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Narratives of trauma and on-going recovery: the 2001 foot and mouth disease epidemic

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ABSTRACT

This paper illustrates the rich possibilities of narrative analysis. It explores the inter-play between what is being told and how it is being told, so that analytical 'themes' remain mindful of meaning in practice (Gubrium & Holstein 1998). We draw on an on-going 2 year research study[1] into the health and social consequences of the 2001 UK Foot and Mouth Disease epidemic (FMD).[2] A citizen panel of 54 people from the worst affected area, who lived through the crisis in different ways have provided the data: weekly diaries over an 18 month period. These contributions allow us to excavate representation, meaning and salience within past, present and ongoing experiences of the epidemic. The panel also participated in 12 focus group discussions, once before diary keeping began and once to bring closure to the project. Each member also gave us an in-depth interview near the start of the study - in this way both individual, group and longitudinal reflective accounts are included in our data. We draw on participants' narratives to illustrate how their rich, diverse and sometimes contradictory, personal experiences of the crisis, are nevertheless 'coherent accounts' (Hermans 2000) when brought together. Such narratives reveal indexical recollections of FMD (references to concrete events in time and place), so that the stories themselves may be framed by local and cultural understandings of these events. In this way plot, content and context of storytelling may embody both personally meaningful accounts of trauma and recovery and the localised, cultural context of experience.

[1] This study was undertaken by the Institute for Health Research, Lancaster University who received funding from the Department of Health. The views expressed in the publication are those of the authors and not necessarily those of the Department of Health.

[2] Foot and Mouth Disease (FMD) is a highly infectious viral disease that mainly affects cloven-hoofed animals, including cattle, sheep, pigs and goats. Fever is typically followed by the development of blisters - chiefly in the animal's mouth or on the feet. It can spread by direct or indirect contact with infected animals, and whilst the disease is rarely fatal, the effects are serious and debilitating. In dairy cattle these include loss of milk yield, abortion, sterility, chronic mastitis, and chronic lameness. Secondary bacterial infections may also lead to further complications. Advice from the UK Department of Health is that FMD is very rare in humans. There has only been one recorded case of FMD in a human being, in Great Britain in 1966. The general effects of the disease in that case were similar to influenza with some blisters.

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1. INTRODUCTION

'Oh come on Cathy, I really don't have much sympathy. I mean for years the farmers have lived on subsidies, they know how to get money for everything and nothing and there's even suggestions that farmers themselves spread foot and mouth with their dirty practices……. '
(Cathy, Researcher, having dinner with friends)

> *Well he would phone up first on his way home, and then he would say, well I need clean this and clean that, whatever, and then he would come and park on the other side of the road and knock on the door, and then he would go back to the road [LAUGHTER] …this is how paranoid he was… and I would go out with the carrier bag and drop it, talk with him with a big distance because he was frightened he was carrying it on his breath.*
> (Respondent Barbara[3] whose husband worked on livestock disposal, describing his efforts to prevent the spread of FMD during the crisis)

Here are two contrasting interpretations of the UK 2001 FMD epidemic. The first comes from outside our study, where a friend of one of the research team, positions her as listener but also as friend, she who has something to do with an FMD project. The second extract is from a study participant who, positions the same researcher as listener but also as researcher, *re*capturing 'on tape', Barbara's retrospective telling of what it was like living with the FMD epidemic. Our study is designed to facilitate different ways of telling for each of the 54 participants: primarily through 18 months of weekly diary keeping, but also through focus group discussion with common parameters, a 'genre' of the FMD story with shared codes, and face-to-face interview to capture individual stories that may mesh with a community of life stories. Below we elaborate on what we mean by 'genre', 'shared codes', and 'a community of life stories'.

The research team, set out to explore narratives of living with the 2001 FMD epidemic, using action research, a community based research approach that seeks collaboration between research participant and researcher. The study aims to inform policies that will help alleviate some of the potential consequences of the FMD disaster using

[3] This is a pseudonym in order to maintain participant anonymity and confidentiality.

'inside', localised knowledge and lived, everyday experience of what was arguably the biggest crisis ever to have hit rural Britain. At the time of writing (Summer 2003), we have almost completed our fieldwork and have begun to analyse more than 3,000 diaries as well as transcriptions of one-to-one interviews and group discussions. What follows then are reflections on our interim findings. We acknowledge that final analysis may require some refinement. We have been struck by the richness and diversity contained within the local and everyday accounts and story fragments which become 'plotted' into a meaningful construction or personal narrative, of trauma and recovery from the disaster. Moreover there is a common 'story plot' that is articulated across individual narratives, so that there is a 'collective telling' with evocative shared language and narrative format. In this paper we explore how and why this happens. In particular we have noted three aspects: the dialogical positioning of researched and researcher (Lucius-Hoene and Deppermann 2000) so that the researcher becomes part of the 'sense making'; how focusing on narrative can capture a sense of the inter-play between *what* is being told and *how* it is being told, so that analytical 'themes' remain mindful of *meaning in practice* (Gubrium and Holstein 1998); and finally, how narratives reveal indexical recollections of FMD (references to concrete events in time and place) that may be framed by local and cultural understandings of these events. We begin with some background to the epidemic and a brief overview of our study.

2. BACKGROUND

The 2001 UK FMD epidemic was probably the world's worst ever to occur in a previously disease free country. From the first case detected on the 20th February to the last confirmed case on the 30th September, 2,026 outbreaks were recorded in Britain and 4 in Northern Ireland (Cumbria FMD Inquiry Report 2002). Government control policy required the slaughter and disposal of susceptible animals from infected farms and from farms considered to have been exposed to infection. This resulted in an estimated 4 million livestock being destroyed (this does not include newborn animals) with a further 2.5 million under related schemes to deal with animal welfare and marketing problems (Cumbria Report 2002). A prominent agriculture policy commentator asserted:

> ….for many of those directly affected it was to become the most harrowing experience of their lives. Thousands of farmers and their families saw their livelihoods vanishing before their eyes. Millions of animals were slaughtered, often in brutal and inhumane circumstances. Tens of thousands of rural businesses were brought to the edge of bankruptcy or beyond. Estimates of the damage inflicted on Britain's overall economy soon ranged up to £20 billion. (North 2001: xi)

Cumbria suffered almost 44% of the FMD cases, approximately 893 (Cumbria Report 2002). The Cumbria Foot and Mouth Disease Inquiry Report outlines three devastating aspects for the county. Firstly, a county rich in natural heritage with an economy dependent on livestock agriculture, outdoor recreation and tourism became crippled by a country wide ban on livestock movements and widespread restrictions on public access to the countryside. Secondly the Report notes the massive scale of the slaughter and disposal of livestock and other animals. As well as the 893 infected premises a further 1,934 suffered complete or partial animal culls, 'taken out' as dangerous contacts or in the cull of contiguous premises. Some 45% of Cumbria's farm holdings suffered these culls and in the north of the county where the epidemic was most severe, this rose to 70% (Cumbria Report 2002). Also all Cumbrian farms endured stringent disease control measures that caused major disruptions to livestock management and in some cases, led to animal suffering and huge economic losses. Lastly the Report notes: 'there were problems in implementation of disease control, communication and other measures [that] led to an upsurge of public objection and to expressions of public concern, frustration and anger at the way the epidemic was being handled.'

At the peak of the crisis, up to 18,000 animals were being slaughtered daily on a disused airfield in the village of Great Orton, near Carlisle in Cumbria. This was prepared as a mass burial site, the UK's largest. Burning on pyres (hugely unpopular) and burial in landfill sites were also used for carcass disposal. The Ministry of Agriculture, Fisheries and Food (later to become the Department for Environment, Food & Rural Affairs, DEFRA), the government agency responsible for dealing with the disaster, was unable to cope with the scale of the work needed to undertake the cull. It recruited or seconded large numbers of local people, from a variety of

backgrounds, to carry out animal culling, disposal and record keeping. Many reported feeling traumatised by their encounter with sights and sounds and smells that were extra-ordinary to their common experience (Cumbria Foot & Mouth Disease Inquiry, 2002; Graham, 2001).

STUDY DESIGN

The study is designed so that participants form a 'standing panel' – it is the panel who are the experts. The use of citizens' juries and standing panels as a consultative mechanism is becoming well know in the public services (Coote and Lenaghan1997; Kashefi and Mort 2000). Composition and membership of the panel was shaped by discussions with a multi-disciplinary, multi-agency steering group that reflected concerns about the health impacts of the disease epidemic on a wide range of people living and working in Cumbria. The panel includes six broad groups: farmers, farm-workers and their families; workers in related occupations, e.g. agricultural suppliers, livestock hauliers, auction mart staff; small businesses, e.g. tourism, hotel trades and rural crafts; health professionals, including vets and assistants; voluntary groups (these were highly significant sources of support/recovery); residents living near disposal sites.

Below we offer more detail of our fieldwork in order to reflect upon how we the field researchers, became part of study participants' *re*presentations of individual and collective FMD narratives.

3. RESEARCHER AS PART OF SENSE MAKING

In addition to meeting with participants in focus group situations and conducting, in-depth interviews, each fieldworker has made monthly visits to on average 18 panel members over the 18 month period. Visits often take place in the participant's home with other household members' present, or less frequently, in the workplace. The fieldworker collects weekly diaries and offers a small payment. During these visits, conversations may be wide ranging, from discussing local and national FMD developments and initiatives; to 'everyday talk' about families, paid work, past and

future events, hopes and fears; to fieldworker occasionally seeking clarification from 'diarist', of what has been written or possibly spoken of, during previous telephone calls (to arrange visits).

Our approach is to provide a facilitating context for 'telling' in these encounters. Interviews were loosely framed by broad, open questions ('What was your first memory of the FMD outbreak'?) and transcripts contain long, uninterrupted stories about living with the epidemic. A time-line of 'significant FMD events' that were captured and portrayed by the national and local media, was used to open up focus group talk, but was quickly discarded by respondents' own views of what was significant. The monthly visits have a similar agenda, facilitating narrative that is contextualised by the fieldworker in terms of the research and by the participant in terms of self presentation.

The intimacy and duration of the visits illuminates what Lucius-Hoene and Deppermann (2000) term, dialogical narratives. This is a performative view of narrative, one that considers the dynamic relationship between researcher and researched. Our one-to-one interview and subsequent visits, placed the narrator in a position quite different to that of the everyday storyteller. Rather than telling stories that are 'of the moment' the research interview seeks a 'complete' biographical self-story. A 'grand story' in which diverse story fragments, events and anecdotes are brought together in an organized whole, a coherence that Lucius-Hoene and Depperman (2000) suggest is rather contrived, a 'scientific artefact'.

Hermans (2000) however, suggests that the 'interviewee' may choose multiple positions – biographical stories are always positioned, never complete. Thus a narrative offers a translation of a perception of events, presenting cause and effect in a selective manner, which makes sense to the author. From our experience and the work of others, (e.g. Gubrium & Holstein 1998; Hermans 2000; Ricoeur 1991; Smith & Sparkes 2002) we know that narratives rarely simply 'reveal' what someone thinks or feels, any 'truth' is a construction. The construction and portrayal of self comes about through the use of different narratives, depending on place, setting and audience (Richmond 2002). Burr and Butt (2000, cited in Shenk et al., 2002) put is this way: 'we do not simply recall events as they happen; rather, we selectively recall, narrating a story of the past that

makes sense to us'. Reisman (1993: 218) also suggests that a sense of a beginning, middle and end, a linear and ordered telling of a tale is a storyteller's way of creating order out of a flow of experiences in order make sense of actions and events:

'Human agency and imagination determine what gets included and excluded in narrativization [sic], how events are plotted and what they are supposed to mean. Individuals construct past events and actions in personal narratives to claim identities and construct lives.'

Ricoeur (1991: 31) notes that we like to speak/write/recount in 'wholes' but story telling is always a pulling together of the 'parts' – of the 'discordant concordance.' Gubrium & Holstein (1998) elaborate on the 'pulling together of the parts'. They use the term 'narrative practice' to describe the dynamic processes of story composition, that which draw upon personal experience and available meanings, structures and linkages that comprise stories. In order to capture both the 'complexity of experience' and the stories told by men who have acquired a spinal cord injury through playing sport, Smith & Sparkes (2002: 144) draw on this notion of 'narrative practice' in order to focus on : 'the ways in which stories about experience are presented, structured and made to cohere whilst also allowing us to maintain an awareness of the institutional and cultural conditions that shape this accomplishment.'

Constructing/composing narrative always takes place within dynamic, shifting contexts. Indeed the longitudinal design of our study with participants weaving an ongoing narrative through 18 months of diary keeping, captures 'inconsistencies', 'contradictions', re-orderings and re-tellings that we suggest, may also be reflective of the chaos/farce that participants tell us they endured, during, and following the epidemic, and which they sought and still seek, to make sense of.

If a story is a *re*presentation of events, actions and experiences and therefore interpretations of those events, and 'what' is told captures personal meaning and significance, then 'how' it is told, examined and compared may be dependent on the mutual positioning of fieldworker and participant. Our participants' narratives reveal assumptions about 'shared structures' and common understanding of the cultural

shorthand that describes these. For example, similar domestic arrangements assume similar narratives: ‘you know what teenagers are like’. Also assumptions about remaining outside of other structures, such as a fieldworker’s relationship with one participant who describes in great detail his working practices as a livestock haulier – narrative as instruction – 'so’s you knows exactly what it’s like for us, what the pressure’s like dealing with all the paperwork.'

Moreover, visiting households means that at times, others (e.g. partners, other family members) supplement the material given in the participant’s diary. We cannot help but absorb these additional 'stories', but cannot use them in our narrative since if they, the participants, do not tell us, we must presume they do not want us to know. Thus as Hermans notes (2000) ‘researcher’ and ‘researched’ have dynamic input into the ‘story’ that is dependent upon their dialogical positioning (Lucius-Hoene and Depperman 2000).

We need to consider how a story is put together, the linguistic and cultural resources it draws upon and how it persuades the listener of its truthfulness or reality.

4. WHAT IS BEING TOLD - A NARRATIVE GENRE OF FMD

A dictionary definition of ’genre’ states among others, 'kind, category or sort especially of literary or artistic work' (Collins 1992). Reisman (1993: 231) suggests that we relate experiences using different genres so that:

'Genres of narrative, with their distinctive styles and structures, are modes of representation that tellers choose (in concert with listeners’ expectations of course), just as film-makers decide, based on their intentions and the market, what form the script will take and what conventions will be used to represent character and action.'

Styles and structures may draw together a particular interpretation of significant events. Labov (2003) has argued that narratives have structures, formal properties such as an abstract, orientation, sequence of events, significance and meaning of the action and attitude of the narrator, resolution and coda (a concluding part). Whilst Labov’s model may be criticised for omitting the relationship between teller and

listener (and we have addressed this above), we found this useful when faced with repeated story lines across a range of participants.

These narratives reveal indexical recollections of FMD (references to concrete events in time and place), so that the stories themselves may be framed by local and cultural understandings of these events. They also have common elements such as first memories of the foot and mouth outbreak (beginnings); the disruption of *normal* routines, which for many study participants led to feelings of discord – everyday rhythms becoming disharmonious; in turn fostering a sense of separation, disjuncture - feelings of being disconnected and finally in some cases distress arising from an overwhelming sense of loss, hopelessness and despair. As we illustrate with Barbara's story below and the extracts that appear in the next section ('a collective telling), taken from other participants' narratives, these common elements provide the framework for the telling of a shared narrative genre of FMD. They capture not only the common plot but also individual perceptions of actions and outcomes. As discussed above we also recognise that the telling has been shaped by the dialogical positioning of story teller and story listener (Lucius-Hoene and Depperman 2000).

