Original Research

Sociology, environment and health: a materialist approach

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ABSTRACT

Objectives: This paper reviews the sociology of environment and health and makes the case for a postanthropocentric approach based on new materialist theory. This perspective fully incorporates humans and their health into 'the environment', and in place of human-centred concerns considers the forces that constrain or enhance environmental capacities.
Study design: This is not an empirical study. The paper uses a hypothetical vignette concerning child health and air pollution to explore the new materialist model advocated in the paper.
Methods: This paper used sociological analysis.
Results: A new materialist and postanthropocentric sociology of environment and health are possible. This radically reconfigures both sociological theory and its application to research and associated policies on health and the environment. Theoretically, human health is rethought as one among a number of capacities emerging from humans interactions with the social and natural world. Practically, the focus of intervention and policy shifts towards fostering social and natural interactions that enhance environmental (and in the process, human) potentiality.
Conclusions: This approach to research and policy development has relevance for public health practice and policy.
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Introduction: sociology, humans and the environment

The interaction between the environment and human health has been of concern to medicine since Galen's theory of humours sought to explain disease as a dialectical relationship between bodily constitution and environmental or societal hazards.[1] While the rise of germ theory and a medical model of disease undermined this dialectic, the emergence of public health in the Victorian era reflected continued humouralist concerns with the effects of the environment upon health.[2] The interaction between human health and the social and physical environment remains relevant to contemporary public health, epidemiology, environmental health and health protection.[3]

Sociology meanwhile has developed separate interests in both health and the environment, with health and illness the largest sociological sub-speciality, and a growing number of climate change specialists. More recently, sociologists have

become increasingly interested in the interaction between environment and health, as attested by the establishment of a British Sociological Association study group, a one-day conference in 2016, and the papers in this issue. Research has explored the negative health effects of both the urban built environment[4] and the countryside,[5] as well as research on risk behaviour associated with the environment,[6] environmentalism[7] and the health effects of climate change.[8]

In this paper, our aim is to bring to the attention of a public health audience some recent theoretical developments within sociology that offer a more sophisticated understanding of the relationship between environment, humans and their health, with consequences for sociology, and for public health policy and practice. We develop a 'new materialist' approach[9] that—rather than differentiating or even opposing humans and their health to the environment—promotes a 'posthuman' and ecological sociological perspective that cuts across the divide between nature and human culture and sees humans as integral to the 'environment'. This 'monist' perspective shifts how to think about both 'health' and 'environment' and offers new possibilities for interventions to address the interactions between humans and their environment.

Sociological approaches to environment and health

Social scientists have engaged variously with issues concerning environment and ecology, typically differentiating between the physical and biological environment and the social and cultural environment. Sociologists have applied a broad notion of environment as a context for social action, in which 'the environment' is basically everything that is not part of a human body, a product of human agency, or a human construction.[10,11] They analyzed the interactions between society and the environment—usually focussing upon how to manipulate the natural environment for the benefit of human kind, e.g. to manage water or food supplies[7] or to enhance human health.[12,13] In its original formulation, this amounted to what Catton and Dunlap called a 'human exemptionalist (or exceptionalist) paradigm'.[14] Stevens describes this as

> a fundamental separation between humans and the rest of the animal world, culture being a uniquely human quality that is more variable and able to change more rapidly than purely biological traits; that humans have freedom of choice, subject only to social and cultural factors; ... and that human ingenuity and problem-solving shows a cumulative progression that can continue to expand ad infinitum.[15]

From a second perspective, social scientists sought understanding of the part that the physical environment has played in shaping human existence: for instance, the particularities of climate and geology that determine cultural stability or environmental events such as frequent flooding; longer-term climatic changes that affect human endeavour;[16] or the psychological and social effects of the environment.[4,5] They contributed to debates about the effects of the environment on humans, pointing to the social,

psychological and cultural mediation of links between health and ill health and the material environment,[10,17,18] and offered critical insights into public understanding and construction of environmental hazards.[19]

Finally, since the 1990s, sociologists addressed concerns that 'the environment' as a system is progressively being damaged by human social and economic activity. Furthermore, it must now be protected from the ravages of an 'anthropocene' era[20,21] in which the physical attributes of our planet are increasingly affected (possibly irrevocably) by human activity.[10] Social theorists explored the problems and challenges scientists face when recommending cultural or behavioural changes to address threats from the environment[22] and suggested methods to assess quantitatively people's concern with environmental threats and 'ecological consciousness'.[23] This scholarship reflects broadly what Dunlap and Catton[10] designated as a 'new ecological paradigm', in which humans—though still distinct from the rest of nature—are part of a global ecosystem and are governed by the same 'ecological laws' as other species, which they cannot flout with impunity.[15]

These sociological perspectives on 'environment' play out more concretely when addressing the interactions between 'environment' and 'human health'. We can identify five discrete models for this interaction applied across both social and medical sciences. First, human health has been seen as threatened by environmental factors such as floods, drought or climate change. This is a view widely held in public health and associated social science literature, in which the environment is a potentially dangerous place, full of hazards for unwitting humans.[6] The usual consequence of this perspective is an effort to find scientific, technological or social means to overcome these environmental threats.

Second, improvements to the environment have been regarded as means to enhance human health. This is the obverse of the first perspective and requires intervention by humanity against a risky environment, e.g. by developing more effective and efficient means of growing food crops, improving the built environment to provide sanitation, or by building defences against natural hazards such as floods.[4,24]

Third, scholars have identified how improvements in health and well-being threaten the environment by degrading or exhausting its natural resources, for instance through exponential population growth, economic development or unsustainable farming practices.[25] Critical social science responses to this have been to argue for the need to build environmental resilience into social development and to recognize the finite resources of planet Earth.[26,27]

The fourth perspective is a specific subcase of the third, addressing the negative impacts of human health care on the environment: e.g. runoff pollution from pharmaceutical manufacture, oestrogens from contraceptives and even waste water containing antibacterial mouthwash causing negative effects upon river life.[28] The response here has been to develop initiatives that seek to reduce this negative environmental impact by managing health-care systems.[29,30]

Finally, some 'Gaia'-inspired holistic conceptions have regarded humans as part of a self-regulating environmental system. Over an extended span of time, this will compensate for the excesses of human social and economic activity,