

Thorne & Hatfield Moors Oral History Project

Interview with: Henry Chapman & Ben Gearey (part 1)

Date: 8 December 2006

Interviewer: Lynne Fox

This is Lynne Fox for the Thorne and Hatfield Moors Oral History Project. It's the 8th December 2006 and I'm talking to Henry Chapman and Ben Gearey.

If I could talk to you first Henry, could I ask you to just tell me what it is that you do and in particular areas of expertise that you have?

HC My background is really in pre-history and in particular, sort of landscape archaeology and pre-history and my area of expertise within that as a methodology has been computer modelling, so modelling landscapes, environmental change within those, but the, the main focus of my research within those, those, themes has been the archaeology of wetlands, and the reason I am looking at the archaeology of wetlands is firstly the preservations of organic material, wood, various lots of materials so much better in wetlands but also I, you can start to reconstruct the environments like, because of the actual material in the peat, things like the fossil pollen, and beetle remains, you can start using those sorts of bits of evidence to start to reconstruct what the environment's like and from a, from my point of view as a landscape archaeologist you can't just study monuments and settlements within the landscape unless you know what the landscape was like, what it would look like or appear to be. From an economic point of view but also from how people perceive that landscape.

Well we think of archaeology as actually just digging up walls and things like that sometimes, how can you model a landscape and get the economy?

HC Well ultimately digging out walls is fine, you're looking at actual structures and along that sort of very site specific basis, but what I find more interesting is the interrelation between different sites and the, the areas between them, how people actually considered where they lived, where they did certain activities, and particularly why they chose certain locations within the landscape to do certain activities, so, if you take a medieval context people might be living within river valleys because they are more sheltered, might be farming on, if they're in a marsh area, they might be farming on the south facing slopes, because obvious reason, you get more sunlight, those sorts of elements on a crude level are why people live in certain areas and do certain activities in certain areas, from prehistoric perspective all these things are true, but also you'd get, in terms of ceremonial landscape as well, and the ritual landscape where people are choosing certain areas for certain activities for a variety of different reasons and it's those elements that become more important, we can't study those from just looking at the site itself. Does that answer anything interesting, vaguely?!

Yeah, yes absolutely. We're in Birmingham University, what's your role here?

HC I work within the Hewlett Packard Visualisation and Special Technology Centre, which I'm sort of, I'm Co-director of that within, within Birmingham and the focus of that's really, is one part of a variety of groups within, within the university studying different types of archaeology but all this, is

Thorne & Hatfield Moors Oral History Project

you're looking really at landscapes you know the focus really in Birmingham is on archaeological landscapes. So my section is looking at the technological applications, so really an extension of my experience in computer modelling landscapes and trying to reconstruct them, but also extends out into all sorts of new methods of surveying, laser scanning, GPS, all sorts of other sorts of geo physical equipment, those sort of techniques but also modelling that data in a computer, so that's my section but I liaise very closely with Ben's group which is looking at the environmental, the environmental archaeology. There is such an overlap because we're all studying landscape, it's quite a nice place to be, although my focus is one thing I need to liaise with other people in order to get the full picture of the landscape, you can't do it on your own.

And how did you come to be here?

HC Really through knowing Ben Scaffney, who's a professor who does similar sorts of things that I do in terms of the computer modelling and the centre here has some of the, sort of internationally really, some of the best facilities available certainly within archaeology, so it's just a great place to be for the types of work that I do, and there is sort of a strong landscape archaeology sort of focus in this, this perfect place for me.

And can you give me some idea of the work that you have done in the past? Not specifically connected with Thorne and Hatfield Moors, but just...

HC Well I used to work for Hull University and I was working for a, a project called the Humber Wetlands Project which was looking really at all the lowlands around the Humber, before that I was working for the Royal Commission on Historic Monuments as a Landscape Investigator, so sort of, my landscape background started then. But working within the wetlands in Hull for ten years or so, I was working on numerous sites, around that landscape, places like Sutton Common, looking at Thorne and Hatfield Moors, just sites dotted round that whole area as part of this wider landscape project which finished by about 2000, but then from that I've been sort of building, working reasonably focussed actually within that North East region also expanding to other areas as well, so, that sort of being home if you like, from a research point of view, because it's wetlands it has all the elements which are interesting to me.

You mentioned, Ben you're here this afternoon, could I ask you the same questions? Could you give me some idea or description of what it is that you do and your particular area of expertise?

BG Sure yeah, I mean I guess I'd probably call myself Environmental Archaeologist, I'm mainly, my main area of research is in environmental change and past environments, I guess my sort of special interest which overlaps with Henry is the role of people in those landscapes. So how landscapes change over time, the role of humans within those processes of change, indeed how those processes of change may, you know, affect human society. So sort of cultural, environmental overlap, I suppose, that's my main area of research.

And what form does that take?

BG I mainly work with sub fossil pollen, so pollens preserved in peat bogs such as of course on Hatfield Moors, but other contexts as well, and I sort of work all over really, anywhere there's peat is a good place for environmental archaeology.

