Stephen Hinchliffe on disease situations and more than human relations

Transcript of a conversation with Simon Cohn and Elizabeth Shove

Elizabeth Shove: The purpose of these chats is to provide a bit of background for the conference, and to set the scene for further discussion and debate. It's also a chance for us to talk about some of your earlier writing. Maybe you could start with a broad account of what geography has to say about the world of microbes, and what you have to say to geography?

Stephen Hinchliffe: Well yes, for a geographer to be interested in microbes is strange for some people, but I came to this shortly after starting as an academic.

In the UK we had an enquiry about bovine spongiform encephalopathy - which took me a long time to say, never mind spell! But anyway, I got my head round that and started attending the inquiry. This was a disease of cattle in the 1980s, and 90s and it was horrific. If you were around at the time seeing cows suffering, it really cut to the heart, culturally, of what that an attack on a brain was like. It felt very tangible.

This wasn't about microbes per se, but it was about the curious agency of molecular entities. In this case, things called prions, and these proteins seemed to link together a whole series of questions around food production, obviously, but also politics, culture, economy and so on.

I'd grown up with this sense that diseases came from other parts of the world – from Africa or Asia, but subtle shifts in the way in which proteins folded together became an issue of national identity and European politics as the Great British beef industry was brought to its knees. Here we were, in the centre of modernity, so to speak, producing a brand new and highly infectious disease. So that really got my imagination going, and since then I suppose I've been thinking about the relationship between the very, very small, the microbial, and what that means in terms of the planet and its health.

Elizabeth Shove: In taking this agenda forward you've done empirical work on a variety of topics like shrimp farming in Bangladesh and pigs and poultry. Was there some kind of plan that took you to these different sites?

Steve Hinchliffe: No, I don't think there is a grand scheme. There's a serendipity to what you do research on, and some of it is around conversations or relationships. For example, the work in Bangladesh, which I'm still plugging on with in various ways and forms, arose out of conversations with natural science colleagues who were funded to look at the molecular biology of the environment in Bangladesh and I said to them, well, I think the social colours some of that. So we started having a conversation, and we started working together. I suppose I brought a geographical and social imagination to the topic.

Simon Cohn: Can I just come in and say something very obvious? You focus a lot on agriculture and you started with BSE. I'm wondering if, for you, agriculture is a particularly productive crucible for studying the kind of entanglements you are interested in, so perhaps it's not a completely serendipitous story.

Stephen Hinchliffe: You're right that there's a focus on agriculture. Again, that may be driven by funding and an agenda around food. But for me the interest has been on what we call a more than human geography. Other social scientists are interested in non-human agency and for me that is evident in microbial and also human-animal relations. So yes, I've focused on the livestock sector.

I'm not really going into plants, but I haven't just focused on agriculture. For example, nearly 20 years ago I started working on avian influenza, which is, of course, a big issue for zoonotics – the diseases that transfer from animals and or to people and back again. At that point I was interested in the way the wildlife was implicated and surveyed, and in the politics of dealing with disease (on the relative importance for example of wild birds verses domestic animals). It's an issue that has become much more salient in the 202s when we have seen mass mortalities from the spillback of avian influenza from poultry to wild birds and even mammalian wildlife.

Elizabeth Shove: Is there something that holds this agenda together. Empirically, the sites may be serendipitous, but along the way have you contributed something distinctive? Are there bigger themes, from geography, that have emerged along the way?

Stephen Hinchliffe: I think are several of us within geography who have built a corpus of work on more than human geography as it's now being described, or multi species work as it is called in Anthropology. Another aspect is the science studies angle: I'm very interested in how knowledge develops around these issues. For example, I'm always interested in how risk is calculated in relation to a disease, and in how that is framed by institutions. Going back to BSE, estimates of the risk of disease are often based on institutional issues like is there an infrastructure of surveillance? And that is then used to calculate the threats in parts of the world where there's no BSE, there's no industrialised agriculture, the animals aren't eating bone meal derived from other cattle, and yet those parts of the world are said to be high risk because they haven't got a surveillance programme. Microbiological risk in that sense framed or constructed by those doing the assessment.