In February 2002 we recorded an interview with Barbara in which she spoke of her family and working life in Cumbria and her experiences of living through the FMD epidemic. Unusually the interview took place in the interviewer's home ('easier for me as it's on my way home and I'm out later on so I'll just come to yours' [Barbara]) and both had met previously at the introductory group meeting. In response to the question: 'Tell me a bit about your background', Barbara replied:

BACKGROUND

> *Well I'm married to Martin and I have three children, Craig who's 15, Simon who's 10 and Kate who's 8. [. . .] Well I grew up at X; I actually lived at the same farm. I came from the hospital to that farm and that's where I stayed until I got married, so very [EMPHASIS] settled, very settled background. My parents were very loving parents, and I have an older sister and I have a younger brother. My sister, she's married, she lives in Canada, and my brother*

> *he's a farmer. [My parents], been farmers all their lives. My father, he's from a farming background, and my mother, well they were farmers in a small way, but she actually was a secretary for solicitor. When she left school she went into that line. [My grandparents] they were farmers. Just a few miles away, in [EMPHASIS] Cumbria, we're are all sort of Cumbrian bred. My husband, he was born in Edinburgh, he's travelled a lot in his childhood, and he had quite an unsettled childhood….. I said, well as soon as Kate starts school then I'll get a job. I looked into the animal health side, and then I got a job in the animal health sales. [. . .] And I really enjoy my work, as in I'm meeting farmers, I'm meeting people I can talk to.*

The following are also extracts from Barbara's interview. As discussed above, we acknowledge that we are naming the parts or to use Labov's (2003) meaning, properties in order to provide the framework for the telling of a shared narrative genre of FMD.

Barbara's narrative

Beginnings

> *My first memories, well we heard obviously when it broke out in the abattoirs in Essex. It could have been in France, it's a long, long, way away….[. . .] And so it was the talk of everybody that came in [to the shop] , and the fear [EMPHASIS] within people, you know, it's too near, X is there, and it was a funny sort of atmosphere. [. . .]*

Disruption

> *My job it went to 3 days a week. And of course my husband, he couldn't go on any farms to do any of his fencing. He was stopped and he'd gone to my parents and he put down a piece of carpet and he put a bit of disinfectant, shut the [farm] gates….[. . .]. Well my parents, they can't really manage by themselves, I said, we can't come Mam, I'm not coming, and she says, oh but I can't manage you must, you know, I need somebody and what are we going to do, so I said, well my older son Craig,, he can bring some silage bales with the tractor down through the yard for her. So he went on a Wednesday night in the middle of the week, and he filled the feeders and he made sure that she had enough hay and straw and everything*

down. So it was all we could give to them until the weekend, and then on the weekend we use to pressure wash the car, disinfected the car all over, we use to go up, disinfect again, stay over night, Saturday night, and be there for her to help her at the weekend.

Discord

[My Mam] she was a child in the Second World War. And she said, it's like we're at war but we can't see the enemy, you know, we're all fighting something. You know, when you've got somebody coming at you with a gun and you can shoot, them but you don't know where its sitting, you can't see it, and you were fighting something you couldn't see. As I say, it was just conversations going on all the time, and it obviously went to the children, you know, they were talking to me all the time at home. People were coming in, and they were coming into work, and you saw such strained faces, and they would say I've come to pick things up for so and so. They'd barricaded themselves in, they weren't coming out and everything was taken.

Disjuncture

[. . .] as I say, it was isolation. She used to phone as well. And I mean I was terrified after that, I mean I was in contact with farmers all day, and really frightened of bringing it, and then of course there was the day when we had it. She [HER MOTHER] phoned me at work [PAUSE] in the morning. I use to say to her, phone me at half ten and let me know you've been round stock, you've been round the sheep, and let me know if everything is alright. [. . .] this was after my brother [PAUSE] they got foot and mouth…[. . .]

Distress

[. . .]and then the night before [the cull], we were feeding them [the lambs].....[. . .] and here's my little girl, in the pen, pushing underneath, you know, and I says, Kate what are you doing [EMPHASIS] there, come on out, and she says, oh I'm just getting it a good belly full of milk mum so that it's strong in the wagon tomorrow [VERY UPSET HERE]. You know, it's so hard I went early in the morning and I just tried to, you know, pens were all there, they'd been put up the night before, new

born lambs, and I filled a pen in the barn, a biggish one, where we were going to stall the lambs. [. . .] This was me [EMPHASIS] and my mum, and Craig my oldest son [PAUSE] he's here too, and me mother in law is come and she's taken the others to school. [. . .] by this time the wagons had arrived [PAUSE] and when you're trying to bring them through a gate, the mothers… it's only instinct, the mothers, they're coming back looking for their lambs. They're trying to pair up, and they couldn't get them all in, we couldn't get them through the gate. They were all scraping back on us and I was getting so mad and upset and I just wanted them all in and done, let the wagons come in [PAUSE] and next thing I knew like the wagon was backed up right through this alley way. I mean I hadn't told [EMPHASIS] him to wait at the gate but he backed right up to the barn and they were loading the first one [PAUSE] and they were so [EMPHASIS] good, there were two men in each wagon and they were so gentle so considerate, did what we wanted. I mean they were working hard, they really were. Big burly men and I thought God all you've got to deal with is two crying women and a teenage boy. The sheep were there and they were all looking, they knew there was something [very upset] we'd let them down [said through tears]. There was not a thing we could do. [. . .] and my dad had come out and I says, oh dad [pause] and he went away, he turned and went back to the house and then my son said, I'm going to see granddad, he says, I'm just worried about granddad so he went and he sat and he held my father while he cried, and then my father, he went out to the wagon that was ready loaded on the road and he talked to them.

Barbara's 18months of diary keeping captures ongoing 'recovery' as these extracts illustrate:

February 2002

Martin [husband] and I had filled in our first claim to the Rural Recovery Fund and I phoned them to check about estimates. The lady said it was fine and to go ahead and buy a low loading trailer. This gave me a good feeling that at last Martin was receiving some help, and a boost for his business that we were frightened would go under last spring due to all his work stopped because of foot and mouth.

April 2002 – Easter Monday

We went to the farm in the morning as Mam and Dad wanted me to get the lambing sheds ready. The children helped, although Simon was a bit reluctant when I said there had been evidence of rats! We cleaned the floor as best we could, as it is an earth floor. I would like them to cement it, but it would cost a lot. Martin is worried that the 3 bullocks entered for the sale at Longtown could not go now as Mam and Dad had some calves, and this meant a movement restriction of 21 days.

COLLECTIVE TELLING – A COMMUNITY OF FMD STORY TELLING

Barbara tells her story (above) framed by her lifesketch. It is a representation of events, actions, experiences, her interpretation, her sense making of extraordinary events. It's a 'pulling together of the parts' (Ricoeur 1991: 31) – the 'discordant concordance.' Gubrium & Holstein (1998), Barbara's 'narrative practice' (Gubrium & Holstein 1998). Each of our 54 participants draws on an individual lifesketch, often as a way of trying to make personal sense out of the chaos and trauma that signified living with FMD. Barbara illustrates this from the position of belonging to a Cumbrian livestock farming family trying to 'bear' the culling of healthy sheep, 'there was not a thing we could do'; another participant who had to close her caravan and fishing lake site, aligns herself to the lifesketch of running a small rural business: 'it happened to so many of us, businesses like us just closed' {small business person – interview}). There is also a common sense 'pulling together of the parts', a common FMD plot and content that runs across many participants' narratives:

Beginnings

out of control…

(Livestock Haulier - interview)

Yes, total and absolute [emphasis] confusion. I don't think even [emphasis] the farmers knew what they were doing. I don't think the ministry [emphasis] knew what they were doing

(Vicar - interview)

Disruption

I had to lay off staff

*(*Outdoor Equipment, shop owner - interview)

*We had to close the business here (*camping and caravan*) and live off the shop (*fishing*)*

(Small business owner - interview)

Discord

What little socialising time was available was marred by being a 'DEFRA man', living within a community that felt 'very, very angry towards DEFRA'.

(DEFRA worker - interview)

Disjuncture

You know, you were coming home and if it were that late, you were just coming home, stripping off, walking through, having a shower. Half the time you didn't have anything to eat because you just went to bed, you didn't really want nowt to eat.

*(*Council worker – seconded to livestock disposal work - interview)

Distress

. . .just a case of tunnel vision, [. . .], just get on with it, try and stop so many people going through the trauma that we've seen others going through. Just trying to achieve [EMPHASIS] *something* [LONG PAUSE].

*(*Agricultural worker seconded to livestock disposal work - interview)

Endings

March 2002

I decided to sort out all the paperwork and guidelines we had received from DEFRA over the past twelve months – it was quite a pile!! It was interesting looking back and very sad, it makes you realise just how deep the feelings went and although it sounds silly it's surprising how quickly those feelings can return over the smallest things.

(Veterinary Practice Manager – diary entry*)*

August 2002

> *Just over a week ago, Robbie and I were busy getting our garden ready for the Village in Bloom. It was good to see everyone making an effort to everything looking nice. Everything felt a bit more normal this year, whereas last year I think the Village in Bloom was the last thing on most people's minds! It made me feel more confident about the future! Perhaps everything or most things may return to normal eventually!*
>
> (Community resident living near animal carcass mass burial site – diary entry)

Story lines recurrent amongst a range of participants' contributions can shed light on the 'inter-relationships between collective and individual experience and behaviour' (Ferdman 1990:185, *cited in* Richmond 2002). Garaway (1996, *cited in* Richmond 2002) suggests that narratives which have common elements can make cross case comparisons, which in turn may strengthen the 'legitmacy of emergent analytical themes'. Our next section explores how a collective telling spills into use of 'shared codes' and a significant language.

5. HOW IT'S BEING TOLD - THE CONTEXT OF TELLING

Mindful that 'coherence' is essentially reflexive (Mishler 1999, *cited in* Richmond 2002), that storytelling is *ongoing composition* (Holstein & Gubrium 2000, cited in Smith and Sparkes 2002: 144) and that storytellers can 'choose' multiple positions, as too can listeners (Lucius-Hoene Depperman 2000), panel members in our study seem to share a similar FMD story plot, temporally, spatially and socially. How this story is told, its context, seems equally shared in that there is use of significant language that has specific meaning to the 2001 FMD epidemic. Outside of this context, such language is not so 'emotionally charged'. For example there was much talk about 'clean/dirty' and of feeling 'dirty'. Csordas (1991, cited in Sideris, 2003:722) argues that the body operates as an experiential base of biology and culture, thus in trauma victims, the 'physical reality' of dirt cannot be separated from the emotional impact of the trauma. For many study respondents, the sense of 'being dirty' stayed with them long after the muck was washed from their clothes:

> *You felt like lepers, you were shut off, you felt as though people didn't want to associate with you, not because of you personally but because they knew of the consequences... we didn't go out we didn't go anywhere.*
> (DEFRA Field Officer, interview)

> *As the week went on, erm, they were sort of saying we had a choice to go dirty or stay clean. 'Dirty', that would have meant going out to farms and help with slaughter, 'clean' didn't.*
> (DEFRA Field Officer, interview)

Across participants' narratives there are also significant narrative formats. For example 'war analogy' is both explicit, as with Barbara's mother above, (*'it's like we're at war but we can't see the enemy*') but also implicit, with common talk of 'pulling together'; 'the killing fields' and 'rallying round'. The FMD virus, so deadly and yet so invisible and intangible was personified:

Foot and mouth was just like a demon
(Farmer, interview summer 2003)

At times there were almost totemic linkages (after Martin, 2000) - for example, 'Snowie's', haulage contractors who became synonymous with transportation of animal carcasses, became totemic of death (in the early focus group meetings a visitation by Snowie was described in terms tantamount to a visitation by the angel of death) and 'Page Street' (Headquarters of government agency charged with handling the epidemic) became totemic of bureaucratic incompetence and centralised governance:

'Snowie's'

Just once
Can I look out of the window
And not see Snowie wagons?
(Haiku by primary school child*)*

'Death'

The first few times you saw them the hairs on your neck used to stand on end, and you knew what they had on board, what they were doing or they were on their way back for another load
Farmer focus group transcript

On the M6 you either run the other way or the hairs were standing on the back of your neck because…
Farmer focus group transcript

They were always clean…spotless they were… always clean
Conversation between two farmers, focus group transcript

'Page Street'

HQ of Ministry – Defra) – became synonymous with mishandled, incompetent, centralised 'disease control' that ignored local expertise and knowledge.

'Governance'

It's an abyss into which things go and never come out
DEFRA Field Officer, focus group meeting

…and this Page Street in London hadn't a bloody clue like, they just hadn't a clue like. The rules, they were just makin' up as they went a long like, and they'd no idea like.
Farmer, interview transcript

FMD narratives need to be understood in the context of shared experiences that are woven into everyday social relations and lifescapes. As Bearman & Stovel (2000:74) indicate, 'individuals tend to be embedded in relatively dense clusters of social relations in which the values that they hold and their sense of self are shared by and shaped by others with whom they interact'. Thus shared FMD language may be used

as a 'code' or shorthand, that when understood 'opens up' substantive or contextual institutional and cultural conditions that have shaped the experience and 'lived reality' of the storyteller. This *is* narrative practice, an illustration of the play and complexity of narrative; the dynamics of the interaction between what is told (content) how the story is told (context) and why it is told. Our study participants' FMD narratives may be an attempt to find meaning, to organise and make sense of extraordinary and for many, traumatic events. Shared language such as that described here, perhaps only makes sense to those who have also shared the experiences, experiences that such language attempts to *re*present. As one panel member comments:

> *Er, but it's one of these things that nobody can understand what we have been through unless they have been through it with them…*
> (DEFRA Field Officer, interview)

6. INDEXICAL RECOLLECTIONS OF FMD

This collective telling, the shared recollections of the FMD epidemic (disruption, discord, disjuncture, distress) are also specific to time and place and to local cultural understandings of such events. As such, participants' narratives have resonance with community responses to other traumas. Sideris (2003) stresses the importance of connections between the individual and the social, and between local specificities and broader social structures in framing individual responses to trauma (in the context of the experiences of war survivors), and the work of Erikson (1994: 231-233) in particular highlights how disastrous events such as FMD may simultaneously 'act as a blow to the basic tissues of social life that damages the bonds attaching people together' which may also create community, as 'shared trauma can serve as a source of communality in the same way that common language and common cultural backgrounds can' .Extraordinary events thus became anchored in and interconnected to everyday places in people's lives and FMD became 'a disease of the community' (Nerlich, 2003, in preparation).

Recent work by Wilson (2003) has examined the importance of exploring non-physical dimensions of 'environments', in particular those that do not exist solely 'on the ground' but are embedded within the belief and value systems of different cultural

groups, placing emphasis on the social and spiritual aspects of place. By speaking of place, we share the view of Sizoo (1997), who argues for a more dynamic conception of place, moving away from the static notion that place simply equates with community. As Doreen Massey (1994) states, rather than thinking of places as areas with boundaries around them, they can be imagined as articulated moments in networks of social relations and understandings.

For many panel members in our study, it was place in this broader context of 'taken-for-granted' spaces, relationships and knowledges, which became disrupted and displaced by the 2001 FMD epidemic, for example, the farm becoming a slaughter site on a massive scale, leaving cow byres '*spookily silent'*; and the daily trip to work becoming a journey through '*killing fields'* with heaps of rotting livestock carcasses instead of lively, young livestock. As one member recollected:

> *I was going past* [familiar] *places and there'd be wagons there and men in the white suits…*

(School teacher, interview)

One farmer describes listening to his stock being shot whilst drinking tea with his vet and field Officer:

> *I come back into the yard, did a few jobs and by then they had started shooting. And if you think it doesn't bother you it doesn't half make you cringe when the guns start going off…the Ministry vet, the main field officer, myself and Isobel we went and sat out there having a cup of tea, a nice sunny day and by then it was pissing down nicely…*

(Farmer, interview)

As Bender (2001) indicates, boundaries between persons and things are osmotic and creative of one another, people, places and spaces are intimately linked, so that even when change occurs rapidly, people are always in some relationship to their 'environment' – they are never nowhere: 'Every movement between here and there bears with it a movement within here and within there' (Minh-ha, 1994: 15). Within this

study, narrative analysis has fore grounded situated, individual and collective stories of the impact of the FMD epidemic on participants' lives.

