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Malaria, environmental change, and a historical epidemiology of childhood ‘cold fevers’: Popular interpretations from southwestern Burkina Faso

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ABSTRACT

We examine how southwestern Burkina Faso populations interpret political ecological and social change for the past 40 years to assert a changing epidemiology of childhood “cold fevers”—malaria-like illnesses. Lay knowledge about “cold fevers” is historically produced, reflecting political economic, social, ecological and biomedical changes, and the historical consciousness of people living with these illnesses. While informants insisted that dislocations wrought by a post-colonial irrigation scheme increased cold fevers, they offered different explanations for their increased incidence and intensity. This historical epidemiology of cold fevers may influence parents’ care decisions, but global public health interventions are rapidly changing therapeutic access.

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1. Introduction

This article examines how people in the Cascades region of southwestern Burkina Faso assert a changing epidemiology of malaria over the past 40 years through their interpretations of political ecological and social change. Recent demographic and health indicators demonstrate that malaria is the most common illness in the Cascades (Institut National de la Statistique et de la Démographie, Ministère de l’Economie, 2004). Informants there contend that ecological and social dislocations wrought by large water management and irrigation scheme in the 1970s have intensified “cold fevers”, illnesses experienced by several different ethnic groups that resemble, but resist direct translation as “malaria”. Diverse gender, generational, and socioeconomic groups interpret the consequences of these ecological and social dislocations differently and thus mobilize different explanations for what they perceive to be a massive increase in cold fevers over the past several decades. While these explanations may shape Cascades parents’ decisions about care for their children’s cold fevers, therapeutic access is rapidly changing because of the recent introduction of three global public health interventions.

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Why might “local”, place-based perspectives on the putative historical epidemiology of malaria-like illnesses be of interest? For over two decades, historians, anthropologists, and geographers have produced rich, important literatures on malaria, but primarily medical anthropologists have addressed how people living with malaria understand it. They have produced rich analyses of African patients’, families’, and healers’ diagnostic categories of “fevers” (apparently related to malaria), and in the past decade, have revealed how such understandings interact with and are shaped by broader social, political economic and biological/ecological factors; how and why people seek different kinds of treatment for their illnesses; the structures of health care offerings and facilities in a given region; patient interactions with health workers; and the extent to which caregivers and patients comply with particular treatment regimens (Kamat, 2006, 2008; Langwick, 2007; Beiersmann et al., 2007; Williams and Jones, 2004; Baume et al., 2000; Nyamongo, 2002; Jaffré, 2003; Agyepong and Manderson, 1994; generally, Fassin, 1993). Some of this work displays a long-standing preoccupation with explanatory models of illness (Kleinman, 1978) and “semantic networks”, which link the “words, situations, symptoms and feelings... associated with an illness and give it meaning” (Good 1977, 39; Good 1994). Subsequent anthropologists have generally encouraged historical approaches to understanding the meaning of contemporary concepts, health structures, and health-seeking practices (Farmer, 2004). Nevertheless, many ethnographic studies of malaria have

overlooked historical change; they deracinate variegated descriptions and analyses from historical contexts, losing sight of how contemporary concepts and practices have been profoundly shaped by past interactions and processes (rare exceptions include Brown and Packard, 1997; Brown, 1999).

For their part, historians have analyzed national and international efforts to control malaria, and more recently, have produced important syntheses of the ecological and political economic contributions to malaria's epidemiology and global distribution (Webb, 2010, 2009; Packard, 2007). But few historical works have undertaken close analyses of how people living with the illness describe its changing nature and incidence through their own historical lenses (see two notable exceptions, Schumaker, 2008; McGregor and Ranger, 2000). Other histories of medicine and public health have examined *why* people define, diagnose, and treat certain illnesses as they do and how these beliefs and actions have changed over time (Flint, 2008; Livingston, 2005; Hunt, 1999; Sadowsky, 1999; Feierman and Janzen, 1992; Janzen, 1982). Histories of malaria could benefit from such popular perspectives; we could begin to understand how populations living with a leading cause of childhood morbidity and mortality have acted with and on this illness, and on numerous interventions to control transmission.