Thinking about how knowledge gets mobilized and used to standardize responses is one contribution. Another is to think seriously about more than human agency. In other words, it is not only humans getting to call the shots and it is often the case that when humans think they have got things under control, things go wrong – modernity creates its own problems.

Elizabeth Shove: Thanks, we'll come back to the more than human because that is quite a big topic, but Simon is next.

Simon Cohn: You draw on this idea of things being situated and thinking about how diseases are situated is certainly relevant to our conference, but as a general introduction to those ideas, what you mean by situated? Is it an idea that allows you to move from specific case studies to a more general story?

Stephen Hinchliffe: I'm not the first to use the concept – there is a long tradition in the social sciences of people trying to think about situations, and there's a long legacy to draw on. But I think my interest probably comes back to a frustration I had with epidemiologists. These are people who try to sort out what happened: why did something go wrong? They often talk about sites. For example, in the agricultural area they say there is an infection site and there is speculation about that location. Which worker didn't clean their boots, where did the feed come from, or how did the wild birds get on into the farm? It's very site specific.

Situation, for me, immediately broadens the view: it gives me a geography. It says, OK, there's a farm here where the workers aren't being trained properly or they're not turning up for work or we've got no workers in rural Britain at the moment, that kind of thing. That's part of a broader situation that might relate to Brexit for example. What makes a bacteria or a virus tip over into a disease circumstance is the situation: it's the combined stresses on a place, it's not just one little breach of a of a boundary, it's a whole set of things that come together. It might be about the stress of the animal hosts or the stress of the workers and so on. Again, this is about the context of risk – you might have a lot of movement of microbes, but it might in some circumstances or situations not

amount to much – the animals may have good innate or acquired immunity, the small farms may mean that things don't contribute to onward spread. In the US at the moment, avian influenza has jumped into cattle, and it has spread like wildfire in the dairy industry. That may be a very US situation where the structure of the dairy industry, the large number of cattle movements, the number of unofficial farm labourers as well as the uneven nature of state-to-state regulations contributes to a disease situation.

That's one aspect of what I mean by situation. Another aspect comes from the philosopher Isabel Stengers: she talks about a situation as a positive designation. Once you describe something as a situation, you can start to think about it and say, OK, how can we do something with it? It brings other issues up the agenda.

Simon Cohn: Just to clarify, by saying situation, you're not just talking about a spatial location, right? So what does the language of situation allow you to include that other people might overlook, and what are the limits of what counts as a situation?

Stephen Hinchliffe: The limits are quite difficult. I mean, with the shrimp farmers, the idea of a situation allowed me to work with biologists and epidemiologists, and to say, to understand the situation here we need to understand the value chain. There are something like 100,000 shrimp farmers in Bangladesh and they are all small enterprises. They're all producing and trying to put shrimp on the market and then the large processing companies, the buyers, will come along and say, if you fail to produce then tough. So the situation in this case helps you to move from saying there's lots of social, economic and other relations that affect how things are practised, to say, in this situation, a key or formative relation exists in the way that the value chain is organised, who shoulders the risks, and who or what can benefit from those relations. Once we know that, we get a good idea about the possibility for doing things more sustainably, with less antibiotics and so on. In this case, an export crop can mean greater oversight or surveillance, but also note that the farmers' livelihoods are incredibly insecure. They might need treatments like antibiotics, or other approaches (like agro-ecology) to make a living in this set up.

The idea of a situation takes you outside the site, you start to see some of the social and economic relationships that colour what the farmers are going to do on that farm, whether they're going to use treatments and how they're going to manage their stock. But yes, as with any relational way of thinking, the question remains: where does one stop? One reason I keep coming back to situation is because it feels like this is a word that allows you to say which of those relations are most important. For example, we could go on forever - farmers need to raise enough money to send their kids to school, and so on and so on. That's really important, but in terms of any one situation, we can start to sort it out a little bit and say you need to know this in order to get to a better place. So that's what situation does for me.

Elizabeth Shove: But what about feeding these ideas back into geography? The kinds of situations you describe are localised configurations and conjunctions, but they also tap into processes that are worldwide or global or much more extensive. How do these ideas relate to debates about scale?