Within any shared story there is of course diversity, each distinct interpretation of shared events, different 'sense making' for each participant. Below we reflect on how participants' narratives also revealed diverse local and cultural understanding of the epidemic.

Different 'takes'

We have explored how individual narratives may draw together diverse events into coherent wholes that centre on shared experience such as living through the 2001 FMD epidemic. But there are other 'coherent wholes', other discourses. As Nerlich *et al.* (2003, in preparation) highlight, the FMD epidemic exposed many existing tensions, dualities (rural/urban; farming/non-farming; vegetarian/meat-eater) and stereotypes of 'different' communities, as well as creating new ones (such as rifts between farmers who were culled and received compensation and those who were not; farm related tourism and non-farm related rural tourism; rural and urban dwellers). Nerlich et al's (2003, in preparation) study examined how children discussed FMD, farming practices and stereotypes of town and country on the internet (focusing particularly on one BBC message board - CBBC Newsround website). They relate how children from farming backgrounds felt misunderstood by children from towns who had not lived through the FMD crisis and who, in their view, had 'no clue' about what it is like to live on a farm. Our own study revealed existing tensions:

> *Towns' folk just don't understand it…they understand with dogs and cats but they don't see cows, sheep, well not so much sheep but definitely cows, as an extension of that….*

(DEFRA Field Officer, interview)

As well as those created by the handling of the FMD epidemic:

> *Ah, he's all right but he, I don't know, if you, well if you went and asked somebody that's still got their stock and went, and went and asked somebody that haven't got*

> *their stock eh, the government 's paid a fortune to them that's lost everything for cleaning out and all this, and the ones 'as kept, like managed to keep their stock couldn't even give like free disinfectant.*

(Slaughterman , now farming, interview)

For some participants, part of 'making sense', telling their FMD story, also captured an 'aftermath' where old 'settled' relations are perceived to have shifted into unsettling terrain:

> *The village has changed quite a lot over the last few months since it was culled in the summer. Some re-stocking of sheep on a small scale but the heart has gone out of some of the village with farmers retiring and changing occupation. Not much sign or noise (good and bad) from farming now. For the first time in thirty odd years I begin to feel a little out of place in the country and also that a slight barrier has gone up between locals and off comers.*

(Photographer – interview)

For others, part of this unsettling may relate to different degrees of 'felt' trauma:

> *I am writing this diary with truth. The foot and mouth did not traumatise me in any way. I adapted to any restrictions. Mainly my pleasures were disrupted. After the [focus group] meeting at the George Hotel Penrith I felt GUILTY that I was not upset at the time of the outbreak. At the time I felt sorry for the farmer, but no more than for the coalminers, steelworkers, shipbuilders, factory workers etc etc who have all had troubles. You meet it, deal with it and get on with your lives. Life is a drama and I too love and enjoy life.*

(Self-employed man [non-agriculture-related] first diary entry)

Others situated in the 'epicentre' of the disaster recounted feeling hugely supported by a known and *unknown* community:

> *I must say, following on from what everybody else has said, we have received over 100 letters and cards from people. Some from people we didn't know. But I must*

> *say with working at the auction mart we did know a lot of people. Our front doorstep is on the roadside, one of my neighbours rung me up one day and she said there is a queer big box of groceries on your front doorstep. Because I had never been out of the house I didn't know that they were there even. We received all sorts of things that were just left at the doorstep – groceries, flowers, you name it. Without the support of your friends and your family and people that you didn't know – it was overwhelming.*

(Woman farmer & auction mart worker, focus group Jan 2002)

As we have already discussed, accounts of lived events are rarely *re*presentations of 'events as lived', but rather 'events as told'. The telling captures how the narrator perceives, shapes and positions their own and others' identities (Sizoo 1997), albeit not always so *self* –consciously. 'Fitting in' or not 'fitting in'; being understood or misunderstood; enduring the 2001 FMD epidemic in different ways; lessening the trauma for others, or dismissing it, all are different 'takes' and different 'sense making' of shared events. As Gubrium and Holstein (1998: 178) suggest, narrative constituted as a dynamic inter-play between the personal and the conditional illustrates, 'a socially organized, narrative world rich with genuine and practically consequential versions of coherent experience through time.'

7. DISCUSSION AND CONCLUSION

Our study is narrative rich. Through interview, focus group discussion and eighteen months of diary keeping the 54 panel members have recounted everyday life before, during and after the 2001 FMD epidemic. The 'telling' conveys so much more than what happened. Whilst there is a common narrative genre of FMD running across the participants' stories, with shared codes, significant language and indexical recollections of the FMD crisis, the telling is always situated and personally reflective.

We would suggest that narrative analysis opens up a narrative rich world, reminding us that as (Reisman 1993: 218) says, 'individuals construct past events and actions in personal narratives to claim identities and construct lives.' Whilst we have explored a shared narrative genre of FMD, our participants' individual perception, recollections

and interpretations of such an extraordinary happening are contingent upon social, temporal and spatial positioning before, during and after the FMD outbreak. Narratives of FMD trauma and on-going recovery give us 'collective' and 'coherent' accounts which when explored as 'individual' stories can also give us a sense of, 'the institutional and cultural conditions that shape this accomplishment' (Smith & Sparkes 2002: 144).

We are also aware that this study has 'put the spotlight' on lived experiences of the 2001 FMD epidemic, so that fieldworker as audience has also become part of the telling. Indeed narrative analysis captures this performative sense of *composing* seemingly coherent stories. The story is never simply 'out there' waiting to be told. Rather how it is told is always dependent on the circumstances of the telling. Thus the study's narrative genre of FMD plot, content and context of storytelling embodies both personally meaningful accounts of trauma and recovery and the localised, cultural context of experience.

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Papers

Psychosocial effects of the 2001 UK foot and mouth disease epidemic in a rural population: qualitative diary based study

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Abstract

Objectives To understand the health and social consequences of the 2001 foot and mouth disease epidemic for a rural population.
Design Longitudinal qualitative analysis.
Setting North Cumbria, the worst affected area in Britain.
Sample Purposive sample of 54 respondents divided in six demographically balanced rural occupational and population groups.
Main outcome measures 3071 weekly diaries contributed over 18 months; 72 semistructured interviews (with the 54 diarists and 18 others); 12 group discussions with diarists
Results The disease epidemic was a human tragedy, not just an animal one. Respondents' reports showed that life after the foot and mouth disease epidemic was accompanied by distress, feelings of bereavement, fear of a new disaster, loss of trust in authority and systems of control, and the undermining of the value of local knowledge. Distress was experienced across diverse groups well beyond the farming community. Many of these effects continued to feature in the diaries throughout the 18 month period.
Conclusions The use of a rural citizens' panel allowed data capture from a wide spectrum of the rural population and showed that a greater number of workers and residents had traumatic experiences than has previously been reported. Recommendations for future disaster management include joint service reviews of what counts as a disaster, regular NHS and voluntary sector sharing of intelligence, debriefing and peer support for front line workers, increased community involvement in disposal site or disaster management, and wider, more flexible access to regeneration funding and rural health outreach work.

Introduction

The United Kingdom's foot and mouth disease epidemic in 2001 has been described as the most serious ever to occur in a country previously free of the disease[1] and "a traumatic and devastating experience for all those who were affected by it … a national crisis … probably one of the greatest social upheavals since the war."[2] Between 6.5 million and 10 million animals were slaughtered across the UK, and in north Cumbria 893 farms had confirmed infected cases, with a further 1934 having complete or partial culls of livestock, representing 70% of farms.[3 4] Restrictions on public rights of way and advice to stay away from the countryside led to a collapse in tourist numbers and loss of recreational use of the landscape for a year.[5]

In the spring of 2001, the *BMJ* asked how health services were responding to the crisis.[6] Immediate concerns centred on zoonosis,[7] and public health clinicians raised concerns about the use of large pyres and mass burials for animal carcass disposal.[8] Some contributors called for examination of the anxiety, stress, and other mental health consequences which they believed must follow:[9] "at best, major stress and anxiety states; at worst, suicide and its consequences for families. Are these not 'human consequences', and indeed public health matters?"[10] One correspondent reported that the (then) health authority in the worst affected area had been only "peripherally involved," and called for a greater public health role in managing the disaster.[11]

Crucially, because the epidemic was treated as an animal problem, managed by the Ministry of Agriculture, Fisheries, and Food (later Department for Environment, Food, and Rural Affairs, DEFRA), the human tragedy was not accounted for or understood. The epidemic was held to be something affecting farmers, ignoring the large numbers of other occupations and residents drawn into the crisis. For those health practitioners working in the worst affected areas, there was the familiar problem of lack of evidence. Healthcare services in north Cumbria and other severely affected areas did not record any significant increase in demand during the epidemic and subsequent months, which was taken to mean that the health and social effects of the disaster were not significant (although a retrospective study of diabetes service activity has found a possible deterioration of blood glucose control over the duration of the crisis among those affected; final results are awaited[12]).

Yet what counts as evidence in health research goes beyond the pathological and the statistical. In contrast with the NHS experience, voluntary local helplines and rural support groups were besieged with appeals for help: "health" during the crisis was more about survival and practical support than medical interventions. This apparent contradiction called for a qualitative study that could capture evidence about the impact of the disaster and processes of recovery from "on the ground" accounts collected over time.[13]

Methods

Study design

This large qualitative ethnographic study was underpinned by theories of expertise that distinguish between first hand, experiential, informal knowledge and the distal aggregated or formal knowledge.[14 15] While the three official inquiries into the disease outbreak (by Anderson, the European Union, and the Royal

P+ *Details of the study's multi-agency steering group, respondents, and development of the major analytical themes appear on bmj.com*

Table 1 Occupational and residential groups included in the rural citizens' panel, and their study data

Group No	Members	Study data		
		Group discussions	Interviews	Weekly diaries
1	Farmers, farm workers, and their families	2	9	601
2	Small businesses, to include tourism, arts and crafts, retail, and others	2	8	394
3	Related agricultural workers, to include livestock hauliers, agricultural contractors, and auction market staff	2	9	576
4	Front line clean-up workers and managers (from DEFRA or Environment Agency), slaughter teams (temporary, seconded, and permanent staff)	2	7	380
5	Community, such as teachers, clergy, residents near disposal sites	2	9	533
6	Health professionals, such as general practitioners, community nurses, and vets	2	9	587

DEFRA=Department for Environment, Food and Rural Affairs.

Society) had recruited established professional experts, our study recruited "lay experts" whose experiential contribution to knowledge is often overlooked.[16–18]

With the help of a multi-agency steering group (see appendix on bmj.com), we drew up a rural citizens' panel with a demographic and occupational sampling frame. The panel of 54 respondents was purposively sampled from six groupings identified by the steering group as affected in a range of ways in the disease outbreak (see table 1).

We developed detailed group descriptors based on age, sex, location, and occupational subsector, and forwarded these to an independent professional recruiter. Respondents' identities were released to the research team only once we were satisfied that the descriptors had been matched. The primary means of data collection was a diary designed for the purpose, which began with simple questions about health and quality of life followed by a space for free text entries of any length. This latter section became the most frequently and fully used space, with respondents writing between half a page and six pages each week. No explicit questions were asked about the disease outbreak in the diary as it was important for accounts to be led by respondents. A major advantage of diary studies is that they bring the task of data collection into the respondents' everyday world.[19 20] They offer the opportunity to study change over time and provide insight, in a direct manner, into diarists' experiences and how they perceive them.[21]

Initially, six group meetings were held to explain the purpose of the study and obtain respondents' signed consent to participate. Each respondent also gave an in depth interview around this time. Group meetings were reconvened at the close of diary writing, to offer feedback and gain validation of the emerging analysis (table 1).

Participants

The panel of 54 respondents was recruited between October and November 2001 (for details, see table A in appendix on bmj.com), with the first group meeting held in December, before the declaration of virus-free status and lifting of movement restrictions. All first round meetings were highly charged; for example, many of those in group 1 had hardly left their farms or workplaces for nine months, and, though they made many harrowing contributions, they were clearly relieved to meet, talk, and listen to their peers.

Diary writing began in the week of 21 December and continued over the next 18 months, during which time just three respondents chose to discontinue. Periods of "holiday" from diary writing were negotiated, and the total number of weekly diaries collected (at monthly visits to the diarists) was 3071. In recognition of respondents' time and expertise, a small fee was paid on collection of the diaries. Respondents showed strong commitment to the research, generating a unique longitudinal dataset (anonymised) for which we are negotiating consent for a public electronic archive.

Analysis

All interviews and group meetings were transcribed from audiotape; diaries were transcribed from the original (usually hand written) format. After individual researchers had read and annotated the material, all four researchers held eight "data clinics" to identify emerging themes, using a constant comparative approach.[22–24] This entailed examining, comparing, and categorising data until no new categories emerged. Underpinning our analysis of the categories by the theories of knowledge mentioned above, we developed four major analytical themes. We then entered codes, categories, and themes into Atlas Ti software, where the anonymised data are held. Respondent validation of codes and themes was carried out at six subsequent group meetings.

Results

We identified four major analytical themes (altered lifescapes, trauma and recovery, trust in governance, and knowledge and place) (see table B on bmj.com for details of their supporting categories and codes). Table 2 outlines the health and social consequences identified from the data. These medium to long term health and social impacts were neither discrete nor mutually exclusive, and many respondents experienced complex, synergistic interactions of these consequences.

Altered lifescapes represents the cluster of responses that concern the disturbed relation between health and place; the changed significance of everyday places and spaces previously taken for granted in respondents' lives. Such places were radically altered during the disease crisis (see box 1)

Table 2 Process of analysis (medium and long term effects developed from the codes)

Effects	Health consequences	Social consequences
Medium term	Deterioration in chronic conditions and diseases due to disruption in personal routines and access to health services	Loss of amenity and recreation
	Sleep disruption, flashbacks, nightmares, uncontrollable emotion, loss of concentration	Tensions and conflict within communities
	Reported effects of pyres—headaches, respiratory problems, nausea, loss of physical exercise and recreation for a year	Increased social isolation
Longer term	Sharp increase in anxiety across different occupational groups	Communities experiencing permanent changes in land use
	Loss of confidence leading to longer term stress	Loss of confidence in ability of organisations to control crises
	Ongoing health fears of residents living near carcass disposal sites	Loss of trust in governance and decision making bodies
	Increased number of injuries relating to handling new livestock	Uncertainty, confusion, and lack of continuity in public life
	Workplace health: risks and hazards (short term) plus change and uncertainty (longer term) leading to increased number of injuries	Bitterness (collective and individual) linked to lack of resolution of pain and suffering Increased sense of fragility in employment

Box 1: Altered lifescapes

"The silence, no it gets sad sometimes when you're in here … To be in here for a whole year, every day to see nobody … You begin to hate the place, you being to hate the thing you love"—Craftsman, small business, January 2002

"The self imposed isolation of not sending kids to school etc … to go against the flow is very difficult … They were not allowed to leave the house for three months. They just viewed this as a punishment imposed because they refused to let their hefted flock be culled"—Vet, March 2002

"They [schoolchildren] didn't like their farms, they didn't like their homes … they'd say things like, 'It's spooky, there's no noise'"—Primary schoolteacher, February 2002

"There was no normality eh, normality had gone"—Farm worker hired as slaughterman, February 2002

Trauma and recovery groups the large body of data referring to distress, anguish, horror, and re-traumatisation but also endurance and sources of support articulated by respondents. Our definition of trauma within this context encompasses both the events and how those events were experienced by individuals and communities. Trauma is associated with the inability to fight or flee—that is, being trapped in the stressful environment and unable to take control over one's place relative to events (box 2).

Trust in governance reflects the data relating to chaos, loss of personal security, and powerlessness in the face of conflicting advice (box 3).

Knowledge and place covers the body of material concerning a "gap" between different kinds of knowledge—proximal knowledge derived from local experience and centralised or distal knowledge. For example, organisational directives were perceived to be stripped of context, unable to adapt to what was happening "on the ground" and unable to mobilise stocks of local expertise. This theme also includes disruption and loss of participation in important life events such as funerals or births (box 4).

