system to its dystopian extreme” (Davis, 2006 : 51). Nevertheless, people migrated to the burgeoning cities in search of employment, although they were often relegated to the peripheries, setting up in shantytowns with little to no infrastructure or support from colonial powers. Infectious diseases – particularly respiratory and gastro-intestinal ailments – spread quickly, killing countless individuals. To make matters worse, the growth of these colonial cities turned many of these squalid slums into prized land for the ever more numerous and prosperous settlers whose governments did not hesitate to evict the local populations to enable the acquisition and destruction of their housing quarters and the expansion of the colonizers’ stake on urban land.

This situation would dramatically shift in the years leading up to independence.

Institutional roadblocks to fast urban growth were removed by paradoxical combinations of colonial counterinsurgency and national independence in Africa and Asia, and by the overthrow of dictatorships and slow-growth regimes in Latin America. Driven toward the cities by brutal and irresistible forces, the poor eagerly asserted their “right to the city”, even if that meant only a hovel on its periphery. Even more than famine and debt, civil war and counterinsurgency were the most ruthlessly efficient levers of informal urbanization in the 1950’s and 1960’s (id. : 55).

Indeed, although historically the resistance to the presence of the European foreign occupation did at times manifest itself and develop in the urban milieu of the colonies “[f]or pre-1940 empires, [...] social control was largely a problem of *rural* counterinsurgency” (Davis, 2004a : 10; emphasis added).

It might have been expected that the ports and administrative centers, with their extreme inequalities, their concentrations of indigenous intellectuals, and their embryonic labor movements, would have been the principal incubators of revolutionary nationalism. [...] But the colonial city was only episodically, and usually very briefly, the actual theater of violent revolt.

Indeed, it is striking how few repressive resources, especially European troops, were needed to control large colonial cities like Cairo, Havana, Bombay, Manila, or even Dublin. (id. : 9)

In some instances, the countryside would remain a major refuge of insurgents even after independence, as was the case with the resistance to the U.S. intervention in South Vietnam. To overcome this obstacle, military analysts advocated in favor of the coerced displacement of anti-American elements from their rural hideouts.

In South Vietnam, forced urbanization (described with unconscious Orwellian irony as “modernization”) was an integral part of US military strategy. Since the Vietcong,

according to war strategist Samuel Huntington [also known for his later pronouncements and theories on the “clash of civilizations”], constituted a “powerful force which cannot be dislodged from its constituency so long as the constituency continues to exist”, he and other hawks argued for abolishing the “constituency”. American terror bombing provided the force “on such massive scale as to produce a massive migration from countryside to city (so that) the basic assumptions underlying the Maoist doctrine of revolutionary war no longer operates (sic). The Maoist inspired rural revolution is undercut by the American-sponsored urban revolution.” Over the course of the war, as historian Marilyn Young points out, the urban share of South Vietnam’s population soared from 15 percent to 65 percent, with five million displaced peasants turned into slum-dwellers or inhabitants of refugee camps. (Davis, 2006 : 56-7)

Therefore during the colonial period and, in some cases, in the early years following independence, urbanization served as a form of counter-insurgency strategy, early on by limiting the access to the city, and later by forcing insurgents out of their rural hideouts. As I am about to show, decades of forced migration of populations from the countryside to the cities, through ongoing interference and neoliberal policies imposed in these post-colonial settings, would dramatically shift the locus of insurgency and would spawn resistance movements in the slums into which millions of the world’s poor have found refuge. As a result these shantytowns have dramatically altered and reconfigured the contemporary dynamics of warfare. Urban slums have become the new battlefields of the 21st century.

### ***Forced Urbanization***

Where overt conflicts or civil wars failed as the prominent instigators of population displacements from the countryside to the urban centers, the policies advocated by global institutions and imposed on governments of under-developed countries pursued a war on the poor through more formal measures. Indeed, the World Bank (WB) whose Urban Department was created in 1972, and the International Monetary Fund (IMF) through its structural adjustment programs (SAPs) promoted since the 1970’s, have taken the lead in orchestrating the forced urbanization of the rural poor. Whether arguing for improved health access, housing, or water supply, documents and policy papers have served as the backbone upon which interventions have been built and justified.

