Social Science & Medicine 129 (2015) 5–11

Contents lists available at ScienceDirect

Social Science & Medicine

journal homepage: www.elsevier.com/locate/socscimed

Is there really such a thing as "one health"? Thinking about a more than human world from the perspective of cultural anthropology

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ARTICLE INFO

Article history:
Available online 12 June 2014

Keywords:
Microbial globalization
One health
Cultural anthropology
Disease ecologies
Infectious diseases

ABSTRACT

Today's era of globalization is characterized by intensified interspecies encounters, growing ecological concerns and the (re-)emergence of infectious diseases, manifesting themselves in the interplay of medical and biological, but also social, cultural and political processes. One health approaches – which combine multidisciplinary efforts to stimulate collaborations between different health professionals such as veterinarians, medical practitioners, biologists, and public health professionals – can be understood as a response to this complex interconnectedness. Integrating a social science perspective might prove beneficial to this endeavor. This essay locates the one health discussion on disease ecologies in a more than human world within recent developments in cultural and medical anthropology that focus on the entanglements between health and a multitude of animals, plants or microbes, as they are characteristic of a globalized modernity. The paper aims to examine the social dimensions of human–animal-disease-interactions, claiming that disease is a biocultural phenomenon and that social factors generally play a crucial role in the emergence, spread and management of (infectious) disease. Consequently, it will be argued that there is a need to rethink our objects of inquiry and any given assumptions of human health, the human body or the constitution of "the global" as such. Incorporating the social sciences into one health approaches can help address topics such as consumption patterns, human–animal behavior or environmental conflicts in a novel way and on a grander scale than ever before. Yet, a greater sensitivity to context may entail some skepticism about the idea of one health – not in spite of the complex entanglements between humans, environments, animals and pathogens, but precisely *because* of them.

1. Introduction

One health approaches – often believed to reflect a paradigm shift within health care and the health sciences (Bousfield and Brown, 2011; Kaplan, 2011) – are situated in the globalized context of contemporary modernity. They promote the integration of human, environmental, and animal health through transdisciplinary cooperation and communication and they seek to understand the complex disease interactions between microbes, domesticated animals and wildlife, humans, and their environments as brought about by ongoing globalized networking processes (Rock et al., 2009). The contemporary human–animal relationship – which is central to this endeavor – is considered to be "complex and profound, ranging from exploitation of livestock for food and anthropomorphisation of animals as pets, to live 'wet markets' and international trade in animal species" (Zinstag et al., 2012, p. 107), and its impact is believed to constitute a threat to all humans on an equal proportion. Most scholars working within this field of research pay particularly close attention to zoonotic diseases – that is, diseases caused by pathogens that can be transmitted from animals to humans and also from humans to animals (e.g., HIV, influenza, Lassa Fever) – and aim to explore the health and disease impact caused by a broad ranges of hosts.

With the concept "one health" originally being coined by veterinarian Calvin W. Schwabe in 1984 (Zinstag et al., 2012), the one health movement – stretching back as far as to pathologist and medical doctor Rudolf Virchow in 1858 – has its academic roots in veterinary and human medicine but is not limited to those disciplines. In this article, the term "one health" will be used as a general framework for describing a broad range of approaches that aim to think about human and animal health in an integrative way. "One World One Health," however, is a trademark protected term resulting from an expert consultation in Canada in 2009 (for a detailed description of "one medicine," "one health" and "One Health," see Zinstag et al., 2011). Today, a wide scope of fields, including those in comparative medicine, public health, the

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http://dx.doi.org/10.1016/j.socscimed.2014.06.018
0277-9536/

environmental sciences, biochemistry, nursing science, and plant pathology, are taking shape under the umbrella term one health, and integrative approaches are institutionalized in organizations such as the WHO, the Food and Agriculture Organization or the Resilience Alliance. However, in spite of this heterogeneity, it seems noteworthy to mention that the social sciences are much less present in the one health research-agenda, and it is in this context that central terms and concepts like "*globalization*," "*nature*," or the "*body*" might benefit from the integration of a social science perspective.

By acknowledging the fact that we share our social, political, and medical landscapes with numerous biological beings, approaches centered on "one health" convincingly argue that the governance of zoonotic diseases cannot merely be concerned with human health alone:

> The One Health concept is a worldwide strategy – a paradigm shift – for expanding interdisciplinary collaborations and communications in all aspects of health care for humans and animals. The synergism achieved will advance health care for the 21st century and beyond by accelerating biomedical research discoveries, enhancing public health efficacy, expeditiously expanding the scientific knowledge base, and improving medical education and clinical care. When properly implemented, it will help protect and save untold millions of lives in present and future generations (Monath et al., 2010, p. 193).