Box 2: Trauma and recovery

"Taking my daughter and her friend home [from a show in Carlisle]. It was the same evening that her father's pedigree sheep were being taken to the voluntary cull. By mistake, I took them through a closed road, the sign having fallen down to the side of the grass. In the dark we went past a burning pyre only yards from the hedge separating the road and the field. We could see the charred, rigid bodies of the cows and the sparks from the fire and the smell permeating the air and the silence of the two young girls"—Community nurse, June 2003

"I was coming home very late at night, and I didn't want to talk to anybody … I was just ignoring [my boyfriend] I wouldn't talk to him. I wouldn't phone my parents, I wouldn't phone any of my friends. … I just wanted nothing to do with anybody"—Government agency field officer, February 2002

"I'll never be able to look at a cow or a sheep again without seeing blood pouring out of the hole in its head, … maybe I will in time. … I walked, walking along the pier one night … I did actually think about jumping in … I felt so bad about myself"—Seconded government agency field officer, February 2002

"It's a year since I went away killing. I feel a bit funny with myself today. It was our wedding anniversary on the 10th, but this sticks in my mind more"—Farm worker hired as slaughterman, March 2002

"Anything we do this weekend will be better than last year. A couple of sleepless nights as the memories come back"—Auction mart worker and farmer, April 2002

A year later (2003) she wrote: "Don't look forward to this week in the end of April. 27-28th April 2001 has awful memories"—April 2003

Box 3: Trust in governance

"What is being tested for in the surrounding streams? What exactly is classed as a danger? And if problems did arise, how would they be monitored and resolved? All these issues do tend to make you anxious"—Resident near disposal site, March 2002

"The week we lost all our animals to foot and mouth was the longest week ever. On the fourth day they came for some [dead stock] … The driver they sent hadn't been on a machine like that for 9 years. He didn't come back. The next day they didn't come until late afternoon. There was no driver for the telescope handler. … We didn't see anyone for 2 days. I kept phoning to see what was happening. They kept saying there were no lorries. The army liaison officer kept coming out to see us. We were bothered about our next door neighbours, because they could see the [dead] cows beside the wall, they looked out onto them. The wall was cracking with the weight of the cows. On the 7th day they came"—Farmer, April 2002

Discussion

The study shows that life after the foot and mouth disease epidemic has been accompanied by distress, feelings of bereavement, fear of a new disaster, loss of trust in authority and systems of control, and by the undermining of the value of local knowledge. Diary accounts show how reactions among those caught up in the epidemic were exacerbated by diverse factors—influence of location on business recovery, the burden of dealing with new regulations that demanded cultural change, fear of the epidemic returning, and the stress of living with uncertainty. But suffering was also alleviated by the sources of strength such as support networks (formal and informal) drawn on to cope with both traumatic experience and severe practical difficulties. This ambiguity is supported by other studies of disasters in sociology[25 26] and psychology,[27 28] and implies that statutory and voluntary organisations have a more complex and enduring role after a disaster than has been understood. People who have experienced a disaster may not be sick as a result, but they need careful and appropriate support to rebuild lives and regain confidence (box 5).

Box 4: Knowledge and place

"We thought as a practice it might be nice to contact the farms and offer our support, so we did that … One of our nurses is very very closely connected with the farming community, speaks their language, and so she had the job every morning of looking at the list and phoning people … How far did the ripples go, and, and where did they go? Er, I mean a few years' time, I mean you won't remember why we changed those Tuesday surgeries probably … you just did things"—General practice manager, March 2002

"G's 1st birthday … Feel very glad I bought the video camera because, after the last year on [foot and mouth disease], I feel as if I've missed out on him growing in his first year of life, which makes me feel sad"—Livestock professional, April 2002

"Knowledge is passed down generations, it's not learned by somebody coming from nowhere into an office and reading a textbook"—Agricultural related business, June 2003

Box 5: Hidden effects

"No [nursing] visit to a house during that period was simple. Emotions were near the surface and every day brought fresh news and concerns. I'm sure that if an audit of the medical and nursing registers were undertaken for that period, there would be little evidence of any increased formal counselling. This wasn't because it didn't happen, but because it became the norm. But what happened to all that stress and tension? Some people may have resolved their experiences, but I feel, for the majority, it was put on to the back burner and gradually buried in the day to day realities of living. This does not mean that it's gone . . . Stress can also be detrimental to physical health, and it plays a large contributing part in many conditions. Yet the effect of the stress of that period will remain undocumented and unappreciated as it will be hard to allocate blame to one specific time frame"—Community nurse, contribution to feedback conference October 2003

A defining feature of the foot and mouth disease epidemic was its long duration. Many respondents were exposed to repeated traumatic experience, such as slaughter or cleaning up after culls, for longer than in many other disasters. In north Cumbria the "event" lasted 12 months, to be followed, as in other affected rural areas, by distressing anniversaries ever since. The figure shows an example of how we "mapped" a respondent's reports of health and quality of life with his free text accounts of everyday events over the 18 months that he kept a diary (movement restrictions still in place during weeks 1-5).

Conclusions

The distress caused by the epidemic shapes the context in which many rural health practitioners in the UK now work. Distress is not a medical problem, however, unless it becomes pathological, when it is re-categorised as depression or post-traumatic stress disorder. If it is treated it is counted. Otherwise those who are suffering are expected to recover using their own resources and networks.[29] Our results imply recommendations for change mostly in attitude and emphasis, rather than the creation of new bodies or yet more specific targets and protocols.

What is already known on this topic

The 2001 foot and mouth disease epidemic caused widespread disruption and closure of much of the British countryside for more than a year

Government sponsored inquiries concentrated on agricultural and organisational issues; academic studies on economic or rural policy issues. Little is known about the human cost of the disaster

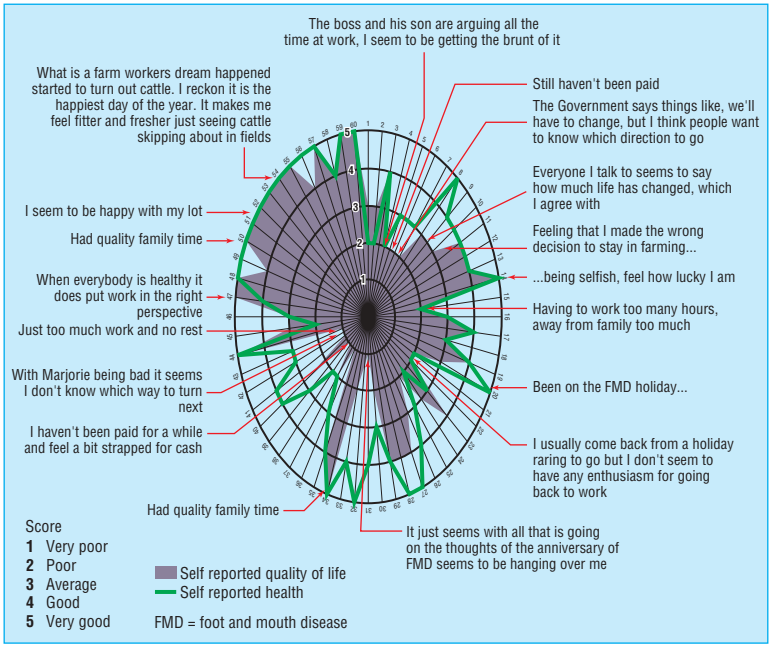
What this study adds

The epidemic was a human tragedy, not just an animal one

Longitudinal ethnographic study shows the profound psychosocial effects of the disaster among a wide range of rural workers and residents that would not be revealed by more traditional biomedical or health research methods

After such a disaster, the responses required of health and social care services are more complex and enduring than the initial assessments based on service demand and clinical evidence may suggest

We argue for more flexibility in disaster planning and organisational emergency plans (such as less tightly prescribed steps and invariant sequences in planning), since such plans themselves carry further risks.[30] Not all our study findings translate neatly into recommendations for operational change. However, we urge the authorities and agencies involved in disaster management, care, and recovery to recognise the interrelationship between traumatic experience and agency responses, undertake joint service reviews of what counts as a disaster, facilitate sharing of intelligence between the statutory health and voluntary sectors, introduce opportunities for debriefing and peer support for front line workers, make rural health outreach initiatives eligible for regeneration funding, and increase community involvement in disposal site management.



Example of a respondent's (a farm worker) diary data "mapped" from December 2001 to May 2003

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Death in the wrong place? Emotional geographies of the UK 2001 foot and mouth disease epidemic

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Abstract

In this paper, we draw on the concept of 'lifescape' (Somé and McSweeney, ILEIA Newsletter, ETC Leusden, The Netherlands, 1996; Howorth, Rebuilding the Local Landscape, Ashgate, Aldershot, 1999) to capture the spatial, emotional and ethical dimensions of the relationship between landscape, livestock and farming community and to elucidate the heterogeneity of agricultural emotional landscapes. In so doing, we illustrate complex and contradictory spatial, emotional and ethical relations between humans and non-humans. Farm animals may exist simultaneously as 'friends' and sources of food, leading to a blurring of socially constructed categories such as 'livestock' and 'pet' (Holloway, J. Rural Stud. 17 (2001) 293). Livestock as 'economic machines' for converting roughage to meat, milk and by-products (Briggs and Briggs, Modern Breeds of Livestock, fourth ed., Macmillan Publishing Co. Inc., New York, 1980) represents one strand of these relations; the sight of farmers crying and farm animals being blessed during the 2001 Cumbrian foot and mouth outbreak, yet another. As (Franklin, Anthropology Today 17 (3) (2001) 3) indicates, 'the farmer weeping beside the blazing pyre of dead sheep is a complex portrait of a breach in the relationships between animals and humans'. By drawing on experiences of the 2001 foot and mouth epidemic, for farmers and the wider rural community in North Cumbria, we try to articulate the ambiguities of this breach.

1. Introduction

Images of farmers weeping beside pyres of their culled livestock during the 2001 UK foot and mouth disease (FMD) epidemic raised a number of significant moral and ethical issues regarding the relationship between farmers and livestock (Franklin, 2001). Some writers go as far as to contest that farmers who wept at the slaughter of their stock were 'simply hypocritical' (Smith, 2002). We would argue, however, that the distress displayed reflects severe and often poorly understood disruption to a complex *lifescape*. Anderson (1997, p. 119) in her critique of animal domestication, alludes to this when she speaks of the complexity of relations of domestication where 'animals can be beloved companions or eaten for a meal.' This paper draws on preliminary findings from an ongoing qualitative study of the health and social consequences of the FMD epidemic on farming and non-farming households in rural Cumbria,[1] to explore some of the emotional geographies that underpin livestock–farmer relations[2] and livestock–non-farmer relations. Our study is framed by 'action research', a broad approach that we detail below.

We begin by explaining what we mean by '*lifescape*', (Somé and McSweeney, 1996; Howorth, 1999). This is a concept we use to articulate the complexity of the spatial, emotional and ethical dimensions of the relationship between landscape, livestock, farming and

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[2]We use this as a short-hand term to refer to the relationship between farm livestock and farmers.

rural communities. Secondly, we discuss methodology and elaborate on our broad approach, 'action research'. Thirdly, we draw on data from interview and diary material to consider how 'taken-for-granted' *lifescapes* of livestock farming became disrupted and displaced by the 2001 FMD epidemic. Our study participants speak about the unprecedented scale of livestock killing, including the loss of entire flocks and herds through culling; livestock culling on farms (as opposed to the slaughter of livestock in abattoirs) signifying 'death in the wrong place and at the wrong time'; loss of livestock bloodlines and the difficulties associated with restocking entire flocks in the absence of elder flock members who can pass on *knowledge* of the *heft*[3] and routines of the farm. A concluding discussion suggests that whilst livestock–farming relations may be socially constructed and dynamic, thus engendering particular sets of farming practices at particular times and places, they nevertheless form *lifescapes* of 'taken for granted' social, cultural and economic interactions between humans, livestock and landscapes (what Gray (1998, p. 345) refers to as 'consubstantiality'). Such *lifescapes* are thus shaped by livestock–farmer practices, which in turn shape ways of being in the world. In this context, it becomes clear that a farmer weeping near a burning pyre of livestock during the 2001 foot and mouth epidemic, represents the deep distress caused by a *lifescape* fissured in multiple ways, *a breach in the relationship between animals and humans* (Franklin, 2001, p. 5).

2. Emotional geographies of human–animal relations

Geographers have long been interested in human–animal relations. For many early agricultural geographers, animals were mainly present as economic units or indicators of human 'development' (Yarwood and Evans, 2000). Since the mid-1990s, human geography has been concerned with spatial variations in human–animal relations (Holloway, 2001; Philo and Wolch, 1998); with exploring the ways particular categories like 'livestock', 'domestic', 'nature' and indeed 'human' and 'animal' are socially constructed (Harrison and Burgess, 1994; Whatmore, 1999; see also Quinn, 1993; Shepard, 1996) and thus with relationships between human agency, animal agency and landscape. Philo and Wolch (1998) go so far as to suggest that this emphasis on the socio-spatial place of animals and the coexistence of and social interaction between, humans and animals, reflects a new cultural, 'animal geography' (see also Philo and Wilbert, 2000; Elder et al., 1998; Mullin, 1999).

Wolch and Emel (1998) contend that culturally orientated studies of animal–human relationships highlight complex and contradictory processes of, on the one hand, consumers distancing themselves from animals as food—people eat 'meat' not 'animals'—hence an artificial split between the conceptual and the material—and the central role of animals in the structuring of society and hence to formations of human identities. The ambivalent position of the domesticated farm animal is further emphasised by Philo (1992) and Yarwood and Evans (1998). Yarwood and Evans argue that for some, farm animals are anthropomorphic creatures constructed by the rural heritage industry. To others, they represent an important aspect of local and rural identity, occupying a key position within the geographical imagining of the countryside (see for example, Halfacree, 1995). The sanitisation of livestock animals highlighted by Yarwood and Evans, where animals are clean, healthy and docile and even have pet names, may be contrasted with the violent, industrialised and anonymous death many farm animals encounter in the abattoir (Smith, 2002; Midgley, 1983).

Holloway (2001, p. 294) quoting Wolch and Emel (1998) asserts that whilst animals are traditionally viewed as part of 'nature', 'the frontier between… culture and nature increasingly drifts, animal bodies flank the moving line. It is upon animal bodies that the struggle for naming what is human (is) taking place'.

Holloway offers a culturally informed examination of 'hobby-farming' (small-scale, part-time, food production) wherein there are emotional and ethical entanglements of human–animal relations. Animals may be viewed as friends, pets and as sources of food and as central to forming farming identities through such social practices as attending auction marts. Moreover,

> … the animals were engaged in an ethical relation which involved regarding them as individuals while focusing on, from a human perspective, their well-being, happiness and 'freedom' to express 'natural' behaviour. At the same time, this relation allowed the animals to be used at the convenience of humans for food, and to be subjected to many aspects of conventional agricultural management (Holloway (2001, p. 304))

From within geography, there has then been a focus on the social construction of human–animal relations that is dependent on the 'setting'. However, we would argue that in order to foster a culturally sensitive rural geography, we need to move beyond human–animal dualism to consider locally specific interdependent, fluid and shifting relations that signify *how* and *why* everything within the 'rural' is socially constructed (Murdoch and Pratt, 1993). As we illustrate below, this study made

[3]Hefting is a system where succeeding generations of sheep live on open commons, keeping to their 'own' area or heft. This is achieved partly by winter feeding but also by pressure of flocks on neighbouring hefts. Sheep are brought down to better pasture for lambing and then returned to the fell.

us aware of how the emotional geographies of livestock farming are entangled within human constructions of nature, with human and non-human identities constructed through ideas and practices played out in different contexts at different times and places. Emotional geographies of livestock–farming relations illustrate the complex socio-spatial dynamics of being someone (human) in this world. We were also made aware of how difficult it is to articulate these relations. We draw on the concept of *lifescapes* in an attempt to do this.