Geographical approaches have similarly made important contributions to our understanding of malaria, its ecological and spatial distribution, and efforts to control it, and geographers have explicitly integrated contributions of historical, political economic changes into their accounts (Zhou et al., 2004; Myers et al., 2009; Caldas de Castro et al., 2006; Carter, 2008, 2009; Prothero, 1965). Much of this literature, however, is less concerned with popular interpretations of the spatial and historical epidemiology of malaria. Yet King (2010), 46, in a recent call for a more rigorous political ecology of health “examining the political economy of disease, interrogating health discourses produced by actors and institutions, and... demonstrating how health is shaped through the relationships between social and environmental systems”, has identified such interpretations as a priority. Similarly, some geographers have underscored the importance of ‘lay’ health knowledge and of plural health *knowledges*—“a multiplicity of intersecting sociotechnical and spatial processes... woven into nodes that materialize into the powerful assemblages that are recognized as knowledge” (Davies et al., 2004, 293). While health knowledge in certain contexts can appear highly bounded, particularly when professional authority is at stake, in others with active public participation, it can appear “fluid” and “open” (Davies et al., 2004). This very plurality, fluidity, and openness characterize popular knowledge of cold fevers in Burkina Faso's Cascades region, particularly when interpreted through a historical lens. Cold fevers bear traces of regional, national, and local historical processes, and popular claims about their changing epidemiology are fundamentally historical, spatial arguments about the nefarious environmental, biological, and social effects of irrigated sugar cultivation.

This essay thus positions itself at the intersection of history, medical anthropology, and the geography of health knowledge, examining how a particular public mobilizes interpretations of the past to characterize the changing epidemiology of malaria-like, febrile illness in Burkina Faso's Cascades region. Our analysis examines key historical developments shaping exchanges of medical knowledge of cold fevers in the Cascades region: migration, precolonial state centralization and trade, French colonial rule, the introduction of biomedical knowledge through health care infrastructures and personnel, and post-colonial political economic and ecological development. It investigates categories of “cold fevers”, which reflect historical and spatial processes playing out there and then elaborates the arguments that different social groups use to explain the increased transmission of cold fevers. It concludes by locating these arguments in their dynamic

context, in which global public health projects are profoundly transforming therapeutic access for children with malaria.

2. Methods

Giles-Vernick and Traoré conducted research for this article in 2008, 2009, and 2010, employing several different methods: archival research at the Centre National des Archives de Ouagadougou and the Organisation de Coordination et de Coopération pour la Lutte contre des Grandes Endémies Centre de Documentation et de Statistique; a review of relevant published literature; 28 individual or small group interviews with 45 farmers, “traditional” healers, medical personnel, and medical and political officials; participant-observation of consultations at two health care centers and of one healer. Interviews were conducted in French, Goin, Turka, or Dyula languages and recorded; Traoré and Soulamon Midaboukoué transcribed and translated the Goin, Turka, and Dyula interviews into French, but retained diagnostic entities and certain explanations in the original language. Research assistants conducted, transcribed, and translated 56 in-depth, individual interviews in 2010.

Evidentiary interpretation consisted of reading our evidence to identify both commonalities and differences in how informants (in the field, but also in archival documents) explained relevant diagnostic categories, ecological, and other historical changes altering malaria or cold fevers. Categories and theories explaining the epidemiology of cold fevers emerged from the evidence itself. We were less concerned about whether particular claims were demonstrably verifiable, and more preoccupied with how and why our informants and other sources advanced such arguments.

2.1. Human mobility, political ecological change, and medical knowledge in the Cascades

The Cascades region, an administrative region named for its remarkable waterfalls, is characterized by undulating mixed savannah-woodlands, the rivers Comoé and Léraba, and several permanent lakes (Fig. 1). It is a multi-ethnic region, a long-standing economic, political, and cultural crossroads (Kuba et al., 2003; Dacher, 1997; Herbert, 1969). Currently situated near Burkina's southwestern border with Côte d'Ivoire, its history over two centuries has been characterized by considerable human mobility, and by successive efforts to impose political and economic authority over mobile populations. The past century's two most important changes influencing knowledge of cold fevers have been the transformation of the Cascades environment to benefit post-colonial authorities and the introduction of biomedical care.

Currently populated by Goin, Turka, Karaboro, Dyula, Tiefo, Senoufo, Fulbe, and Mossi language groups, the region owes its linguistic, social, and cultural diversity and exchange to 18th and 19th century geographic mobility, the result of long- and short-distance trade, efforts toward political centralization among rival political kingdoms, slave raiding, and warfare (Traore, 1998; Dacher, 1997; Wilks, 1985). As influential traders and political leaders throughout west Africa, Dyula-speaking peoples figured prominently in the region's history, spreading their commercial, religious, linguistic, and material cultural influence, and over time, the region's inhabitants have integrated into their own medicines Dyula diagnostic categories of “cold fevers”.

In 1898, the French imposed colonial rule over the region, which ultimately became part of the Haute Volta colony. Colonial rule further expanded Dyula influence, re-oriented local agricultural and extractive activities to benefit the French West Africa colonial economy and initiated limited local engagement with colonial biomedicine to improve migrant labor health (Traore,

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