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# Making sense of unfamiliar risks in the countryside: The case of Lyme disease

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ABSTRACT

The focus of this paper is on how popular representations of the countryside provide countryside users with a discursive framework to make sense of unfamiliar countryside-based risks, taking Lyme disease as an example. Sixty-six semi-structured interviews were conducted with 82 visitors in Richmond Park, New Forest, and Exmoor National Park in the UK. The data were analysed using thematic analysis and was informed by social representations theory. The analysis indicated that a lay understanding of the risk of Lyme disease was filtered by place-attachment and the social representations of the countryside. Lyme disease was not understood primarily as a risk to health, but was instead constructed as a risk to the social and restorative practices in the context of the countryside. The findings suggest that advice about zoonoses such as Lyme disease is unlikely to cause panic, and that it should focus on the least intrusive preventative measures.



## 1. Introduction

People are generally encouraged to use urban and rural green spaces for physical and psychological health benefits, and the countryside (a generic term by which we mean rural environments, forests, parks, etc.) is predominantly represented as a health-enhancing, restorative, and therapeutic setting (e.g. Conradson, 2005; Karjalainen et al., 2010) with beneficial effects (Hartig, 2008). Yet the countryside is not a risk-free environment and it can harbour a variety of hazards ranging from the obvious (e.g. slippery paths), the well-known (e.g. forest fires), the common (e.g. sunburn), the man-made and natural (e.g. forest operations, changes in weather), to the rare and less familiar hazards such as zoonoses (e.g. Weil's disease, Lyme disease, etc.). Given that the public are widely encouraged to use the countryside, the unfamiliarity of rare hazards poses a dilemma of how to provide adequate precautionary information without causing unnecessary alarm. The focus of this paper is on how popular representations of the countryside provide countryside users with a discursive framework to make sense of unfamiliar countryside-based hazards, taking Lyme disease (henceforth, LD) as an example.

One way to solve the 'health conundrum' between encouraging people to use the countryside and raising awareness about unfamiliar hazards without provoking alarm is to focus on risk communication strategies (Quine et al., in press). Thus, it becomes important to understand how the public respond to risk messages, how messages could be better delivered, and how the public can be motivated to engage in precautionary behaviour. It may be particularly instructive to consider how people make sense of unfamiliar risks when they know little about them, such as transmission routes, prevention, and long-term effects. When risk information is provided, what claims are made about likely behaviours and how are these claims warranted? What knowledge is sought, if any, in order to make sense of the risk? What values, norms and beliefs are invoked in the meaning-making process? One might expect that a situation of unfamiliarity gives greatest access to rules of thumb before discourses become well rehearsed and the boundaries of the 'hazard template' become clear. These questions were addressed as part of a multi-disciplinary project on Lyme disease which sought to examine and understand how people make sense of unfamiliar risks in the countryside. This research was part of the larger ESRC/NERC/BBSRC *Rural Economy and Land Use* programme investigating the social, economic, environmental, and technological challenges faced by rural areas. This project brought together the disciplines of ecology, zoology, recreation, and social psychology to explore how best to communicate risk to countryside users, using LD as the exemplar.

We locate our exploration of these issues in the theory of social representations (Moscovici, 1984, 2000) which provides a useful insight into how individuals make sense of the unfamiliar (e.g., risks) and how they embed these risks into their everyday

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knowledge and practices. Social representations are ideas, images, and thoughts that constitute common sense and make up everyday thinking (Augoustinos and Walker, 1995), while also offering frameworks for explaining and evaluating events (Breakwell, 2001a). Social representations are formed via *anchoring* (the understanding of unfamiliar objects by comparing them to existing knowledge) and *objectification* (the transformation of unfamiliar and abstract notions into concrete common-sense realities) (Augoustinos and Walker, 1995). Social representations have been theorized to contain core elements, i.e. basic knowledge related to a set of values and beliefs, and peripheral elements, i.e. less stable components which change according to context (Abric, 1994). As noted by other researchers (e.g. Breakwell, 2001a; Devine-Wright, 2009), social representations can inform how novel risks are interpreted via anchoring and objectification, how they are evaluated, and how they are contested by individuals in relation to social practices or institutions. While we are interested in how LD is anchored and objectified, we are also interested in the functions that the representations of LD might serve. It has been suggested (Breakwell, 2001b; Joffe, 1999, 2003) that social representations are generally forged in ways that protect identity (where identity can incorporate both stable cognitions and everyday practices), therefore social representations of risks may be constructed in ways that minimize the impact on individuals' commonsense knowledge and social practices. This identity-protective function of social representations, referred to by Joffe (2003) as *symbolic coping,* is argued to stem from the emotive and social elements that underpin the process of representation, and also from individuals' motivations to maintain consistent values and beliefs. However, individuals may hold not only one representation of an object, but multiple and sometimes contradictory ones, this multiplicity of representational fields being termed *cognitive polyphasia* within the SRT framework (Jovchelovitch, 2002, 2008). Thus, it becomes important to understand which social representation is dominant in relation to an object of knowledge, and what factors, be they social or emotive, influence the dominance of one representation over another.