2.1. Lifescapes

It is believed that the concept of *lifescapes* was introduced by Nazarea (1995, 1999), an anthropologist working in the Philippines, and later developed by Somé and McSweeney (1996) as a way of framing the social, cultural and economic interactions that occur for people across the landscape. Subsequent work by Howorth (1999); Howorth and O'Keefe (1999) and Convery (2004) has highlighted the dynamic nature of *lifescapes* in creating *places* that offer livelihoods for the community.[4] Likewise Ingold (1992, p. 49) argues that in the process of production people create their environments; in the sense that the environment is the embodiment of past activity and it is continually evolving, it is a 'work in progress'. The environment enters actively into the constitution of persons; there is a mutually constitutive interrelationship between persons and environment, production is a becoming of the environment. The relationship between people, place and production system is thus complex and multiscalar. As Bender (2001) indicates, boundaries between persons and things are osmotic and creative of one another, people, places and spaces are intimately linked.

Wilson (2003) has also examined the importance of exploring non-physical dimensions of *place*, in particular those that do not exist solely on the ground, but are embedded within the belief and value systems of different cultural groups, placing emphasis on the social and spiritual aspects of place. From within our study, *lifescapes* articulates the spatial, emotional and ethical dimensions of the relationship between landscape, livestock and farming community and elucidates the heterogeneity of agricultural emotional landscapes. We draw on data from interview and diary material to illustrate how 'taken-for-granted' *lifescapes* of livestock farming and more generally, livestock–non-farming, were hugely disrupted and displaced by the 2001 foot and mouth crisis. Before doing this, however, we first discuss the background to the study and the study methodology.

[4]Theoretically, *lifescapes* has resonance in the lifeworld phenomenology of Schütz (1940) and in the *phenomenology of perception* discussed by Merleau-Ponty (1960). In geography, the *lifeworld* (Buttimer, 1976 and later Seamon, 1979) has been used as means of drawing together the phenomenological with the existential to bring new meaning to emerging concepts of humanistic geography (Daniels, 1994).

3. Background to the study: an 'action research approach'

Our 2-year study was designed to capture the experiences of rural communities of the 2001 FMD epidemic and also to trace the process of recovery during 2002. Underpinning the 2001 FMD crisis and during the last decade, the UK agricultural sector suffered significant problems (Franks, 2002; Lowe et al., 2001; Report of the Policy Commission on the Future of Farming and Food, 2002; The Royal Society, 2002; MAFF, 1999). As the Royal Society Inquiry into infectious diseases in livestock states (2002, p. 9), from the mid-1990s, 'much of the profitability has drained from the industry'. Contributory factors have been the strong pound, an excessive supply of sheep and the Bovine Spongiform Encephalopathy (BSE) beef market crisis. Further public health scares such as *E. coli* 0157 have undermined public confidence in large-scale food production. Rural economies were thus under pressure before the onset of FMD so that by the time of the epidemic, farm incomes were 'on the floor' (Report of the Policy Commission on the Future of Farming and Food, 2002, p. 13).

Within Cumbria, the FMD 2001 outbreak has damaged livestock farming as well as other (non-farming) rural businesses (Franks et al., 2003; CRE, 2001). This was particularly so in the more remote, upland parts of the county characterised by the lower income, small hill farming sector, strongly linked with tourism in areas of outstanding beauty (Bennett et al., 2002). Indeed the synergy between farming and tourism, for example farm accommodation and catering, compounded the problem. The virtual closure of the countryside for almost a year meant anxiety and hardship for those involved in tourism (including farms offering accommodation) whilst village shops and pubs upon which rural communities rely all year round and which are themselves reliant on seasonal trade for their survival, also suffered (Cumbria Foot and Mouth Disease Inquiry, 2002). This had in part led to a loss of self-esteem, an increasing sense of isolation among livestock farmers and called into question 'a whole way of life' and social identity.

Against this background we designed an action research (AR) project, a framework from within which a range of methodologies were used (we have written in detail of this study's methodology elsewhere, see Mort et al., 2004). In AR, research is carried out with 'participants', research *with* people and communities, rather than on them. Collaboration between researchers

and practitioners is central to action research. Reason and Bradbury (2001, p. 1) in their 'Handbook of Action Research' define it thus:

> … a participatory, democratic process concerned with developing practical knowing in the pursuit of worthwhile human purposes.... It seeks to bring together action, and reflection, theory and practice, in participation with others, in the pursuit of practical solutions to issues of pressing concern to people.

AR thus emphasises '*practical knowing*' and '*practical solutions*' to issues, often raised by participants (see Winter, 2001; Winter and Munn-Giddings, 2001; Melrose, 2001). Broadly, our research sought out the '*practical knowing*' of the human health and social consequences of the 2001 foot and mouth epidemic, for a group of people living and working in rural Cumbria. A standing panel of 54 citizens, who were affected in different ways by the epidemic, were selected by an independent, professional recruiter. Selection criteria were framed by a demographic profile that was agreed by the project steering group.[5] As a participatory method, the use of standing panels and citizens juries, are well-known in health and multi-agency groups (see for example, Coote and Lenaghan, 1997; Kashefi and Mort, 2000; Wortley, 1996). The panel includes farmers and their families, workers in related agricultural occupations, those in small businesses including tourism, rural accommodation and rural business, health professionals, veterinary practitioners, voluntary organisations and residents living near disposal sites. Intricate webs of social and economic relations mean that most members have familial, friendship and/or community ties to livestock farming.

Initially, individual, in-depth interviews were carried out and panel members participated in group discussions. Participants were asked to write weekly diaries for a period of 18 months and regular contact has been maintained through monthly visits by the research team to collect diaries. The ongoing diaries highlight the continued resonance and effects of the crisis.[6]

Seeking and implementing '*practical solutions*' to issues identified through the research process is very much part of AR. For example, despite the extraordinary stress that people living in rural communities had to endure during the epidemic (as our findings illustrate below), there was not an increased demand for formal health care services. However, participants told both of seeking informal support (through contacting telephone 'stress help' lines and telephoning friends) and of '*covertly*' raising issues to do with stress during unrelated GP or health care practitioner consultations. There were expressions of reluctance to seek help directly through GP services. Working closely with local mental health services and ensuring strict confidentiality, we thus set up direct access to counselling services for participants.

More generally and through a multi-agency steering group, we are able to provide regular feedback to policy makers and service providers about problems, needs and the recovery process. The research team and participants have also held an interim findings conference to feedback our '*practical knowing*' of the epidemic so that '*practical solutions*' to issues raised can be found. We do not have scope here to think though the policy implications of AR, but it is worth noting the recent debates from within geography about the lack of policy relevance of much geographical research (see for example Martin, 2001; Dorling and Shaw, 2002). AR may provide a methodological approach to geographical research that could help make the discipline more policy relevant.

Our next section draws on our use of *lifescapes* to unpack some of the impacts that the 2001 foot and mouth epidemic has had on *livestock–farming* and *livestock–non-farming* relations in Cumbria.

3.1. Changing lifescapes

Whilst it would be disingenuous to argue that 'everything in the garden was rosy before FMD' (the pre-FMD *lifescape* undoubtedly contained elements of hardship vis-à-vis the problems of agricultural decline mentioned earlier), it does seem that many study respondents drew identity, self-esteem and well-being from their 'day-to-day' environment. For many study respondents, however, such everyday places changed dramatically during FMD.

> (After FMD) I feel like a second-class citizen. I don't want to get big-headed or owt, but I used to feel that we were on a different planet to everyone else. (Farmer)

Fig. 1 provides a more detailed exploration of the multiscalar impacts of FMD on Carole's *lifescape*. It demonstrates how the immediate effects and residual 'fallout' from FMD impacted on her life, from her relationships with immediate and extended family (her children experienced disturbed sleep and nightmares and her own health deteriorated) through to issues of trust in governance and community identity. Significantly, the everyday place of the farm, a central component of her *lifescape*, became associated with death. The families stock were culled within farm buildings and the 'family

[5]Once agreed, the group profiles were sent to a professional recruiter whose task was to identify individuals to 'fit' the profiles.

[6]All the anonymised diary and interview material has been carefully shifted, compared and discussed in regular 'data clinics', using the constant comparative method (Strauss, 1987). Emerging themes were discussed with respondents during consultative 'feedback' sessions and revised accordingly (feedback sessions were held during June and July 2003).

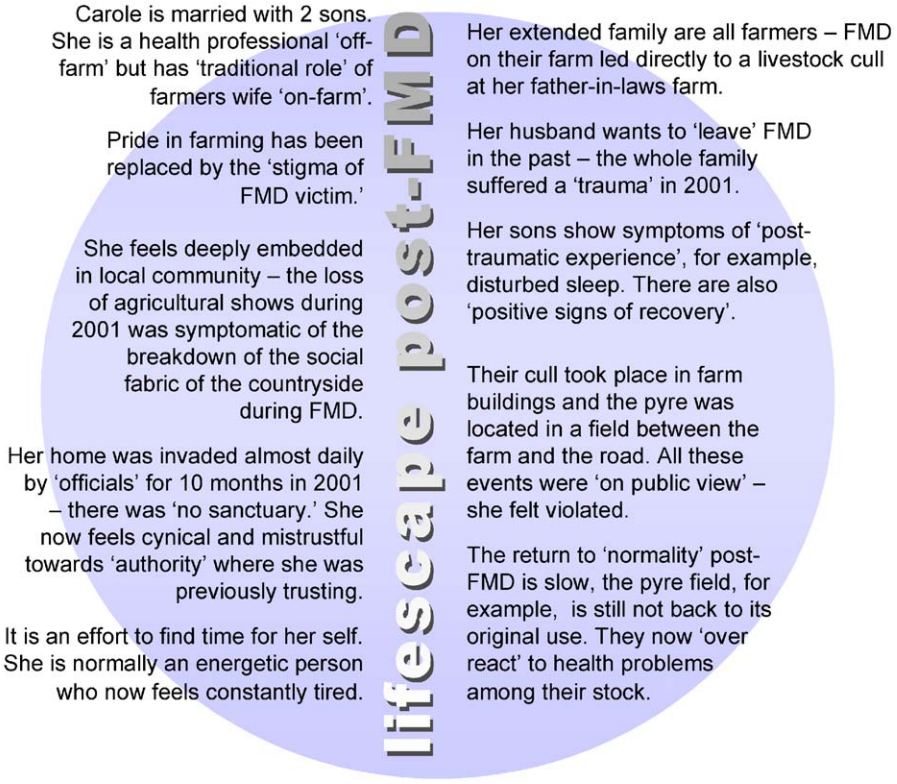

Fig. 1. Carole's *lifescape* post-FMD.

trauma' was on 'public view', as the pyre was situated close to a main road. Carole's post-FMD *lifescape* illustrates fractures across what Ingold (1992) refers to as mutually constitutive interrelationship between people and place. It also demonstrates links between place and well-being (see Gesler, 1993; Williams, 1999). Recent work by Wilson (2003, p. 84) has highlighted the culturally specific interactions between place, identity and health, emphasising the significance of everyday place in people's lives. For Carole, everyday places took on new, threatening meanings. The following quotes (from a teacher and a DEFRA worker) further illustrate how familiar places changed and took on new meaning during FMD:

> On my way to school early in the morning you see a lot of people in tractors and you get to the point where you recognise people, I've been doing it 5 years so I recognise everything, and I was going past places and there'd be wagons there and men in the white suits… I've seen more farmers in tears than children that last year. The worst thing was later when they had killed them all and then had to pick them up… the stench, 'cos when they killed them, then they just left and some of those animals were left ten days before they were picked up. Ten days just to sit and rot. (Teacher)

> I can remember standing at night looking down the valley and it looked like a scene I had seen from Kuwait during the Gulf War with all the pyres burning… it was really surreal. I used to drive back home through smoke… you couldn't see on the road you had to have the lights on—day turned to night, I couldn't believe it. (DEFRA worker)

As we elaborate below: particular aspects of these changing landscapes were to do with 'scale', and with 'death being in the wrong place'.

3.2. Scale

It is at times difficult to comprehend the sheer scale of the 2001 FMD epidemic. As Bennett et al. (2002) indicates, this was the world's worst recorded epidemic of the disease and the most serious animal epidemic in the UK in modern times. Cumbria was hardest hit, suffering almost 44% of the UK total number of cases. Approximately 45% of Cumbria's farm holdings were subject to animal culls (this rose to 70% in the north of the country) with the rest under the most severe restrictions. Farming networks, which depend to a large extent on reciprocity and cooperation, were unable to function normally, there were multiply fissures across the *lifescape*. The scale of animal slaughter in Cumbria was unprecedented—approximately 1,087,000 sheeps,

215,000 cattles, 39,000 pigs and over 1000 deers, goats and other animals (Cumbria Foot and Mouth Disease Inquiry, 2002). Nearly half a million of these slaughtered animals were buried in a mass grave on a disused airfield in the village of Great Orton near Carlisle, the UK's largest disposal site. On this one site and at the peak of the crisis, some 18,000 animals were slaughtered daily. Some were infected; others were healthy animals 'taken out' in the cull of contiguous premises, or as dangerous contacts.

Death became industrialised with animals moving on from slaughter to containment trenches. The Ministry of Agriculture, Fisheries and Food, the government agency responsible for dealing with the disaster (later realigned as the Department for Environment, Food and Rural Affairs), had to recruit or second large numbers of local people to cope with the workload of culling, disposal and record keeping. The magnitude of animal death is reflected in the narratives of respondents

> Just the sheer waste, all the dead animals really there were 2000 sheeps on one of the places we were and a lot of the ewes were pregnant and as they were being slaughtered they were having premature births and I wasn't physically sick or anything but you felt you were going to be but you knew you had to get the job done and get on with it… it just seemed such a waste. I know stock gets slaughtered, we eat it, a lot of farm animals get slaughtered every year normally anyway—but not on that scale. (DEFRA field officer)

3.3. Death in the wrong place

For some, this scale of killing also impacted on their sense of identity and on their everyday living and working relations with the landscape, with livestock and with others in their community. As Franklin (2001, p. 3) notes, '*the outbreak of FMD in the midst of lambing season has meant that for many farmers the anticipated period of seeing their flocks spring to life instead has seen them put to death*'. There was a clear breach of *normal* relations—whilst lambs are normally slaughtered, this is not when they are newborns, and so the rhythm and cycle of livestock–farming relations was out of synchronization. The epidemic created fissures in taken-for-granted *lifescapes* which transcended the loss of the *material* (i.e. livestock) to become also the loss of the *self* (respondents perceptions of identity and meaning associated with this *lifescape* were called into question). Death was in the wrong place (the farm rather than the abattoir), but it was also at the wrong time (in relation to the farm calendar) and on the wrong scale (such large scale slaughter seldom occurs at the same time). The following sequence of quotes illustrate this theme:

> The worst thing was when they started bringing trailer loads of newborn lambs in. That was terrible, we had to go in and unload them but it had to be done. We unloaded the trailer and drove them into a pen and got out of there as quick as possible because you can hear them, the animals bleating as they were being herded up to be put down. Absolutely innocent young lives. (Agricultural worker seconded to DEFRA)
>
> We are outsiders to Cumbria. If anybody had told me I could feel this way about such a thing, I would have found it hard to comprehend. The emotions generated were so strong even amongst those of us who were not farmers. I could not tell of the images in my mind of the dead cows immediately over my garden wall. The sight of them lying there, the smell, the vision of them being lifted up by tractors and piled into lorries. I remember thinking 'how many more lorries? How much more cleaning? How can these poor people cope with this?' We are all going through bereavement and shared the feelings of grief. (Health visitor)
>
> Like you go to a slaughterhouse everything's set up.... You can't make it on a farm eh, not when you're expected to go two minutes, set up, ready, you just can't do it eh... I dunno. It just sort of got to me like. You used to go to farms and grown men used to come and cry like. (Slaughterman)

The culls brought for some a sense of failure, a loss of professionalism and a sense of not having 'done the job right'. Holloway's (2001) emphasis on good 'stockmanship' is borne out by many amongst the study farming community. Stockmen speak of pride and satisfaction in relation to the process of rearing healthy stock. There are clearly economic benefits associated with this, stock that are *kenned*[7] are more likely to thrive and thus command a higher price at market. This pride can continue once the animal has changed from being *on the hoof* to being *a carcass*, from being an individual animal to a commodity. For example, some farmers might telephone an abattoir to find out '*how a beast has killed*',[8] at a small abattoir they might even go to view the carcass. Again, Holloway (2001) notes the ethical ambiguity of this relationship, and quotes one of his study respondents, who when taking an animal to the abattoir asked the slaughterman to '*look after her babies*'.