That global institutions and governments of wealthy countries increasingly participate in projects that shape urban environments in the tropics should not be read as a coincidence but rather as a sign of the continued convergence of the management of populations, of the space in which they live and work and of the diseases that affect them. In most cases, these policies and projects have perpetuated a vicious cycle of impoverishment, disempowerment and subjugation (Davis, 2006 : 73-4). The downward spiral has been supported and produced by the intertwined discourses, representations and practices of the institutions.

The problems generated by the organizations have three essential components. First, these institutions have, comparatively to these poor countries, enormous financial capabilities and resources. For example, between 1972 and 1996, the World Bank took part in close to 150 urban projects in Africa alone with a budget exceeding 5 billion US dollars, with the pace of investments showing no sign of slowing (Farvacque Vitkovic and Godin, 1998). Second, these major players operate within a very narrow vision, their frame of reference consisting of their own publications and initiatives. Finally, the inevitable reaction of these institutions when faced with the disastrous results of their projects is to invest more resources within slightly modified programs, rather than to withdraw altogether from these cycles of repetitive failures. This approach is highly reminiscent of the response to failed military interventions, the American invasions of Vietnam and Iraq being two of the most striking examples.

Despite the fact that most of the investments of these global institutions such as the World Bank represent only “a mere drop in the bucket” of the actual needs of these countries,

it gave the Bank tremendous leverage over national urban policies, as well as direct patronage relationships to local slum communities and NGOs; it also allowed the Bank to impose its own theories as worldwide urban policy orthodoxy. (id : 70).

The resulting dynamics set up through these foreign interventions have altered the dynamics of urbanization, with millions moving from the countrysides to the urban centers just as governments, following imposed SAP guidelines, were forced to cut

jobs in the public sector and decrease their support for housing and municipal infrastructure. The net result in the global South is that

urbanization has been more radically decoupled from industrialization, even from development *per se* and, in sub-Saharan Africa, from that supposed *sine qua non* of urbanization, rising agricultural productivity. The size of a city's economy, as a result, often bears surprisingly little relationship to its population size, and vice-versa. [...] Some would argue that urbanization without industrialization is an expression of an inexorable trend: the inherent tendency of silicon capitalism to delink the growth of production from that of employment. But in Africa, Latin America, the Middle East, and much of South Asia, urbanization without growth [...] is more obviously the legacy of a global political conjuncture – the worldwide debt crisis of the late 1970's and the subsequent IMF-led restructuring of Third World economies in the 1980's – than any iron law of advancing technology. (Davis, 2006: 13-4; emphasis in original).

As Davis would go on to add, “[o]verurbanization” [...] is driven by the reproduction of poverty, not by the supply of jobs. This is one of the unexpected tracks down which a neoliberal world order is shunting the future” (id.: 16). He makes a compelling point about the urban informal working class as a “surplus humanity” (Davis, 2004a: 13) “structurally and biologically redundant to global accumulation and the corporate matrix” (id: 11), an analysis reminiscent of Bauman's description of the outcasts of modernity through the notion of “wasted lives”, from refugees, asylum seekers to slum dwellers (Bauman, 2003).

Following the diffusion of this neoliberal order have been the increasing difficulties of the U.S. military in controlling parts of the world of geopolitical interest which have suffered so much at the hands of policies imposed by the Bretton Woods institutions. In the past two decades, the Pentagon has had to revise its approach to foreign military interventions, facing mounting casualties and difficulties in securing the urban terrain of the swelling cities of the global South, in Beirut and Mogadishu and more recently Baghdad and Fallujah. The devastating SAPs and imploding urban development projects devised by the IMF and the World Bank in their plush Washington D.C. offices, from where they have imposed their agenda on the governments and NGOs of the global South, have left their military colleagues in the not-so-distant Department of Defense scrambling to adapt their tactics to control the derelict cities and shantytowns emerging as the focal points of insurgency. These growing concerns of the Pentagon have been exposed in numerous publications from high-ranking officers and military think-tanks like RAND. Indeed Davis, referring to