Stephen Hinchliffe: I've always struggled with the idea of scale and I've always been averse to that Russian doll style of geography that supposes that we can start with a shrimp farm down here and then kind of build up towards a bigger picture. It is the interaction between the global and the local that is important, and the way that places are folded together, or continuously assembled, that matters. For example, I've been involved in advising government departments like the Department of Food, Agricultural and Rural Affairs, and of course what they do in terms of policy is local too (in terms of making policy and then attempting to roll it out). There are people in offices making

assumptions about what works, what doesn't work, and so on. So what looks more global is itself made in through practices that are also locally folded together from here and elsewhere. Basically, I'm interested in how places kind of rub up against each other without relying on a kind of totalizing story ending with the conclusion that it's all about one thing, like capital. Of course capital is important, but it's how farmers, companies and state-private assemblies adjust to all the vagaries of environments, markets, and microbes that is key. It's the entanglements that we need to keep an eye on. A lot of the shrimp farmers are precariously integrated into markets that are not capitalist, not as you might recognise it in other kinds of markets. The markets involved have a specificity that we need to understand – for example, there are forms of transaction that depend on credit, patronage and exchange. We need to know about these relationships in order to try and work out how to do things better. That might sound a bit liberal and perhaps a bit too neat, but I don't believe that you can make a difference by saying everything happens because of this one driving factor.

Simon Cohn. Before we move on, I want to ask what makes a 'disease' situation?

Stephen Hinchliffe: I think a disease situation is not just a situation in which a disease or microbe is suddenly present, and it's certainly not because there's suddenly a virus there. To go back to the avian influenza cases, to identify a disease situation is to say hold on a minute, this is not just about the presence of absence of a virus. Of course, when they get the virus many domestic birds like chickens and turkeys, don't do very well: they tend to die very quickly and very painfully. So yes, that is their disease situation. But my argument is that when we describe something as a disease situation we are saying that there is some unsustainable set of practices that will lead to the tipping over of a set of relationships that are always microbial, human, and so on, and that even if there is no disease present now, it won't be long before there is. In epidemiological terms it's about the ways in which hosts, microbes and environments (and including the social and economic environment) interact. In anthropologist Melissa Leach's language, it's about flare up rather than simply spillovers.

A lot of people who work on these kinds of issues would say the answer is to eradicate microbes or to create a wall between us and the wildlife that harbour all these terrible germs and microbes. But I just don't think that is sustainable. As organisms we are full of microbes. I remember going to a pig farm and these posh pigs were being delivered. They had come through an international network and they were called SPF or specified pathogen free pigs, and the first thing the farmer did was tip a load of muck onto them, saying 'these pigs won't last five minutes on my farm, unless they get all the bugs'. It is a good example. Most people think that biosecurity is the way to solve the disease situation, but it isn't about separating out worlds, not if you want to have a productive relationship between humans, animals, microbes and all the other things that go into a living environment. I think a disease situation is when you have really disrupted that relationship to the extent that it's going to tip over into something quite pathological.

Elizabeth Shove: Earlier, you talked about the political and the economic as factors or as considerations and a bit later on you talked about the complexity of capitalism and its situated character: as you said it's different in Bangladesh and in other places and at other times. Sometimes you refer to the political and the economic as out there and as real and sometimes you want a more grounded, and a more situated analysis. Since we've got the chance to talk with you, where do you stand on this? What do you actually think?

Stephen Hinchliffe: Gosh, well that's tricky. Of course, I want my cake and eat it. Who doesn't? I don't necessarily apologize for that. But yes, it is something I struggle with. I am partly a child of science studies so I got hooked on thinking this is all about ontology and knowledge and the effect these have on politics. But I think we'd be wrong to ignore the economic in this, but equally I don't

think there is one version of economics. To go back to the shrimp farmers, when I was writing about them, I used the anthropologist Anna Tsing's ideas about salvage accumulation.

There were 100,000 shrimp farmers trying to make a living but they didn't know whether someone was going to buy their produce or not because that depends on how many are successful. If you have had a good season, and others have not, you've done very well. But if everyone's had a good season, you might be in trouble because the price is going to drop through the floor. This is about livelihoods, and it clearly matters to the farmers. It is also one of the drivers for antimicrobial and other treatments on those farms. I don't think you can even begin to understand the use of what are potentially quite dangerous treatments without understanding the economic relations involved.