Drawing on the work of Wolch and Emel (1998), whose review of culturally orientated studies of animal–human relationships highlights complex and contradictory processes of animals simultaneously being viewed as friends and as sources of food, and Anderson (1997), whose critique of domestication suggests that taming and regulation of animals may help humans to

[7]Known/well looked after.

[8]The quality of meat produced from the carcass, ease of butchering, etc.

construct a sense of superiority, we suggest that there is a much more pragmatic *working* relationship between livestock and their handlers. This relationship stems from the *lifescape*, the mutually constitutive interrelationship between people, place and production system (Ingold, 1992; Howorth, 1999; Convery, 2004).

Much of this paper has highlighted how lifescapes changed dramatically for study respondents during FMD. Underpinning the *lifescape* are behaviours and actions at play that correlate to ways of knowing. Cultural anthropologists Quinn and Holland (1987) write about the '*presupposed, taken-for-granted models of the world that are widely shared… by the members of a society and play an enormous role in their understanding of that world and their behaviour in it*'. Such a view, according to Reybold (2002, p. 539), supports both *a way of knowing* and *a way of being.* Reybold refers to this as an individual's pragmatic epistemology, the experience of epistemology in everyday life. '*These ways of being shape both mundane daily routines as well as profound life experiences*'. This *pragmatic epistemology* situates knowing about and *kenning* stock in the *lifescape* experience of everyday reasoning. Schutz (1940, cited in Luckman, 1978) writes that everyday practical knowledge is not homogenous, and may be only partially clear and *not at all free from contradictions… men's* (*sic.*) *thought is spread over subject matters locate within different and differently relevant levels*'. We have described how a group of study participants take pride in 'healthy', 'well-bred' stock that are 'kenned' on the hoof but that will nevertheless bring economic profit as a carcass. At the same time and as we illustrate below, whilst the slaughtering of livestock is part of livestock–farming *lifescapes*, few farmers and livestock handlers would volunteer to be at the interface between live animal and food. The abattoir would normally provide spatial distancing and some emotional detachment. The scale of killing during the 2001 crisis transgressed this emotional geography of farm as the appropriate place of livestock management and the abattoir as the appropriate place of livestock death. The culling regimes covered key spaces on the farm and parts of the farming landscape with death and dying:

> And he'd had them [sheep] out on his fields and he'd gone with tarpaulins and bales of straw and making them little places to shelter so if the weather was cold or wet they could take their lambs inside, because I mean the sheep do have a bit of sense and they'll get inside and get them, the lambs, keep the lambs dry and warm. And he'd done all this and he'd really worked and worked and worked and I went past one day at the weekend I was on my way down to my daughter's and there was two heaps and they were just lying by the side of the road waiting to be collected one day, and I cried then (upset here)… and I see the farmer's wife sitting crying and the farmer sitting crying and we were just wondering what on earth's going to go on? (Teacher, describing local landscape)
>
> Like I said for most farmers it was a traumatic experience seeing their stock slaughtered. A lot of them couldn't face seeing it I know some camped out for the night but most farmers on the farms I was on were actually involved in helping to slaughter the stock, They wanted the team to work with them. They felt the need to be there they wanted to make sure things were done correctly. (Farmer)

4. Emotional geographies of changed *lifescapes*

According to Humphrey (1995, p. 478), humans 'can hold multiple, seemingly contradictory attitudes to the same animal: enslave, worship, consume, abuse, befriend, hunt, play games with, grieve for'. Fig. 2 presents respondents diary and interview material relating to Holstein–Friesian[9] dairy cattle, together with other documentary sources, to demonstrate how perspective and discourse portray the same animal as a 'machine', a 'friend', a 'representation of a life's work', an ephemeral presence, or a 'bovine replicant' with limited lifespan (after Dick, 1968). As we have already indicated in previous section of the paper, the emotional geographies of livestock—farming relations are embedded in the production of particular places where such relations are played out. The intricacy of this relationship meant that for some, the cull of dairy cattle signified the total severing of a whole array of networks of meaning, practice and identity.

> They all had names here, they weren't just numbers, they all had names and known individually. They are all characters and individuals in a way when you farm the way we do. (Farmer)
>
> They walked them through the milking parlour and out, through the milking parlours like, as if they were going to get milked… after they come out of the parlour we'd get about ten through, close the door off and they would just stand there and be shot. They weren't a bit bothered. Dragged out and put on the silage pit and another twelve through, and that was just like a conveyor belt really. It was just like milking them or something that they weren't going shot, and dragged out. … there was about 30 cows due to calve in the next month, and they were all in two calving sheds, calving bays, and they were just done where

[9]Holstein–Friesian cattle were selected due to their position as the most 'popular' breed of dairy cattle in the UK and USA, as Klinkenborg (1993) notes, they occupy a ubiquitous position in the rural landscape.

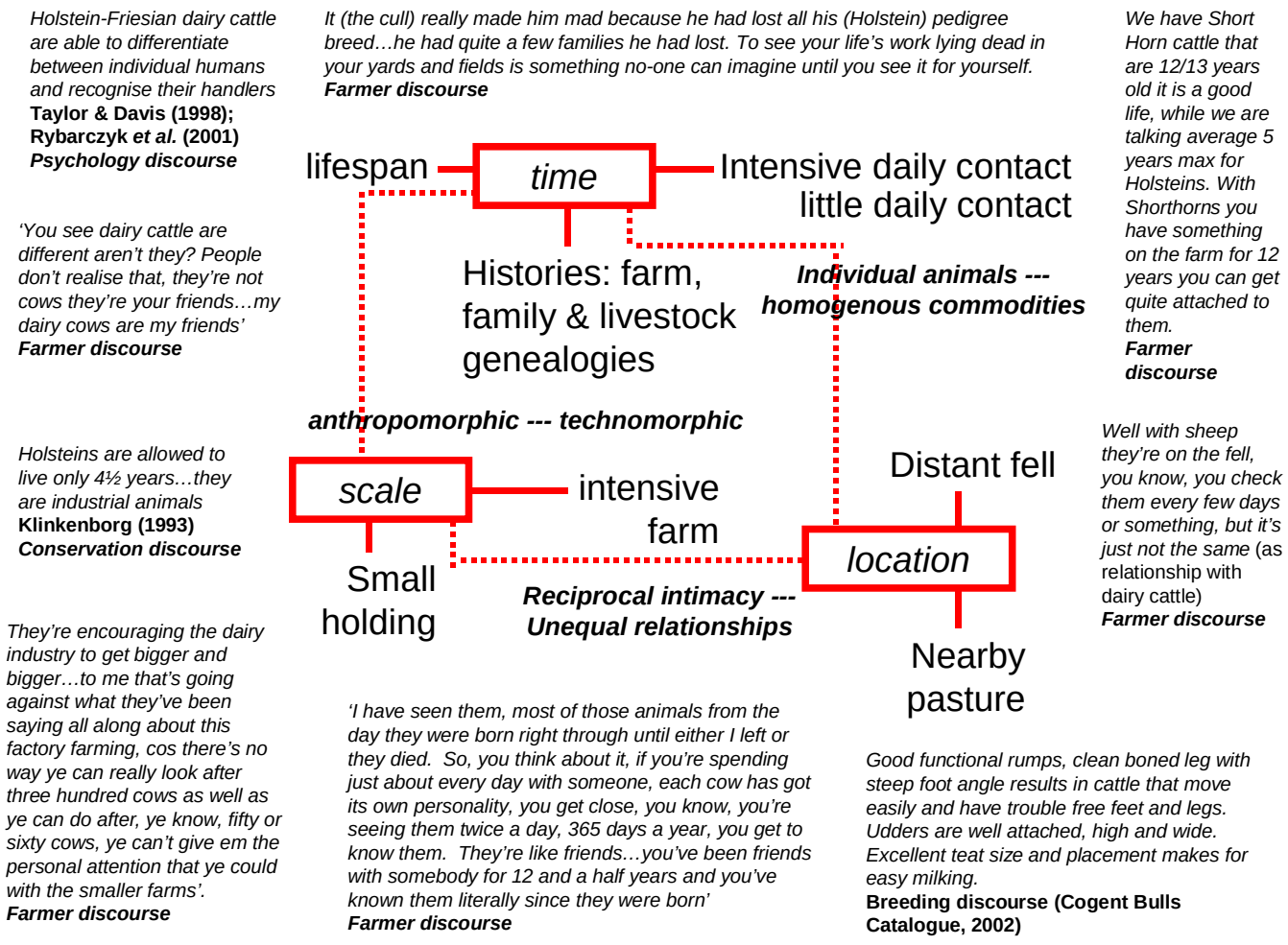

Fig. 2. Complexities of livestock–farmer relationships: the case of Holstein–Friesian dairy cattle (Cogent Bulls Catalogue, 2002; Taylor and Davis, 1998; Rybarczyk et al., 2001; Klinkenborg, 1993).

> they stood, and dragged out. And there was a calf, and the slaughtermen had had to draw straws on who shot the calf and they were absolutely devastated. (Farmer)

A further level of meaning and identify can be linked to the cull process itself. The culling regime imposed by DEFRA during the crisis undoubtedly meant that a significant number of healthy animals were killed. As the National Trust (2002) indicate, animals of particular significance, including pedigree bloodlines, sheep managed by hefting and livestock associated with distinct localities were lost at this time. In diaries and interviews, respondents have reflected on the loss of bloodlines and pedigree stock build up over generations:

> But I mean I just keep thinking of the farmers round the corner that had a pedigree dairy… which were distinctive even to me, they were brown and white cattle, very beautiful cattle. And they, I think they went back 160 years the pedigree. But they were all gone. (Small business owner)

> We were lucky that we had 40 cattles up at another farm, they still had the bloodlines of course… when they came back, they were very poor and lean but we still have the bloodline. (Farm worker)

For those who lost stock, the process of restocking has been a contradictory experience, bringing both renewal and sadness at the loss of often irreplaceable bloodlines. Respondents have spoken of a 'loss of confidence' in handling the new cattle, as they're just 'not my stock'; an increase in calving difficulties because the 'wrong bull' had been used and vets commenting on an increase in caesarean deliveries and other calving difficulties. The following diary entry and field notes from visiting a respondent illustrate these points:

> Saw a patient who was injured by a cow calving. It was new stock, having lost everything to FMD. It changed her. After 2 weeks in hospital with surgery, it will take 6 months for her to physically fully recover. I don't think she'll ever have the same confidence—at present she doesn't want to calf again. (Community nurse)

Vera was talking about this on Wednesday, saying how, one morning she was trying to bring in her new cows for milking. They went to the corner opposite the gate. It was sheeting with rain and as she struggled she looked across the valley at her neighbours getting their (un-culled) herd in. She says she thought 'You thought we were the lucky ones because we got paid out—you should try this.' This was all related with her usual good humour, but it's unusual for her to be anything other than completely stoical and accepting of circumstances. (Field notes from visit to farming respondent)

Much has been written about the traditions of *hefting* during the FMD epidemic (e.g., Cumbria Foot and Mouth Disease Inquiry, 2002). Whilst hefting is an important facet of the Cumbrian agricultural landscape,[10] permanent herds and flocks are in effect *hefted* within the farm itself, i.e. they possess unique *knowledge* about the geography and routines of the farm (Briggs and Briggs, 1980). It is rare for a farm to replace all its livestock at once, thus the mass culls of 2001 signified also a loss of *knowledge* of complete herds and flocks of livestock. It is customary for livestock to be replaced on a rolling programme, thus the older members of the flock/herd know the geography of the farm (fields and buildings) and will know where to drink, where to eat, where the shelters are and which gate a dog wants them to go to when it sets off round the field. Respondents speak of flocks meandering about when they do not know the ground and sheep dogs and humans having to work much harder to control their movements (reinforcing work by Gray, 1998).

It (lambing) could be a harder time this year as none of the sheep have lambed before. It is easier when there are older ones for the first-timers to follow their example (…) Even feeding them at a trough takes time because they haven't done it before and there is no older ones to teach them. (Farm worker)

5. Conclusions

The 2001 FMD crisis severely disrupted the tangible, material and tactile relationship with *known* livestock. As Humphrey (1995, p. 478) puts it, '*we can hold multiple, even seemingly contradictory attitudes to the very same animal*'. We argue, however, that the complexities of this relationship have not been reflected in either the public or academic debates about livestock–farmer relationships during the FMD crisis. The phenomenological approach of *lifescapes* allows for an understanding of the heterogeneous complexity of the rural landscape. It articulates what Ingold (1992, 2000) refers to as the being-in-the-world attachment to place and landscape, highlighting that through familiar fields and woodlands, roads and paths, people create a sense of self and belonging.

This complexity is not easy to articulate, it is at once ubiquitous and specific, open and hidden, and deeply embedded in the nexus of landscape, livestock and farm. In this paper we have used the concept of *lifescapes* to try to articulate that which is the sum of a 'whole way of life'. We argue that communities in Cumbria are at once defined by their *lifescapes* and define their *lifescapes*, which in turn were changed because of a catastrophic event.

There's not a day goes by as I don't think of it ... Big thing like that I suppose it don't just stop, does it'? (Slaughter team worker)

The 2001 FMD epidemic created deep fissures in the *lifescapes* of Cumbria, so that much of the *taken-for-granted world*, identity and sense of meaning changed. There can be no going back to the previous *lifescape*. As Minh-ha (1994, p. 15) indicates 'every movement between here and there bears with it a movement within here and within there.' The scars left from this process are likely to be long lasting.

We argue that the events of 2001 transcended the loss of the material (traumatic though this undoubtedly was) and became also the loss of the conceptual (the loss of the meanings associated with this *lifescape*). The scale of killing during the 2001 FMD epidemic did transgress the emotional geographies of the farm as the place of livestock management and the abattoir as the place of livestock death, because death was in the wrong place, at the wrong time and on the wrong scale.

[10] Brown (2002) argues that hefted sheep (of which the two most important breeds in Cumbria are Herdwicks and Rough Fell) are a Cumbrian icon and make a key contribution to its cultural landscape.

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Different public health geographies of the 2001 foot and mouth disease epidemic: 'citizen' versus 'professional' epidemiology ☆

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Abstract

Recently, there have been calls for health geographers to add critical and theoretical debate to 'post-medical' geographies, whilst at the same time informing 'new' public health strategies (Soc. Sci. Med. 50(9)1273; Area 33(4) (2002) 361). In this paper we reflect on how, alongside 'professional epidemiologies', 'citizen epidemiologies' can have credibility in informing public health policy and practice. We do this by drawing on mixed method and participatory research that used a citizens' panel to articulate the health and social outcomes of the 2001 foot and mouth disease disaster.

We consider the difficulties of creating dialogue between on the one hand, time-limited, discrete, theoretical, visible and by implication legitimate, 'professional' knowledge and on the other, ongoing, holistic, experiential and often hidden 'citizen' knowledge of the foot and mouth disease epidemic. Despite significant evidence that in disaster and crisis situations, people need to be actively involved in key 'recovery' decisions (see for example At Risk Natural Hazards, People's Vulnerability, and Disasters, Routledge, London; A New Species of Trouble, Norton, New York), lay accounts, which may in themselves provide valuable evidence about the impact of the disaster, are often ignored. If health geographers are to critically inform 'new' public health policy then we need to consider research approaches that give voice to citizens' understanding of health outcomes as well as those of professionals. If 'new' public health is concerned with the material character of health inequalities, with fostering 'healthy' living and working environments, the promotion of community participation and individual empowerment (Area 33(4) (2002) 361), then we argue that situated, negotiated, everyday geographies of lay epidemiologies can and should inform public health policy.