As this extract explains, it becomes clear that there is a growing recognition that the complexity of disease ecologies brought about by increasing global connectivity can only be explored by international and interdisciplinary cooperation. Since the 1990s, the holistic idea that human health is closely linked to the social, physical and biological environments that people inhabit has become more prominent, as is reflected, for example, by ecohealth and ecosystem approaches which offer the prospect of understanding these complex interactions and translating them into development strategies. Contributions made through the implementation of ecosystem approaches can be foreseen, for example, in the Ramsar Convention on Wetlands (RCW), an intergovernmental treaty aimed at the conservation of wetlands – ranging from swamps, lakes and mangroves to coral reefs and fens – and their biological diversity. Since its adoption in 1971, the RCW has provided a framework for international cooperation as well as for national action. Each of the contracting parties, which meet every three years to promote policies and guidelines, have committed themselves to "work towards the wise use of all their wetlands through national land-use planning, appropriate policies and legislation, management actions, and public education", to "designate suitable wetlands for the List of Wetlands of International Importance […] and ensure their effective management", and to "cooperate internationally concerning transboundary wetlands, shared wetland systems, shared species, and development projects that may affect wetlands" (RCW, 2008, p. 2). In its 2012 resolution on "Wetlands and health", a number of possible contributions to the achievements of the UN's Millennium Development Goals are invoked which illustrate the close interrelationship between wetland ecosystems, environmental health and infectious diseases – and the potential benefits of a programmatic implementation of ecosystem approaches: as many infectious diseases such as diarrhea, cholera or dengue are waterborne or occur in close proximity on water resources, interventions such as primary education in health and water, an increase in ecologically sustainable food production or the implementation of suitable water purification systems might help to overcome pressing health problems as well as to maintain the ecological character of wetlands (RCW, 2012). Although development projects such as these focus on ecosystems and biodiversity, they nevertheless rely heavily on the recognition of human practices and the way they contribute to the shaping of landscapes, water resources and agriculture.

Human–animal interrelationships, however, are mostly treated as *biological* phenomena, picturing improved medical education and care as a solution to the problem of emerging zoonotic diseases. But, in thinking about contemporary human–animal encounters, it may be suggestive to situate them in wider natural–cultural borderlands. That is, seen from the perspective of cultural anthropology, research should question the actual scope, contradictions, effects, and reflections of microbial globalization processes. By applying ethnographic research methods – often including participant observations and in-depth interviews as well as providing a comparative perspective – anthropological approaches are sensitive to everyday practices and the numerous cultural, social, technological, political, and economical contexts within which these practices are enacted. These approaches contest traditional biomedical models accounting for disease emergence and transmission and focus instead on how biomedical knowledge is constructed to evaluate its standards and technologies. One of the most important features of anthropological theory is its recognition of *context*: in this line of inquiry, biology is no longer considered essentially universal just as culture is now believed to be an integral part of diseases, bodies, and biologies. Whereas the notion of "one health" is built upon the assumption of a shared biological destiny, the anthropological perspective might provide useful insights into the wide range of diverging practices, institutions, norms, and bodies that contribute to microbial globalization processes and their governance.

Anthropology's interest in the shifting grounds of infectious disease etiologies and human biology overlaps and sometimes converges – at least partially – with epidemiology's attempts to invest in studies that aim to capture patterns of migration and mobility: It is now widely acknowledged that the movements of people, pathogens and parasites affect the spread and transmission of infectious diseases in several ways. Epidemiological research on the demographics of malaria movement (Pindolia et al., 2013) or antimicrobial drug resistance (MacPherson et al., 2009) bears witness to the fact that human activities – such as interregional migration, waste management or the use of bed nets – have to be integrated into the modeling of infectious disease dynamics in order to fully assess emerging public health risks. Given the case of drug resistant malaria strains, for example, the implementation of successful intervention strategies depends strongly on the identification of transmission patterns, demographic groupings and migratory routines. From this point of view, MacPherson et al. (2009) argue that a paradigm shift is needed where pathogen-focused policies should be replaced by integrated approaches.

In this context, it is important for both – the natural and the social sciences – to recognize that the global embeddedness of infectious disease ecologies is a product of biological *and* social relations. Accordingly, the scope and impact of these relations cannot be understood by relying on given assumptions about the constitution of human health, the human body, or the constitution of "the global" as such. To put it briefly: what does "worldwide" mean and for whom? Whose bodies are included in discourses on microbial globalization processes? How are these processes interlinked with social practice? What knowledge on the constitution of human and other bodies emerges from these processes and how is it enacted locally? These are questions, among others, that might be useful for delineating the complex disease interactions between microbes, animals, humans, and their environments.

In this article, I seek to conceptualize the one health model in terms of processes of globalization and within the dualism of the