This is not just about whether the farmers understand what antimicrobials are. When I talked with them they usually said 'we use antibiotics but they only work sometimes', and I'd say 'well why do you use them', and they'd say 'well if we get a disease, we're finished'. It was about risks to livelihood as much as it was about the probability of getting a disease. If I didn't understand the market, or how the farmers understand the market, then there's no way I'm going to get a sense of what's going on in those ponds.

Peri-capitalism is a word that is sometimes applied to these situations. The farmers are on the edge of markets, salvaging value from their ponds, the rivers and the monsoon that feeds them, What they're doing in a pond is not necessarily determined by market relations. It is the interrelations that matter.

Elizabeth Shove: I'm now wondering about the relation between your empirical work and more theoretical concepts and explanations, like those of economics or capitalism. It seems like you're moving between what you see, and terminologies like economics or peri-capitalism, which aim to describe something bigger?

Stephen Hinchliffe: I would describe myself as an empirical worker but I also make sense of things that I see and hear through conceptual lenses. This is very obvious when I'm working in interdisciplinary teams, for example, with biologists. When the farmers say 'we use this stuff, but we don't know if it's going to work' the biologists just think 'oh no, there should be better communication or awareness about antibitoics'. But that's not what it is about. The thing is to understand that the farmers are trying to make a living in a precarious situation.

To give another example, in farms in parts of Asia and Africa microfinance is a big issue. This is where you get a loan to help you dig your pond or maybe get some seed for it, and you have to pay that loan back every week. The payments are tiny, but this method of financing explains why farmers don't follow the advice which is to stock the ponds with a single batch of shrimp larvae. If you want to minimise the risk of disease, ideally, you just stock the pond once, leave it, and then come back and take the shrimps out at the end of the season and sell them. This is not what happens. Instead, the farmers are in out of their ponds all the time: they're putting a few more fish or shrimp in because they've got a bit more money and then, 'oh, now we need to get some cash so I'll sell some of them now because I need some money for the loan payments.' So unless you understand how the microfinance works you can't understand what they're doing in the pond. And it's no good telling them to do it differently in the name of biosecurity – there are payments to make, good times to harvest when prices might be higher.

Elizabeth Shove: In a way, that's my point. You're looking at microfinance, which is clearly relevant, but that's not a generic economic driver: it is microfinance in a very specific setting.

Steve Hinchliffe: Yes, but it's the details that matter. Economics is tied into many practices, including those of the state. In Bangladesh the whole market is propped up by the state anyway, because next to textiles, shrimp is the biggest export good, so it can't fail. Even though these arrangements look precarious, the state is heavily involved, and of course that goes for most farming, including in the UK.

Elizabeth Shove: To move on, I really like your chapter in the in the Routledge International handbook of more than human studies, at the end of which you seem to head into somewhat new territory. I'd like to talk a bit more about that, and about what you take from Doreen Massey. I'm thinking about her essay on a global sense of place. She writes about Kilburn High Road and planes flying overhead and about how one location is connected to others. So I was wondering, where are you going with that, and with the method of thinking about the local and the global in a single frame?

Stephen Hincliffe: I wonder if I am taking it anywhere, or if it is just that Doreen's ideas have informed my approach for a long time - that a place is always a meeting up or a composition of things - is close to what I mean by a situation. I think this idea is useful for pandemic preparedness: in other words it is important to take the compositional nature of the world very seriously. COVID-19 was more than microbiology – it was about vulnerable people, health services and contested knowledge. We've got this version of science that's saying this virus is the same here as it is there. Well, that's just not the case. These things are shot through with the world, so one size doesn't fit all. So that's all really, that's why I'm using Doreen's work.

Elizabeth Shove: OK, I was a bit more excited. I was thinking you were trying to push the language of situation a bit further.

Stephen Hinchliffe: What did you see in the connection with Doreen's work, where would you see that going?