Keywords: Foot and mouth disease; New public health; Participatory methodologies; Citizens' panels

Introduction

Geographies of health

Since Kearns (1993) call for a 'post-medical' geography of health and indeed, Eyles and Woods (1983) text on 'The social geography of medicine and health' a decade earlier, there has been a shift in research interests from a dominant biomedical perspective towards a more

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cultural/humanistic standpoint. This shift has been outlined in key publications such as reports in 'Progress in Human Geography' (Jones and Moon, 1991, 1992, 1993; Kearns, 1995, 1996, 1997; Kearns and Moon, 2002; Hayes, 1999). There have been theoretical developments within a post-medical framework, such as a focus on mental health (Parr, 1998); a consideration of the complex relations between the body, identity, consumption and risk (Brown, 2000); a concern with body/disability (Moss and Dyck, 1996; Butler and Parr, 1999) and a Foucauldian critique of how public health institutions embed education on AIDS/HIV in talk about 'normal' and 'abnormal' behavioural practices. There has also been a concern with studies where '…place matters with regard to health, health care and health policy' (Moon, 1995, 1; see for example Cummins and Milligan, 2000; Moon et al., 1998) and latterly, a call for a critical geography of public health (Brown and Duncan, 2002).

Simultaneously, there have also been changes within social epidemiology, most notably a move from individual risk factor and disease ecology to greater emphasis on social–structural influences on health. As Macintyre (1997) suggests, the Black report (Townsend and Davidson, 1982) was pivotal in pointing out the relationship between material and health inequalities, a relationship that the UK Government acknowledged (see for example Acheson, 1998; Social Exclusion Unit, 1998; Department of Health, 1999). Questions of area versus individual effects in health difference (see for example, Jones et al., 2000; Popay et al., 1998) and those concerning social and spatial inequalities in health (Shaw et al., 1999; Twigg et al., 2000) are now very much part of geography's health variation research.

In this paper we endorse 'the adoption of self-consciously sociocultural theoretical positions, and the quest to develop critical geographies of health' (Kearns and Moon, 2002, p. 606). We are also aware that there is a discourse of 'new' public health, based on paying attention to, 'prevention rather than cure, to the material character of health inequalities, to the production of healthy living and working environments and to the promotion of community participation and individual empowerment in relation to health.' (Brown and Duncan, 2002, p. 363). We are also cautious of dualistic thinking, and argue that whilst it is good to move from reductionist, deterministic and essentialist medical-centred understandings of health, it is nevertheless important to recognise 'socially mediated factors influence individual biology through their effects on the immune, endocrine and central nervous systems (the sociobiological translation)' (Hayes, 1999, p. 291). We need therefore social and *biomedical* understanding of health.

Our central concern is with questioning how can 'new' public health be inclusive, how can it deal with what Brown and Duncan (2002, p. 376) refer to as 'health concerns situated in the context of place'? Likewise, how to listen to citizens' understanding of health, so that a discourse of community participation becomes embedded in public health decision-making? Our starting point is mixed method, participatory research using a citizens' panel to articulate the health and social outcomes of the UK 2001 foot and mouth disease disaster[1].

The UK 2001 foot and mouth disease epidemic

The 2001 UK foot and mouth disease[2] (FMD) epidemic was probably the world's worst to occur in a previously disease free country (Cumbria FMD Inquiry Report, 2002). From the first case detected on the 20th February to the last confirmed case on the 30th September, 2026 outbreaks were recorded in Britain and 4 in Northern Ireland (The Royal Society, 2002). Government control policy required the slaughter and disposal of susceptible animals from infected farms and from farms considered to have been exposed to infection. This resulted in an estimated 4 million livestock being destroyed (this does not include newborn animals) with a further 2.5 million under related schemes to deal with animal welfare and marketing problems (Cumbria FMD Inquiry Report, 2002).

Cumbria, our study area, suffered by far the greatest number of FMD cases in the UK (893 compared with the next nearest total of 176 for Dumfries and Galloway, representing almost 44% of national FMD cases). The Cumbria Foot and Mouth Disease Inquiry Report outlines three devastating aspects for the county. Firstly, a county rich in natural heritage with an economy dependent on livestock agriculture, outdoor recreation and tourism became crippled by a country wide ban on

[1]This study was undertaken by researchers at the Institute for Health Research, Lancaster University who received funding from the Department of Health. The views expressed in the publication are those of the authors and not necessarily those of the Department of Health.

[2]Foot and Mouth Disease (FMD) is a highly infectious viral disease that mainly affects cloven-hoofed animals, including cattle, sheep, pigs and goats. Fever is typically followed by the development of blisters—chiefly in the animal's mouth or on the feet. It can spread by direct or indirect contact with infected animals, and whilst the disease is rarely fatal, the effects are serious and debilitating. In dairy cattle these include loss of milk yield, abortion, sterility, chronic mastitis, and chronic lameness. Secondary bacterial infections may also lead to further complications. Advice from the UK Department of Health is that FMD is very rare in humans. There has only been one recorded case of FMD in a human being, in Great Britain in 1966. The general effects of the disease in that case were similar to influenza with some blisters.

livestock movements and widespread restrictions on public access to the countryside. Secondly, the Report notes the massive scale of the slaughter and disposal of livestock and other animals. As well as the 893 infected premises a further 1934 suffered complete or partial animal culls, 'taken out' as dangerous contacts or in the cull of contiguous premises. Some 45% of Cumbria's farm holdings suffered these culls and in the north of the county where the epidemic was most severe, this rose to 70% (Cumbria Foot and Mouth Disease Inquiry, 2002). Lastly the Report notes: 'there were problems in implementation of disease control, communication and other measures [that] led to an upsurge of public objection and to expressions of public concern, frustration and anger at the way the epidemic was being handled.' Much of the blame for these problems was directed towards the Department for Environment, Food and Rural Affairs (DEFRA), the government agency responsible for dealing with the disaster. In addition, many of the DEFRA workers recruited or seconded to carry out animal culling or disposal activities reported feeling traumatised by their encounter with sights and sounds and smells that were extraordinary to their common experience (Cumbria Foot and Mouth Disease Inquiry, 2002; Graham, 2002).

Health and social consequences of the 2001 FMD outbreak in North Cumbria—a critical health geography

The study

Similar to work on other disasters (Blaikie et al., 1994; Erikson, 1991), we would argue that the people who can best describe the health and social consequences of 2001 FMD outbreak are those who experienced them directly. Indeed, such lived experience, based on local, ongoing knowledge, is essential in terms of informing and sustaining effective recovery policies and initiatives. The study was designed[3] so that participants form a 'citizen's panel' of 54 people from North Cumbria, which reflects a range of local expertise and experience linked to FMD (including farmers, small businesses, slaughter and disposal workers, vets, health workers, the clergy and residents living near disposal sites).

[3]Composition and membership of the panel was shaped by discussions with a multi-disciplinary, multi-agency steering group that reflected concerns about the health impacts of the FMD epidemic on a wide range of people living and working in Cumbria. These discussions produced six occupational groupings each with a detailed profile base on age, sex, sector and location. These profiles were given to an independent professional recruiter who identified individuals to 'fit' each one, and who were willing to take part in the study.

The use of citizens' juries and standing panels as a consultative mechanism is becoming well known in the public services (Coote and Lenaghan, 1997; Kashefi and Mort, 2000). Part of the discourse around the 'new' public health concerns involving the public in decision-making, at least from within the provision of health services. For example, 'Shifting the Balance of Power within the NHS '(Department of Health, 2001a, b) asserts that 'patients and the public will be more involved in the NHS' and 'Involving Patients and the Public in Healthcare—a Discussion Document' gives details on how this is to be achieved. Heller et al. (2003, p. 65) suggest that the 'public should also be involved in decision making about the determinants of health that go beyond the provision of health services, such as individual and community exposures to education, diet, housing, transport and pollution.'

The new public health also endorses, 'bottom up' public health networks, such as those created by Local Strategic Partnerships which are claimed to be 'infused with a sense of public health cutting across all activities, involving a range of agencies from police, education and employment agencies, to local business and community groups' (MacKian et al., 2003); and by implication, democratic decision making. It has been argued that inclusive/participatory tools such as citizens' panels/juries may unwittingly reinforce neo-liberal forms of governance (a public consultation '5-day exercise') rather than promote grass roots involvement/activism (Kashefi and Mort, 2000). However, our study is both longitudinal and participatory in the sense that respondents have contributed substantially to the orientation of the project, evolution of project recommendations and have opted to speak alongside project staff at conferences and inquiries.

Between December 2001 and June 2003, respondents wrote weekly diaries (comprising both structured and unstructured sections) and participated in a series of group discussions, the first before diary keeping began and the second to close the data collection. Each member also took part in an in-depth interview at the start of the study. We have also used documentary sources such as evidence from local and national FMD inquiries and a validated 'Quality of Life' measure (the EuroQol EQ-5D 1998).

The diary method proved to be remarkably successful, resulting in a dataset of 3071 weekly diaries contributed by a final panel of 51 members. In addition 51 panel members in depth interviews were collected and 12 panel group discussions were held. These data were taped and transcribed for analysis. Drop out rates were low. One respondent, aged 17, left the panel very early, soon after the first group discussion, but was quickly replaced by a respondent from the recruiter's 'reserve' list. Three other respondents left the study at different times, all after they had contributed a significant amount of data

(diaries, interview and first group meeting). For the first, a woman, continuing with the study evoked very distressing memories of implementing the culls on farms, memories which were enduring vividly and this respondent was seeking medical help. The second, a man, initially reported severe feelings of guilt from his time as a front-line worker and withdrew feeling that the process might perpetuate his distress. The third, a woman, found that family difficulties and financial collapse became so overwhelming that diary writing became impossible.

In this way individual, group and longitudinal reflective accounts are included in the data. Mixed methods are best suited to complex studies. As we go on to discuss, these data reveal the distinctiveness of rural/farming communities in Cumbria, their social/economic networks, cultural practices and diverse and complex health and social consequences of the crisis. Early interviews captured recent accounts of living with FMD during 2001. Diaries recorded into Summer 2003, captured the changing and evolving nature of some of these consequences. Study findings should impact on health policy and practice, particularly at the local level.

Diaries and geography

We would argue here that longitudinal diaries present a hitherto untapped potential for health geography research. A recent paper by Meth (2003, p. 201), for example, has emphasised how diaries offer *'longitudinal personal insight into day-to-day processes*…(diaries) *provide rich detail on the everyday context of health and illness.'* Perhaps the greatest advantage of diary studies is that they bring the task of data collection into the person's own everyday world (Verbrugge, 1980; Elliot, 1997; Zimmerman and Wieder, 1977). Diaries thus provide the opportunity to study change over time and provide insight, in a very direct manner, into a person's actual experience and how they perceive it (Hayes, 2000).

The 18 months of weekly diaries generated by this study has produced complex, varied and heterogeneous accounts. Three researchers each made monthly visits to approximately 18 panel members over the research period. Visits often took place in the participant's home with other household members' present, or, if more convenient, in the workplace. The researcher collected weekly diaries and offered a small payment. During these visits, conversations were wide ranging, from discussing local and national FMD developments and initiatives; to 'everyday talk' about families, paid work, past and future events, hopes and fears; to researcher occasionally seeking clarification from 'diarist', of what had previously been written or possibly spoken of, during previous telephone calls (to arrange visits).

Visiting households meant that at times, others (e.g. partners, other family members) verbally supplemented the material given in the participant's diary. We absorbed these 'additional 'stories' but could not use them as 'data' since if they, the participants, do not tell us, we must presume they do not want us to know. The duration and intensity of this 'research process' has led to the development of trusting relationships between researchers and respondents, enabling detailed understandings of the complex socio-cultural health/place nexus inherent in respondents lives.

What follows may seem an unconventional reporting of the study findings with not always a clear differentiation between these and 'established knowledge' of the UK 2001 FMD epidemic. In part this illustrates how indexical recollections of FMD (references to concrete events in time and place), may be framed by local and cultural understandings so that plot, content and context may embody both personally meaningful accounts and the localised, cultural context of experience (and we offer further discussion elsewhere, see Bailey et al., 2003). In part this also raises questions about how and why situated, negotiated, everyday geographies of lay epidemiologies can and should inform public health policy, a central focus of this paper.

FMD in Cumbria –lifescapes and contingent knowledge

Health concerns need to be ' situated in the context of place' (Kearns and Gesler, 1998, p. 1) and public health should be explored as a "sociocultural practice and a set of contingent knowledge" (Petersen and Lupton, 1996, p. x). Traditional public health impacts were considered – a review of the North Cumbria Health Task Group minutes over the duration of the crisis reveals that health service managers, clinicians and local authority officers perceived the human health risks to be either immediate environmental or zoonotic effects. The latter soon faded as a concern, while and as we outline in Section Three below, the former also dropped from view once large scale pyres were abandoned as the principal disposal method following public protest (North Cumbria Health Task Group, 2001; Longtown Community Centre[4]). While concerns about longer term effects on mental health and well being were occasionally raised at the Task Group and in a number of articles and responses more widely (see for example, Gibson, 2001; Hunter, 2001), little action followed, due to the epistemological

[4]Public Meeting convened to discuss pyre burning with representatives from the Army, Maff, the Environment Agency and local Health Services, 11th April 2001.

problem of how to collect and produce evidence about this. In a crisis situation proof was not available, in the aftermath such evidence cannot easily be recovered.

Thus health and social services did not record any significant increase in demand during the FMD epidemic and subsequent months (Cumbria FMD Inquiry Report, 2002; Carlisle District Council Health Overview and Scrutiny Committee, 2003). This is taken to be a sign that the health and social effects of the disaster were also not significant. We believe that while not surprising, this inference emanates from a service-led perspective and from disease specific, and statistical constructions of, what counts as evidence.

What we have found is that respondents sought community, informal support, practical advice and financial assistance from each other, from voluntary agencies and anonymous, emotional support from rural telephone stress help lines. For some respondents 'trapped' inside the epidemic, either surrounded by infected premises or declared such themselves, a visit to the GP was impossible or unthinkable. For others, there was a sense of stoicism, of 'getting on with it' as everyone else seemed to be doing. Telephoning the veterinary practice, the auctioneer, the animal feed merchant, the livestock haulier, family, friends and neighbours, people also 'inside' the disaster, is what seemed to help. In cases of financial hardship, established rural charities and local church organisations offered assistance, particularly for those not 'culled out', but who nevertheless were unable to sell livestock onto markets. Whilst respondents also spoke of social divisions and tensions, some generations old, others created by the disaster; many suggest that informal support was pivotal to their survival.

As illustrated by one respondent, a community nursing sister, routine formal health care did provide an opportunity for emotional support, but support that would not be formally recorded:

> This wasn't because it didn't happen but because it became the norm. Wound dressing visits that normal took 15 minutes stretched to over an hour as patients sought to off load their concerns for themselves, or more commonly, their loved ones, who were so stressed that they were rapidly losing weight or not sleeping or in tears or not talking or so angry or turning to drink or who were concerned about worsening their already existing aliments. No visit to a house during that period was simple. Emotions were near the surface and every day brought fresh news and concerns. The burdens got heavier and heavier and this picture was repeated among the GPs and the practice nurses too.

Elsewhere (see Convery et al., forthcoming), we have described in detail how we use the concept 'lifescapes' to frame these 'simultaneously tangible, negotiated and experienced realities of place' (Kearns and Gesler (1998, p. 4). 'Lifescapes' captures what respondents have told us about their everyday lives: work, social life and locality and what living and working in Cumbria means to them. Here we briefly introduce this concept in order to convey localised, social–spatial sensibility of the health impacts of the UK 2001 FMD disaster for a group of people living and working in rural Cumbria. The concept has evolved within social anthropology (Nazaarea et al., 1998; Howorth, 1999; Howorth and O'Keefe, 1999; Convery, 2004) as a way of framing the complex relationship between people, place and production system. *Lifescapes* are necessarily interactive, people and places are intimately interconnected (Howorth, 1999).