an article by an Air Force theorist, speaks of the “Pentagon as Global Slumlord” (Davis, 2004b). His claim in linking the history of the “favelization” of the global South and the current military interventions is to show that

this is not a war of civilizations but an oblique clash between the American Imperium and the labor-power it has expelled from the formal economy [... such] that the contemporary megaslum poses unique problems of imperial order and social control that conventional geopolitics has barely begun to register. If the point of the war against terrorism is to pursue the enemy into his sociological and cultural labyrinth, then the poor peripheries of developing cities will be the permanent battlefields of the twenty-first century. (Davis, 2004a: 14-5)

In effect, Davis’ argument ties the city and warfare, a link Paul Virilio had begun to register some three decades ago in his writings on dromology.

### ***The City as a Problem of Warfare***

To Foucault’s vision of the birth of “modernity” as emerging through the crucial and incessantly growing interplay between knowledge and power – the intertwined *savoir/pouvoir*, particularly with regards to the control of populations through the diffusion of biopolitical practices – Virilio rather insists on the intimate ties between power and motion – *pouvoir/mouvoir* (Virilio, 1977 : 54) – complementing Foucault’s gaze with a strong Heideggerian concern for technology. According to Virilio, harnessing speed to achieve, maximize and dominate the circulation of populations has served as the critical prerequisite and tool of politics and power throughout human history. Needless to stress that Virilio’s views make him principally preoccupied with the instruments and modalities of warfare, from its material developments to the shifting ascendancy of different approaches through time, from “tactics” to “strategy”, and finally to “logistics”.

Simply put, Virilio ultimately perceives “all human geography [as] a product of warfare” (Luke and Ó Tuathail, 2003: 365), epitomized and crystallized most decidedly in the spatial organization of city-states. Indeed, their architecture was suffused with military technology, built to stand and defend one’s interests against potential enemies. The spatial organization of these cities aimed to deflect the aggression of military interventions. In those clashes, only enhanced speed and mobility could overcome and bypass spatial attempts to funnel, and thus control and



mitigate, the enemy's assaults. Virilio's preoccupation lies thus with the history of poliorketics, encompassing the interdependent offensive/defensive arts of siege warfare and fortification, whose resurgence as a critical concern within the current global diffusion of urban insurgencies takes on a renewed and eminently profound interest.

Virilio reveals the history of military knowledge through three distinct orders of interplay of military power/knowledge/technology. The first stage began with immemorial decentralized *tactics* akin to those used to attack animal preys. From the city-states of ancient Greece to the commercial enclaves of feudal Europe, tactics became subordinate to *strategy* "the organization of space as a theatre in preparation for war, with a city-state fixed at its centre fortified and capable of defending itself and its supporting military-political system should war break out. [...] Beginning in the late nineteenth century, however, both tactics and strategy slowly are displaced by *logistics*" (id.; emphasis added). Borrowing from a Pentagon statement dating from the time of World War II, Virilio presents logistics as "the procedure following which a nation's potential is transferred to its armed forces, in times of peace as in times of war. With logistics, the distinction between times of peace and times of war disappears; there is only the perpetual preparation for war" (id.).

Thus "Paul Virilio's modernity is *logistical* [...] meant "to carve and guide the masses", the metabolic multitude, into mobile trajectories. Dromology [the "science of speed", from the Greek word *dromos* meaning to race] is a shifting, restless logistics of differential governance transforming the raw material of the world and rendering it "in a more appropriate form" (Bratton, 2006: 7 and 10; emphasis in original).