Thorne & Hatfield Moors Oral History Project

And how does that link in with Nicky Whitehouse's work?

BG Nicky mainly works, as you know, on sub fossil insect remains, I work on sub fossil pollen remains, so recently we've been collaborating on deposits from Thorne and Hatfield Moors amongst other places, where she will look at the insect record and I'll work on the pollen record and see we'll complement each other in various ways.

Can you give me a little bit of background as to how you arrived at the point that you're at today?

BG Sure, yeah, I'm, rather like Henry I worked as part of the Wetlands Project in Hull, which I suppose dates the beginning of the environment research collaboration, previous to that I'd done a PhD down in Plymouth and after that I worked for a couple of year in Exeter, kind of working, sort of in environmental archaeology of wetland landscapes, which was again a nice little feed into Humber Wetlands Project and ultimately to the work we're involved in nowadays.

Can I ask you a little bit about the process in general terms of how you obtain the information that you want and what that tells us?

BG Sure, you obtain the information by taking samples, just like any other form of environmental archaeology, you need to have the deposits before you can do anything with them, again which is why landscapes such as Thorne and Hatfield are so good because there's so much peat. So any sort of project begins with obviously identifying deposits that have potential, because obviously if there's no deposits, deposits, you can't do the work, clearly, so landscapes like Thorne and Hatfield we have lots of peat and a lot of potential, take the samples in the field, we take them back to the lab and then the pollen, in this case, we extract the pollen grains using basically a chemical process in the laboratory, concentrate the pollen onto a microscope slide then you count the pollen using a microscope. So that's how it, very briefly, how that process works, getting it with a pollen diagram and then of course you have to worry about things like radio carbon dating and how you date your peat accumulation of course through that how you date the pollen record and then of course how you start linking the whole thing together with landscape changes and with peat and with archaeology and so forth.

So if you have a, for example, a wall of, a cut through the peat that goes right down to base, underneath or whatever, it is at the bottom, you would, how would you extract the pollen from that for it to be useful for any purpose?

BG Well as I say we just take a sequence of peat undisturbed, so you can go through the peat, whether that's using a coring device or on somewhere like Thorne and Hatfield where we've got ditches, ditch sections, we take tins of sediment basically and we take those away to the lab basically and then sub sample that in the lab. As I say after that we put those samples through the pollen preparation process as it's known, basically, so that's how it works, any other samples of course we can take from those sections as well, usually samples for radio carbon dating or if I'm working with someone like Nicky of course we all sample from the same section so you can put the two records together basically.

So you would sample in sections which would be going through time?

Thorne & Hatfield Moors Oral History Project

BG Yes, basically, yes, you go down through the peat, you're going backwards in time and that's, that is the process, peat accumulates over, over time scales, sometimes stretching back to the end of the last ice age. Thorne and Hatfield Moors, of course it's, the chronology's not quite that long but we're still talking you know a thousand years maybe of accumulated sediment and of course that means five thousand years of accumulated, environmental history in the form of pollen and beetles.

So you get a pollen record? What does that tell us?

BG Well, in a very simple sense it tells us how the proportions of pollen grains have changed over time and by inference of course, that shows us how vegetation's changed over time and the role of processes such as climate change and of course human, you know, human impact on the vegetation and that's, that's the basic premise of pollen analysis.

I see, thank you. You both talked about being involved in the Humber Wetlands Project, can I ask you, Henry to tell me something about that please?

HC The Humber Wetlands Project was the fourth of a series of English Heritage funded projects which were really were a response to the realisation that wetlands were important for archaeology because of preservation, not just preservation of archaeological remains but also the environmental remains which we're talking about. So the first had been the Somerset Levels and the work on [inaudible] then there being the Fenlands as well, people like Francis Prior working there.

What do you mean by the Fenlands?

HC The Fenlands is really the whole area around Peterborough, round the coast there's a huge landscape, and there's the North West as well, Bob Middleton ran that one, which is again like a Cheshire Bogs layer, a slightly different sort of wetland because it's all split up round that landscape rather than big, like the Humber bed levels which are huge vast area of vast wetland and the fourth one being the Humberhead Levels which was run by Robert Manson who is now at Exeter University and the focus of it really was to survey the whole landscape to try and get an idea of, if you imagine the, these areas of large, can be quite blank in terms of the traditional record offices, because the processes of, that create wetlands mean that our normal ways of trying to find archaeology don't always work so for example things like aerial photography where you are looking for crop marks which is basically when you get difference in the height and growth regimes of different crops, any what's underneath them, that sort of process relies on having well drained soils, well drained geology, so that the, the crop growing over say a ditch would retain, would have more moisture than surrounding areas, the crop grows better. But in wetlands the landscape is, by nature, not very well drained so, you don't tend to get the formation of that sort of evidence and also you get through rivers going into flood, you actually get the deposition of silts over the top of sites and quite often you get buried archaeology which you can't see using sort of traditional methods, even things like geo physics don't work that well, generally within wetlands. So the projects were all really aimed at trying to get a handle on what these landscapes meant, both in terms of, it was, by the time the Humber Wetness project was, it was a collaboration between the environmental side and the archaeological side, so we were walking ploughed fields trying to find flint pottery, those sorts of things that don't always show up elsewhere, unless you are actually on the ground looking for them, combining that distribution of sites to what we understood about the environment at the right period and then sort of bringing all that together excavating some sites, it was right across the landscape, with the Humberhead Levels, the Vale of

Thorne & Hatfield Moors Oral History Project

York, the Ancholme Valley, the Trent the Lincolnshire Marsh, the Hull Valley, Holderness, the whole region around that area, sort of year by year we covered different areas, so it was a huge landscape project just trying to get a handle on the potential for evidence in that region.