Figs. 1 and 2 indicate how FMD disrupted lifescapes in Cumbria. Fig. 1 illustrates how 'taken for granted' disruption (events and shows cancelled, weddings postponed) combined with some of the more obvious (stock culls and mart closures) to create a sense that 'normality has gone'. Fig. 2 presents a teacher's lifescape during FMD.

The 2001 FMD outbreak was not a human disaster in the sense of a single catastrophic event such as a rail crash or an earthquake which leads to multiple deaths; or in the sense of an ongoing chronic disaster that eventually leads to deaths, such as the outbreak of *Escherichia coli* in Central Scotland in 1996, which killed 18 people over the course of several weeks and which was eventually traced to negligence by a butcher's company (McLean and Johnes, 2000, p. 88).

However it was a disaster in the sense that those who lived through the epidemic and continue to live with its

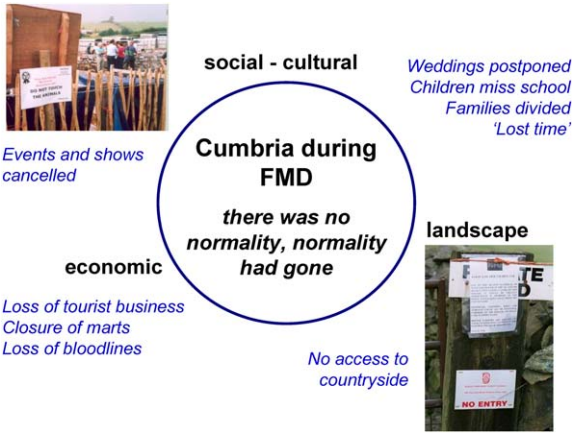

Fig. 1. Altered lifescapes during FMD. The diagram illustrates how the 'taken for granted' disruption (events and shows cancelled, weddings postponed) combined with some of the more obvious (stock culls and mart closures) to create a sense that 'normality has gone'.

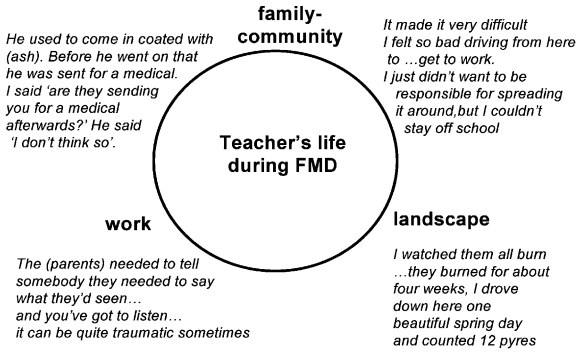

Fig. 2. A teacher's lifescape during FMD, illustrating how different aspects of the lifescape were disrupted during the events of 2001.

consequences, speak of trauma: of flashbacks; of emotional triggers; of life now measured by pre- and post-FMD events; of irretrievable loss; of not 'getting back to normal' because there is now a 'new' normality, lives and communities touched by FMD. Kai Erikson, a sociologist who has been studying the effects of disasters on human communities for the past 30 years, distinguishes between individual and collective trauma. The former he suggests is 'a blow to the psyche that breaks through one's defences suddenly' and the latter, 'a blow to the basic tissues of social life. Trauma damages the texture of community, yet trauma *creates* community, sets the group apart' (Erikson, 1994).

Such individual and collective trauma is spoken of by study respondents:

> …there's been bereavement for individuals and communities. You have got to look at a minimum of 2 years to work through it. (Group meeting, February, 2002)

In the next section, we consider how such trauma, fissures in individual and collective lifescapes, may have been exacerbated by a 'clash of knowledge'. On the one hand, time-limited, discrete, theoretical, visible and by implication legitimate, 'professional' knowledge of the 2001 FMD epidemic might suggest that the disaster is over, with little long term, negative health and social impacts. On the other, ongoing, holistic, experiential and often hidden 'citizen' knowledge of the foot and mouth disease epidemic suggests otherwise.

Everyday geographies of post-disaster processes

Our particular focus here is how our study opened up a 'clash of knowledge', a clash that for many of study respondents, created a 'them and us' scenario between bureaucratic, authoritative, legislative epidemiology and lay knowledge. A respondent speaks of his understanding of 'knowledge':

> Knowledge is passed down generations – it's not learned by somebody coming from nowhere into an office and reading a text book. (diary, June 2003)

Chambers 21st century dictionary definition of knowledge encompasses the experiential and the scientific:

> the fact of knowing; awareness; understanding; what one knows; the information one has acquired through learning or experience; learning; the sciences—a branch of knowledge.
>
> ….. and somebody has sat down and thought about a logical pattern, which is fine, but biological systems don't work like that. (interview, March 02)

The management, containment and control of the UK 2001 FMD epidemic, seemed to focus upon the disease rather than the local experience of the disease and its management (what was working, where and why?).

It was felt that the Ministry of Agriculture, Fisheries and Food (later to become the Department for Environment, Food and Rural Affairs, DEFRA), the government agency responsible for dealing with the disaster, adopted a centralised, managerial, bureaucratic, rational and utilitarian approach:

> …I think I get frustrated with the Ministry's mindset, they have no flexibility, there is no sort of 'what ifs'… (Interview, March 02)

From a local perspective, this centralised, managerial approach did not appear effective. From early in the epidemic in Cumbria, study respondents suggest that everything was:

> …out of control……
>
> ……Total and absolute confusion……
>
> I don't think the Ministry knew what they were doing.
>
> I mean the vets that were involved at the time [67 FMD outbreak] are astounded that a lot of the recommendations that were made from the final report in 67 were not adhered to. (Panel Members' interview quotes)

Much of the confusion centred on failure to consult locally:

> If somebody from Cumberland had been in charge of the situation they would have known that it wasn't necessary to pay £15 a hour, they could have got somebody for £7. Somebody in London made the decision based on the information they had about London rates of pay. (Group meeting, January 2002)

It was felt that there was lack of communication between central and local operations:

> They would speak to somebody connected with the job, but to my knowledge it wasn't anybody in Cumbria, we weren't even told about it, I found out through somebody else……..(interview, March 2002)

and between central and local agencies:

> …and they all thought that the [grant aid] money should be there, there and then, and the MPs would say, 'Oh yeah we've released this money', only they hadn't, so it wasn't finalised and we didn't get it, so it took until the end of June…
> …we had people ringing in going, ''come on where's this money? It said in the papers that there's money and we want it'' … and it was really awkward.
> (Group interview with organisation supporting local businesses, February 2002)

The view from the e ground was that there was a lack of contingency planning, exacerbated by a feeling of having no control locally:

> …..it should have come back to local control, but they wouldn't delegate […], that should have been devolved down earlier on. The decision should have been made from a local area.
> (interview, February 2002, speaking about mapping 'clean' and 'dirty' road routes)

The FMD Cumbria Inquiry suggested that this led to:

> There was a strong view that some of the approaches adopted in 2001 had been driven by bureaucratic requirements rather than by common sense. (Cumbria Inquiry Report)

For those experiencing chaos and farce, this led to an erosion of trust in the government handling of the disaster. As Erikson (1991) notes, 'post-disaster, people often come to feel estranged from the rest of society and lose confidence in the structures of government….. voices like those deserve to be listened to carefully'.

A lack of trust was further deepened by the gulf between theoretical and experiential knowledge. Below we offer a brief illustration, in this case the gulf in perception between large pyre disposal operations that were deemed not to pose a public health threat and the everyday view of living with these pyres.

Living the theory

From the onset of the outbreak, the culling policy led to a huge backlog of carcasses, often left rotting on farms, with subsequent heavy criticism of the government department responsible for managing the crisis. As we have outlined, a conservative estimate of 6 million livestock were slaughtered. At the peak of the crisis in March 2001, there were 43 outbreaks a day. Each case could present a culling and disposal nightmare. For example on the 28th February the first case was declared in Cumbria, on a farm in the market town of Longtown which had 600 cattle and over 5000 sheep. The disease quickly spread in and around this farming community.

Although not the preferred method of disposing carcasses, pyres were constructed on individual farms. By the 15th March 2001 a local newspaper declared Longtown to be ''a smoking, stinking health risk'' (News and Star, 2002) and there was much public opposition. The main concerns were the levels of pollution being emitted from the pyres burning for several days, in particular, levels of dioxins being released from both materials used to construct the pyres (e.g. wood, coal, railway sleepers) and the carcasses. Dioxins are naturally occurring chemicals that are formed when biological material is burned and these are known to be carcinogenic (Bell, 2002; Kayajanian, 2001; Olson and Schecter, 1997). There were also concerns about smoke and particulates triggering asthma in susceptible people; the release of prions, the infectious agents that have been linked to BSE and new variant CJD (Roberts, 2002) and creosote from railway sleepers, which releases polcyclic aromatic hydrocarbons (PAH, Allard, et al., 2000) when heated.

Local public health advice and information on potential health impacts of carcass disposal, which was available from the end of March 2001 (North Cumbria District Control of Infection Committee, 2001) suggested that the vast majority of dioxins are ingested via food and that inhalation of additional dioxins via the pyres would be very small. This information also suggested that the risk to public health via prions was likely to be 'remote'. Advice centred on 'keeping windows closed, whilst burning is taking place', and avoiding creosoted materials for pyre construction. As respondents reported, this advice did not seem very practical. How to get to work, to school, to the shops? How to eat in the presence of the acrid smell of putrid and burning flesh? How to carry on with their lives, particularly as an accumulation of several pyres lit over a period of time exacerbated this problem:

> I use to wake up in the night and I use to taste that acrid… you didn't seem to be able to get rid of it from the back of your throat. I mean the pyres were suppose to burn for a week and I think they burned for about six to eight weeks. (Interview March 2002)

Professional versus citizen knowledge

The army under the command of Brigadier Alex Birtwistle, was brought in to organise the ongoing

slaughter and disposal of livestock. On Monday 9th April 2001, the local daily newspaper, 'News and Star' reported that a huge pyre was being constructed on a disused airfield, on the outskirts of Longtown, in North Cumbria, that this was expected to be lit the following day and that 'residents and farmers were shocked by this.' On Thursday 12th April, the same newspaper's front page headline declared: ' People Power Stops The Pyre'. The report continued:

'Longtown fury halts huge fire that would burn all summer. The U-turn came after more than 200 furious local residents attended a public meeting in the town last night to demand that the smoking airfield blaze be extinguished. Up to 1000 animals a day were expected to be burnt all summer on the 500-m pyre, which was lit on Sunday.'

A meeting was called and representatives from the army, MAFF, the Environment Agency and local health services formed an 'expert panel' to respond to the concerns of the public. Residents were angry that they had not been consulted before the plan went ahead (it was suggested that explanatory letters had been sent to local authorities on April 6 and April 10 although this was disputed by a local parish clerk). A member of the 'expert panel' suggested that the risk of dioxins causing harm was just 'one in a million'. A member of the public, described by the 'News and Star' as a 'research scientist and resident' suggested that, 'the fire would belch 60 tonnes of cancer causing sulphur into the atmosphere each day for an estimated 100 days.' The 'expert panel' reported that the burn would consume 1000 tonnes of coal per day—but that they had 'changed' from cheap coal with 25% sulphur content to low sulphur coal of 3%. A member of the public said 30 tonnes of sulphur per day would release 90 tonnes of sulphur dioxide per day. In an area the size of Longtown, this would produce the permitted level in 1 day that is allowed for a maximum of 3 days per annum.

The Government advice on the health impact of pyres which was not forthcoming until the 24th April 2001, suggested that ''[o]ptions for involving smaller pyres should be preferred before larger pyres'' (Department of Health, 2001b, p. 5).

Study respondents who attended the meeting spoke of a 'them and us' mistrust between the designated 'experts' and members of the public:

> And I mean right till the end of the meeting that that carry on was ganna, they weren't going to stop it like. Definitely not till X got up. And he just, he just said, said that Longtown has suffered plenty. ……And all them fires had been burning since March, er beginning of March. …..And they were still burning and er he just, he just says er you he says 'I'm sorry but you know there's no, we've had enough there's going to be no burning'. (interview January 2002)

Another respondent suspects that the 'experts' at Longtown were ill prepared and ill informed because basically:

> ….they thought Longtown folk were none too intelligent and just expected a load of hysterical housewives banging on about their washing.
>
> As the News and Star article outlines, in this case 'people power' prevailed:
>
> '
>
> '…a statement was issued by MAFF this morning: ''Local residents made clear their strong views about the continuation of the burn. Site activities have been suspended while we pursue the concerns expressed with the parish council.''

No further pyres were lit. This then is an illustration of local mobilisation, local expertise and local knowledge forcing its hand. 'Professional expertise' does not always get it right but it may have been easier had there been open dialogue and close partnership decision-making from the beginning. The 'Longtown' resilience, whilst effective arose out of deep mistrust.

Conclusion

The Cumbria FMD Inquiry Report (2002, p. 78) concludes that apart from an increase in subscribing rates for medicines that indicate an increase in respiratory problems (assumed to relate to the smoke from the pyres), that in general, ''there does not appear to have been a significant increase in demand on the health services.'' However, the report does acknowledge that it did find evidence of 'problems with emotional, social and mental health' (78), whilst the then Director of Public Health Medicine in North Cumbria is quoted as saying, that some people 'had too much to bear' (78). Evidence of the scale of this stress was provided by Voluntary Action Cumbria, which, with a team of 8 volunteers manned a 24-hour help-line during the worst of the crisis and by the local offices of the Citizens Advice Bureau (CAB), which provided statistical indicators of the problems experienced by the community. For example in some areas, recorded number of enquiries to CAB was up by 45% on the previous year (78).

As we have discussed, our participatory and longitudinal study also suggests that the 2001 FMD disaster led to a significant amount of trauma at individual and community level; that individuals tended to seek help and support from those 'inside' the disaster, rather than formal health services and that diaries written for the study, some 2 years after the peak of the outbreak, suggest that such trauma may be long lasting. Whilst in some ways diarists write of individual and community

routines and events returning: farms restocking (although this brings a host of problems which we have not space to discuss here, see Convery et al., forthcoming), agricultural shows being resumed, village fetes being organised and people being able to walk the lanes and fields, there is also a sense that this is not so much 'getting back to normal' as accepting a 'new normality'. Every day is now touched by FMD; by a timeline of pre and post-FMD, by what might happen *when* it strikes again. Such health and social impacts we would thus argue, are now embedded in individual and community lifescapes. It is for this reason that we endorse Brown and Duncan's (2002, p. 376) view that 'health needs to be considered in the context of place'. Within rural communities, for new public health to be inclusive, health care needs to be culturally appropriate as recommended in the research report of the Farmers' Health Project (Burnett and Mort, 2001).

To conclude and addressing our second central concern, 'how to listen to citizens' understanding of health'? we suggest that using participatory methodologies such as citizens' panels opens up everyday geographies of post-disaster processes and provides rich socio-cultural understandings of health in the context of place. As we have outlined, panel members actively shaped our research findings. Some spoke at a project 'interim findings' conference with an audience of government, statutory and voluntary agencies. Some gave written and oral evidence to a local government 'Overview and Scrutiny Committee' that is investigating the ongoing environmental and health impacts of FMD in North Cumbria. Others gave media interviews, articulating their understanding of the feasibility of recovery and regeneration policies and their hopes and fears for the future. These 'voices of experience' deserve to be heard, alongside those 'outside' of the disaster, the professionals who are preparing contingency plans in the event of another similar disaster. In this way critical socio-cultural geographies of health can and should inform 'new' public health policy, that which should embrace inclusiveness and partnership, endorse both professional and citizen knowledge of health and situate health concerns in the context of place and more widely, lifescapes.

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