One of the most commonly cited examples of this shift to a logistical order aimed at transforming the raw material of the world comes from the annals of the French conquest of Algeria in the mid-19<sup>th</sup> century. Indeed, while the emergence of modern European nations largely diverted the confrontation of opposing armies from the cities to the open battlefields, the colonial adventure would pre-empt the return of the city as combat zone as well as the rise of logistics. In one of less common

instances of urban counterinsurgency in the colonial world, Marshall Thomas Robert Bugeaud who led the French invasion of Algiers in the 1840's,

set out to break popular support for the resistance leader Abdel Kader by attacking the fabric of cities, towns and villages.

His actions were so extreme and brutal that they managed to raise parliamentary criticism in 19th century Paris. Bugeaud, commanding more than one hundred thousand troops, had taken seven years to subdue Abdel Kader's ten-thousand man army. He finally regained control over Algiers' dense kasbahs by destroying entire neighbourhoods in reprisals for guerrilla attacks, sometimes breaking centers of resistance by reshaping cities, widening roads for military movements. (id. : 272).

Faced with a strategic disadvantage and mounting losses, Bugeaud broke the resistance by (literally) levelling the battlefield to his advantage, an operation he would recount in the treatise "*La Guerre des Rues et des Maisons*" published in 1847. This large-scale violence and demolition unleashed as a tool of spatial reorganization stands as one of the earliest modern examples of "design by destruction" (id. : 278), which would inspire a few years later another grand urban restructuring in the *métropole's* capital.

When Baron Georges-Eugène Haussmann was commissioned in the 1850's by Napoleon III to redesign the center of Paris, he had already read Bugeaud's treatise and been won over by its central argument. The memories of the turbulent revolutions of 1848 that had spread across Europe were still very much on the minds of the political powers in France when Haussmann set out to reconfigure the capital. It is no secret that the wide boulevards of Paris, still admired today for their majesty, were designed to minimize the ability of opposition groups to converge and present a threat to the army which could easily navigate between the large streets to encircle and quell any rebellion. The relatively easy rousting of the *Communards* in Paris in 1871 was seen to have been greatly facilitated by the plans Haussmann had put into place in the preceding years.

### ***Logistics of Urbicide***

With the shifting landscape of the global South and the continued occupation of these foreign lands, the writings of Bugeaud have inevitably continued to inspire military commanders. The Israeli Defense Forces (IDF), the contemporary military

reference in all matters of urban insurgency which it has gleaned from their years of clamping down on Palestinian cities, have extensively built upon the principles exposed over 150 years ago by the French marshall.

Architect Eyal Weizman, who has extensively studied the relationship between human rights planning and the architecture of the IDF's assaults in the West Bank and Gaza, has documented the logistics of the IDF's approach to controlling their unruly cities. The details of these unprecedented urban military operations offer a glimpse of what Virilio has theorised on a macro-level.

IDF Lt. General Eyal Weiss (who was later killed when a wall collapsed and buried him) developed a routine of moving through walls by cutting routes through the buildings. [...] The soldiers [...] never entered a house through the door but rather through an opening blasted in one of its walls.

Realizing that about 70-80 percent of the military casualties occurred outside buildings, Israeli infantry adopted this technique and started moving through the refugee camps by tunnelling their way through the urban fabric, like worms in apples. Soldiers travelled through walls, from one home to the next, cutting openings with hammers or explosives. This type of movement ignores the existing urban syntax of streets or internal stairs, replacing it with another circulation system.

The paths of these cuts were not pre-planned, but determined in response to necessities, problems, and opportunities. Soldiers progressed mainly through the second-floor level because the entire ground-floor was booby-trapped. The technique has a long tradition that appropriated the ability of defenders to navigate the dense city in this manner, through alternative routes, secret passages, and trap doors. In Jenin, both soldiers and the Palestinian defenders moved through tunnels cut through solid city fabric, often crossing each other's route at a few meters' distance. Some buildings were like layered cakes with Israeli soldiers both above and below a floor where Palestinians were trapped. (Misselwitz and Weizman, 2003 : 279)



**Figure 14 : Star-shaped hole in a wall caused by “worming” in one of the fake ‘Arab’ homes in Chicago<sup>34</sup>**

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<sup>34</sup> Broomberg and Chanarin, 2006.