Elizabeth Shove: Well I think her work challenges some of what you've said already about situations, or at least it pushes it further, because a situation is a crossing point of multiple histories, and it's also a crossing point of multiple geographies – for example, ideas about germs are now very widespread, even global, but those ideas are enacted in specific, local, settings. That was why I was asking also about the contribution to geography because I think you might be working with ideas that could rattle a few bars.

Stephen Hinchliffe: I'd love to rattle some bars, but we need conversations with different people to see these contributions. Of course, I use theory and I think through theory, but when you're so embedded in the field you don't always see the wood for the trees. But it is important to stress that neither of us would be happy juxtaposing the local with the global. Ideas about health and disease are often combinations of waves of knowledge and ideas, some of which have long histories and complex geographies. Perhaps what is key here is that we need to watchful of those ideas or knowledge forms that seek to eradicate ways of doing things – more than local too – but that can offer hope in terms of doing things otherwise. For Massey this was about power geometries. And for me, microbes and other nonhuman agents can be significant players in disturbing those geometries.

Simon Cohn: It feels like this conversation's a bit like a pendulum swinging between the big and the slightly more focused. I want to invite you to say a bit more about this idea of pathogenic landscapes and as a way of doing that I want to kind of tug on two threads that you've already mentioned. One was the suggestion that health risks are increasing in the contemporary world. That's debatable, but there is certainly a sense of that tip over as you talked about it. Next, you were somewhat dismissive

of quite crude ideas about biosecurity as a matter of containment and of borders and boundaries on the grounds that this just doesn't make sense. So I was wondering whether those two thoughts might lead to something slightly more optimistic or, something you feel you're trying to contribute to. Perhaps a different way of framing these issues through concepts like a 'pathogenic' landscape?

Steven Hinchliffe. Biosecurity has been a key issue for me. It is older than this, but as a 21st century term it has been coloured by institutional logics and frames. For example, if you are running a large company with a complex supply and value chain, biosecurity makes perfect sense because you don't want your chickens full of stuff that will make people ill and the easiest way to do that is to say the whole chain works in this particular way. The result is a world of standards of commensurability and of calculation organised around a kind of neoliberal subject. Everyone takes responsibility, including the farmer, for delivering a standard, disease-free product. As I say, that doesn't match up with my sense of what the world is like.

Even the farms that are super bio secure tend to fail very regularly and they have all sorts of costs associated with them. I was in a Department of Environment, Food and Rural Affairs meeting about how to be better prepared for the next pandemic. People were saying that farms should have no trees near them, no bodies of water bodies, and no moss on the roof that might attract birds. They should be completely sterile with concrete floors everywhere, including outside. They should be hospitals.

And that doesn't work. I put my hand up and said, well, what about floods and what about carbon and things like that? And what about the fact that a pathological landscape is one where the animals are stressed where they haven't got good immune systems, and where the feed is rubbish? Most of the farmers I speak with are like the one who covered his pigs in poo. Using old language in the animal livestock world you could say there's a machine view and a living view or a kind, you know, a pathogen centric view and a kind of ecological or social ecological view of what makes life safe. That's my translation of biosecurity. Of course, when you say what makes life safe? or what makes certain kinds of life safe? then you start to ask different kinds of questions.

Simon Cohn: I completely get that, but sometimes when people use words like ecosystem or ecology, they imagine a romanticized notion of balance that actually never was, and certainly can't be anymore. So how does one evoke this more ecological view without falling into that trap?

Stephen Hinchliffe: I'm self-conscious enough to recognise that I grew up watching 'All creatures great and small', and that James Herriot [the author of the books on which the series was based] has a very romantic view of what is a vet, an animal or a farm. And of course, it's a very Eurocentric view of the world, but I think there's a kind of basic distinction here between meanings of health that involve meeting normative standards like no pathogens, and those that mean the ability to adapt. That's an old version of what health is, as you know, and it comes from a long lineage. To me, that's an ecological view. Do organisms have the ability to mount some sort of response, are they resilient? Of course, there's a baggage to some of these terms, they are not neutral, but I think there is something to work with that's healthy and useful.