To provide a theoretical framework for reporting our empirical study, first we will describe the current state of LD in the UK. Second, we will characterise the main expected parameters of the public response to LD, and third we will discuss the evidence of the relationship between place and the perception of health risks.

### 1.1. Characterising Lyme disease

*Lyme borreliosis*, or Lyme disease as it is popularly known, is transmitted by ticks infected with a bacterium (*Borelia burgdorferi*), although only a small proportion of ticks carry the bacteria. Ticks are small spider-like blood-sucking arachnids that parasitize their vertebrate hosts, including humans who can pick them up by coming into contact with vegetation or with animals on which ticks are not yet fully attached, e.g. dogs. About 800 people in the United Kingdom contract LD annually,[1] the peak times being March to October. The manifestations of LD include a specific 'bull's eye' skin rash, *erythema migrans*, and flu-like symptoms such as headaches, tiredness, muscle pains, joint aches, and fever. LD can be diagnosed through clinical symptoms (i.e., skin rash) or by laboratory blood tests. It can be treated successfully with antibiotics in the first weeks after infection, although if left untreated it can lead to more debilitating symptoms, such as permanent damage to the central nervous system. LD is not contagious, and cannot be contracted unless one has been into contact with ticks. Preventative measures against tick bites and LD include covering up skin, avoiding contact with vegetation, using insect repellent, and checking for tick bites after being in the countryside. Precautionary information about LD in the UK is usually provided by health-related organizations, e.g. the National Health Service (NHS), by countryside users' organizations (e.g. the Ramblers), by charities (e.g. Lyme Disease Action), and by leaflets provided by countryside recreation organizations (e.g. Forestry Commission, Center Parcs, the National Trust).

### 1.2. Public responses to the risk of LD

The few studies which have explored public attitudes to LD have largely focused on *awareness* of LD and indicated that both public knowledge of LD and uptake of precautionary measures are generally low, both in the UK (Sheaves and Brown, 1995; Mawby and Lovett, 1998) and in other countries such as the US (Hallman et al., 1995; Shadick et al., 1997; Herrington, 2004). This is perhaps not surprising given the low severity of LD following prompt antibiotic treatment and the relatively low incidence (973 cases in England and Wales in 2009 as reported by the Health Protection Agency) in the context of the billions of visits made annually to the countryside,[2] although recent data indicate a steady increase in the reported incidence of LD in the UK, with 27% more cases in 2009 than 2008.[3] Notwithstanding this, there is public controversy around the incidence of LD, its diagnosis, treatment and the long-term effects (Aronowitz, 1991; Tonks, 2007; Ronn, 2009). This controversy is mainly reflected in the activities of patients' action groups and in media representations of LD as an underreported and essentially chronic illness (e.g. Macaskill, 2009).

However, the focus on awareness alone does not provide us with any insight as to how people who use the countryside actually make sense of LD and its risk. Given that the risk of LD describes both an actual phenomenon and a social construction, our research focuses on the patterns of lay understanding of this risk and the factors that shape the understanding of the necessary precautionary measures. The particular interest of this paper, given that LD is a place-based risk, is on identifying the way in which understandings of LD are located within, and anchored to, wider social representations and practices associated with the countryside.

Paradoxically, the characteristics of LD may facilitate public responses of both panic and distancing: its transmission via tick bites and the public controversy around the long-term effects of LD would suggest that people may respond with revulsion, panic and outrage, while its low incidence and restricted routes of transmission might engender responses of denial, distancing, or apathy. The SRT framework would predict that the social representations of LD might be *polemical* (Moscovici, 1988; Breakwell, 2001a), i.e. the risk of LD would be disputed and anchored in public discourses of controversy and uncertainty. However, it could also be argued that the public understanding of the risk of LD is dependent upon the existing objects of knowledge to which LD is anchored, and upon the emotive and social factors that enable such anchoring. Given that information is filtered by values (Stern and Dietz, 1994; Opotow and Weiss, 2000), and

[1] Further information on Lyme disease can be found on the website of the Health Protection Agency, http://www.hpa.org.uk/Topics/InfectiousDiseases/InfectionsAZ/LymeDisease/

[2] According to a report by Natural England, 2.86 billion visits were made by the adult population in England from March 2009 to February 2010, see http://naturalengland.etraderstores.com/NaturalEnglandShop/NECR049.

[3] Zoonoses Report UK 2009, provided by the Department for Environment, Food, and Rural Affairs, see http://www.defra.gov.uk/foodfarm/farmanimal/diseases/atoz/zoonoses/documents/reports/zoonoses2009.pdf.