Thus, to overcome the disadvantage provided by the complex terrain of slums, techniques combining epidemiological data – the observations that the majority of casualties are suffered when soldiers roam the streets of these shantytowns – to medico-military technologies have been devised. “Worming”, as it is called, “is achieved by the use of ultrasound devices which ‘see through’ the walls of houses. Once the soldiers have determined that a space is safe, they blast a hole through the walls, creating channels through bedrooms and living rooms. Almost every wall in Chicago is punctured by a star-shaped hole, the stamp of a controlled explosion” (Broomberg and Chanarin, 2006). “Chicago” is the name of a fake ‘Arab’ town built in the middle of the Negev desert by the IDF. “Everything that happened, happened here first, in rehearsal” explain Adam Broomberg and Oliver Chanarin in the preface to their photo-book of Chicago.



**Figure 15 : One of the deserted streets of Chicago<sup>35</sup>**

The invasion of Beirut, the first and second Intifada, the Gaza withdrawal, an attempted assassination of Saddam Hussein, the Battle of Falluja [sic]; almost every one of Israel's major military tactics in the Middle East over the past three decades was performed in advance here in Chicago, an artificial but highly realistic Arab town built by the Israeli Defense Force for urban combat training.

Chicago [...] is a ghost town whose history directly mirrors the story of the Palestinian conflict. To create this alternative universe, Palestinian architecture has been carefully scrutinized. Roads and alleyways have been constructed to mimic the layout of towns like Ramallah and Nablus. In one corner the ground has been covered in sand, a reference to unpaved refugee camps like Jenin. Graffiti has been applied to the walls with obscure declarations in Arabic: 'I love you Ruby' and 'Red ash, hot as blood'. Burned-out vehicles line the streets.

It is difficult to pinpoint what it is about this place that is disturbing. Perhaps it's the combination of the vicariousness and the violence. It's as if the soldiers have entered

<sup>35</sup> Id.

the enemy's private domain while he's sleeping or out for lunch, sifting through all his private belongings with too much curiosity. It's a menacing intrusion into the intimate. [...] The clean lines and the empty spaces devoid of the mess of human presence make it simpler for the trainee soldiers as they navigate the streets and buildings, emptying cartridges into false walls.

Chicago is not based on a specific town but is a generic 'Arab' place, designed by the soldiers themselves, building on their intimate experience of the minutiae of Arab cities. This convention of using the name 'Arab', rather than Palestinian, effectively obscures identity. It's a thread of denial that runs through much of Israeli discourse about relations with Palestine. (id.)

Indeed, these rehearsed and repetitive Orientalist tropes remain integral to the elaboration of imaginative geographies used to justify the persistent occupation, seizure and destruction of Palestinian cities and homes, and of course, the killing of Palestinians themselves.

Building on Virilio's work, authors such as Stephen Graham have examined these practices of urban demolition by the IDF through its numerous incursions into Palestinian towns, referring to processes of targeted urban destruction as "place annihilation" and "urbicide" (Graham, 2004). "American and Israeli military jargon calls these acts "reshaping the battle space"" (Misselwitz and Weizman, 2003: 278).





Figure 16 : Chicago<sup>36</sup>

### ***Military operations on urban terrain***

Contemporary guerilla movements, seemingly irrational and disorganized, have rather adeptly appropriated and harnessed the spatiality of the slums into which the neoliberal order has forced them into. The structured invading armies and their powerful weapons, developed in preparation for an equally technical opponent in a Cold War that was never consummated, have only recently begun to adjust to the different terrain where they increasingly engage and are confronted with fierce

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<sup>36</sup> *Id.*



opposition. Indeed, “[c]ities continue to reduce the advantages of the technologically superior force (Misselwitz and Weizman, 2003 : 274).