Elizabeth Shove: That's ok, but this is a bit of a presentist kind of account. As we know, the meaning of health has changed. The mixture of microbes has changed. Human bodies have changed. Everything's on the move. You are representing relations as they are today, but I'm curious about how histories feed into each other and how this varies from one location to another. You've written about how microscopic things also have geographies, and you say that it is the spatially uneven nature of those relations that enables us to engage 'critically with historical process.' What does this mean?

Stephen Hinchliffe: There is some very good work by sociologists like Hannah Landecker, an historian-sociologist, who has very usefully said that the microbes of today are not what microbes were in, let's say the 1950s prior to sluicing the world with recently discovered antibiotics. The microbes have changed, and she calls that a biology of history. So rather than a history or epistemology, of biology, her point is that we're not dealing with the same viruses, bacteria, microbes, germs or miasmas or whatever they were called in the past, right? They have history, they are biologically marked by anthropogenic changes, and that's very useful.

But I just wanted to emphasize that we can't reduce things to their molecularity in order to understand them. They're not reducible to the molecular makeup or their cellular infrastructure. They are what they do, and what they can and can't do depends on lots of other things around them. So if you're talking about antimicrobial resistance genes, it really does matter if you're in Malawi, South Africa, Tanzania, or if you're in the UK or wherever, that's really clear to me. Everything from the soils to the economic relations and so on really matter. What kinds of medicines are available also effects the persistence of infections, the selection pressures, and the emergence of new biologies. I think there's a geography to all of this, and that is probably what I meant. I'm not being relativist about this: clearly there are things that travel and have effects and that that's got to be important too – but place matters (and of course the uneven relations that make those places matter too).

Simon Cohn: We're very grateful for your time, Steve, but I did have one area I wanted to come back to and that's about the more than human or multi species or whatever. We don't want to spend our time worrying about distinctions between these different terms, but do you think this move has political potential? Is there a kind of politics behind a more than human approach?

Stephen Hinchliffe: I think there is. I think my politics would largely come from the fact that we share the world with all manner of other creatures who don't necessarily follow our script. There's a humility and a modesty to that. I think that's one element of the politics. I'm also very aware of another level of politics associated with the more than human message. A lot of the commercial world is busy developing products that you can buy to enhance your microbiome: immunity is big business and so is messing around with the metabolism. So I think this is quite a lively political area in which we need to think seriously about what is being done in the name of the more than human, and how that's working out in practice. I think that's a really big agenda.

Simon Cohn: Is this a story in which more and more is being encompassed under old forms of politics and power, or do you think that the modern human has the potential to disrupt established forms of biopolitics?

Stephen Hinchliffe: I still think there's something really powerful to be done here, but we need to be quite wary. I'm not convinced that we're entering a new era or that we've gone from an antibiotic view, in which humans imagine that are totally in control, to one in which we've suddenly decided the world's more probiotic. I'm not convinced that's happening yet. It might work for those who buy their quail eggs from Waitrose and their Yakult or whatever, but that's not what I see on the ground in other parts of the world where people are really struggling and falling back on notions that we wouldn't describe as more than human. But yes, in general, I'm wedded to the idea that we need to rethink what the human is and what humans can do, and flattening the hierarchy [between people and more than humans] is key to some of that.

Elizabeth Shove: It is true that the language of 'more than human' is different from the polarised and slightly negative terminology of 'non-humans' that was important for actor network theory, but

we'll have to see where academic debates about more than humans actually lead: will they lead somewhere new, or not? It seems like a bit of a fashion to me.

Stephen Hinchliffe: I think they might [lead somewhere new]. I think actor network theory did advance fields, change sociological thinking and disrupt a version of human agency, which was very useful. I am not sure about the non-human / more or other than human terms – they all have drawbacks. Maybe they're all corrective terms to what in social science was too humanistic, while historians may have not been so quick to adopt overly general terms (and therefore less likely to worry). Perhaps, once we stop having to use the terms then the work will be done. The key point for me is the entanglements continue to ramify, we live in a more more-than-human world than ever. The sooner we think about humans as fully entangled with carbon molecules, microbes, chickens, chips the better.

Elizabeth Shove: Thanks, that's excellent. Let's leave it there, at least for now.