As the ongoing and prolonged Israeli-Palestinian conflict has shown, the only way to control these unruly cities, for want of killing all of its citizens, is to remove the advantage provided by their variegated and densely crowded landscape. Whether historically in the confrontations between city-states, or more recently in the destruction of these insurgent hideouts, the targets are not so much the people who live in the cities, as the towns themselves. Citizens’ opposition to foreign armies crystallize around the physical space of their cities, from the symbolic attachment they hold to their home environments to the hiding places where fellow insurgents hide. Destroying the urban fabric of societies stands as an extremely powerful way to strike at one’s enemy.

The attacks that took place in New York on 9/11 temporarily reversed the longstanding orchestrated trajectory of urbicide, an unimaginable and terrible act that punctuated the otherwise constant tide of place annihilation suffered in the cities of the global South. The resulting effect was couched in symbolic terms above else : the hijackers had struck at the heart of America. The fact that most of the men who organized and completed those attacks were relatively wealthy, and that many of those who died in New York were part of the lowest socio-economic strata of American society – many of them illegal immigrants working for years in the underground service industry of cosmopolitan New York – did not matter. Even when compared to the last attack on U.S. soil, the bombing of Pearl Harbor in 1941, 9/11 stood as a distinctive assault. The symbolic effect registered above all else : the subalterns of this world had attacked America.

Stephen Graham demonstrates how in response, Orientalist tropes were deployed, “architectures of enmity” that “ do geopolitical work by designating the familiar space inhabited by a putative ‘us’, and opposing it to the unfamiliar geographies inhabited by a putative Other – the ‘them’ who become the legitimate target for military or colonial power” (id.). Indeed,

the discursive construction of the Bush administration’s ‘war on terror’ since September 11th, 2001 has been deeply marked by attempts to rework imaginative geographies separating the urban places of the US ‘homeland’ and those Arab cities purported to be the sources of ‘terrorist’ threats against US national interests. On the

one hand, imaginative geographies of US cities have been reworked to construct them as 'homeland' spaces which must be re-engineered to address supposed imperatives of 'national security'. On the other, Arab cities have been imaginatively constructed as little more than 'terrorist nest' targets to soak up military firepower. Meanwhile, [...] both 'homeland' and 'target' cities are increasingly being treated as a single, integrated 'battlespace' within post 9/11 US military doctrine and techno-science. (Graham, 2006 : 255)

The military operations unleashed by the U.S. and its allies in the military campaigns of Afghanistan and Iraq would mirror and be inspired by years of experience of the IDF in trying to subdue Palestinians in their own cities. Following the example of fake enemy cities like "Chicago", the U.S. military developed counter-insurgency training programs dubbed Military Operations on Urbain Terrain (MOUT). "Israeli advisors were quietly brought in to teach Marines, Rangers, and Navy Seals the state-of-the-art tactics – especially the sophisticated coordination of sniper and demolition teams with heavy armor and overwhelming airpower – so ruthlessly used by Israeli Defense Forces in Gaza and the West Bank" (Davis, 2004b). The U.S. military has given its full support to the rapid diffusion of these new training programs. And, to replicate the IDF's "Chicago", the U.S. army "is building a chain of 61 urban warfare training complexes [MOUT sites] across the world between 2005 and 2010, to hone the skills of its forces in fighting and killing" (Graham, 2006 : 266).

### ***Microbiological Imaginary***

Integral to the micro-management of the shifting terrain of war through the new logistics promoted by military advisors in the 1990's came concerns about "the appalling sanitation in many urban environments [... leading to] a broad range of septic threats" (Peters, 1996 : 45). As stated in the previous chapter, infectious diseases have historically wrought an immense toll on opposing armies – as well as the civilian populations caught in the cross-fire – which only came to be mitigated in the 20<sup>th</sup> century with the progress of (military) medicine, conjoined to the increased destructive potential of modern weapons. However the changing terrain and logistics of warfare have mitigated these improvements and created challenges to the modern armies, as with the cutaneous leishmaniasis epidemic among U.S. soldiers. The

health threat posed to troops sent in these “battlefields” [...] where human waste goes undisposed, the air is appalling, and mankind is rotting” (id.: 43) thus renders “[a]ny means of boosting the soldier’s immune system [...] a critical “weapon of war”” (id.: 45).

However, just as the U.S. army failed to anticipate the opposition and insurgency that erupted in Iraq in response to its military operations, so did it find itself unprepared to deal with the epidemic of cutaneous leishmaniasis that emerged among its troops, leaving military doctors scrambling in the wake of the outbreak. The concerns were three-fold. First, early on in the epidemic, the U.S. military did not yet have a clear picture of the epidemiology of the CL cases, with fears about a repeat scenario of the viscerotropic infections seen during Operations Desert Storm/Shield. Second, medical problems among the many returning reservists would be evaluated by clinicians in the community unaware they should consider CL as a possible diagnosis and with little to no experience dealing with *Leishmania* infections. Lastly, even if CL cases were suspected, many of the community physicians and labs were not equipped or trained to make the diagnosis, and the drugs to treat it were only available through two military centers, in Washington D.C. and Fort Sam Houston, Texas.

To offset these concerns and to disseminate information, numerous articles variously titled “Battling the Baghdad Boil” and “Old World Leishmaniasis” were rapidly published to spread the word to the medical community at large (Lesho et al., 2004; Weina et al.: 2004). Following these early reports, and with the reassurance that the large majority of infections among OIF soldiers were caused by the relatively benign *L. major*, rather than the potentially viscerotropic *L. tropica*, the more recent articles from military doctors have redirected their attention to the analysis and evaluation of potential infections encountered among deployed military forces as well as updating their approach to preventing these (Aronson et al, 2006; Murray and Horvath, 2007). Nevertheless, despite the reassurance from the identification of the pathogen encountered in OIF, this unexpected epidemic of “parasites from the front”

continues to garner much attention (Aronson, 2007), as well as having stirred dissatisfaction among the ranks of U.S. soldiers<sup>37</sup>.

### **Conclusion**

The picture thus emerging from the intersecting pathways of the logics of warfare and capital accumulation features “pathological” elements that need to be confronted, namely urban insurgents and infections. These in turn lead to shifting practices to address these logistical pathologies by developing and deploying combined epidemiological approaches and medico-military techniques. However these practices remain couched in discursive regimes emphasizing the disconnections between those who “suffer” from these ailments and the portrayed causes of these aggressions. These imaginative geographies mask and mystify the connections between the various actors involved in order to facilitate the ongoing deployment of these logics of capital accumulation and warfare that perpetuate a state aptly described as the colonial present.

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<sup>37</sup> See [www.leishmaniasis.us](http://www.leishmaniasis.us) for an example of a series of stories of soldiers diagnosed with *Leishmania* infections.

## Final Remarks

This thesis has sought to demystify the processes leading to outbreaks of cutaneous leishmaniasis in two very different populations, yet resulting from similar processes emerging from the interplay between the logic of warfare and the logic of capital accumulation. It has demonstrated the validity of an anthropological approach to examine these current problems, combining historical insights, ethnographic data and theoretical discussions to examine these processes. Furthermore, it has shed new light on the role of biomedical discourses and the use of a microbiological imaginary in masking the interactions between the logic of capital accumulation and the logic of warfare. It has also provided key observations as to the growing focus on the urban theatre, and demonstrated how processes targeting cities participate in the emergence of epidemics. Indeed, rather than generalizing about distinct foci of cutaneous leishmaniasis by implicating urbanization or confronting the “commonest global war on terror-associated reason for outpatient infectious diseases consultation” as just another logistical problem, this thesis has provided in-depth discussions of the Ouagadougou and U.S. army epidemics and analyzed the pernicious role of the dominant discourses generated to describe them. These discursive regimes were shown to perpetuate existing paradigms that mystified the processes underlying the emergence of these epidemics, in fact participating in a vicious cycle reproducing entrenched differences between *us* and *them*, and *here* and *there*, not unlike the imaginative geographies which Edward Said had presented in *Orientalism* and which Derek Gregory aptly perceives as crucial in sustaining the “colonial present”.

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