Is, do you want to add anything Ben to that?

BG No I don't think so, in part, my role within that was really, was looking at the peat sequences and sediment sequences in the river valleys, the date of accumulation of sediment, looking at the record, the pollen record to see what potential for further work was really and that sort of the integrated part of the project and of course as part of that dating and accumulation of sequences and you know, as Henry has alluded to, the fact that if you have peat formed across a landscape you may have archaeology under that peat as well, so, so sort of thinking about buried land surfaces that have been buried by processes of peat development, or deposition of alluvium from rivers. These deposits which can mask entire, entire past landscapes if you like, which is what, what we see at Hatfield Moors as well of course.

We think of Thorne and Hatfield Moors because that's what, you know we're looking at for this project. Do they, how do they sit with the Humber Headlands landscape?

HC They've come the focus within this sort of South Western portion of the area which we were defining as the Humber Wetlands, but really that sort of Western part or West of the Wolds is going sort of from Gainsborough all the way up to parts of York. It's a huge area and obviously Thorne and Hatfield Moors are sort of in the Southern section of that, but the actual, the boundaries of Thorne and Hatfield Moors now as they are as natural nature reserves and so on, is quite artificial because of processes such as artificial warping, you know, actually bringing sediment on to the fields onto the peat, so you could farm these areas. What's happened is the actual area of the past peat lands has been shrunk hugely, in many ways we don't really know how big it really was because the mapping evidence comes from a time when a lot of this improvement, inverted commas, had already been done, so Thorne and Hatfield Moors are a huge landscape and interestingly when you, when you look at the sort of past, sort of antiquarians who have written about those landscapes quite often they're quite, I think it's quite telling that they're not very specific about what Thorne and Hatfield Moors are, that they use phrases such as the Hatfield Chase, which now is a, is an area, you can see it on the ordnance survey map, but they'll have it to include Thorne and Hatfield Moors, and somebody else uses a different term and you get this real impression from the literature that the whole landscape is just one vast wetland, used in different ways for hunting, or for peat cutting and so on. But that whole area up until reasonably recently was, it was quite ill defined, you know, so Thorne and Hatfield Moors as they are now is quite a modern concept really.

I talked with Nicky this morning about how the, moors themselves bear a lot of similarities with continental bogs, more than with the bogs elsewhere in the UK, does, looking at the pollen in that, is there evidence within that to support, that?

BG Not directly, I think when Nicky talks about them being continental bog, she's referring more to the bogs as an eco system if you follow me, our main area of interest when we look at pollen records from bogs is generally the vegetation that's growing around the bogs, the dry lands if you like, so that's, that's sort of my main, that's the main point of looking at pollen that comes from those, from those sites. Which is not to say of course you don't also have pollen from the plants growing on the

Thorne & Hatfield Moors Oral History Project

bogs as well, but as I say generally the sort of concept of the bog what Nicky is referring to more to do with the actual bog eco system which is say from a biological point of view I'm more interested generally in what's going on around the bogs so that's not so much, not so much something you'd sub comment on too much from a pollen point of view I'd suppose.

Are you able to say when the bogs, Thorne and Hatfield Moors, started to form and what might have been there before?

HC I think, this is a real team question really, there's, there's different ways of actually approaching that question, you see, although it sounds like quite a straight forward question, it's really not. In one way the pre-peat landscape was very much like the rest of the Humberhead Levels was, I suspect, so you'd have had, in certain areas you'd got rivers running certainly round Hatfield Moors, there's also indicated possible rivers and that sort of feature running across Thorne as well, so you'd have had the normal sort of pattern of hunter gatherers probably occupying areas adjacent to rivers, which seems to be the pattern, probably quite similar landscape right across but, when we start getting peat forming on Thorne and Hatfield Moors, which is different in each case because the actual geology is very different on Hatfield compared to Thorne, Hatfield is very sandy the rest of the moor is more of a clay sort of sub surface, sub peat surface. The actual development of peat depends what, it comes down to one of these problems of definition of what peat is in a way because the, normally when we talk about bogs, raised mires, we are referring to what is known as the ombotrophic peat, so moss peat, sphagnum, sort of peat and that is a later phase of what's becoming a wetting up landscape and what, what we are finding for different areas, and this is why it's such a complex question, different areas on both Thorne and Hatfield Moors seem to develop this initial phase of wetting at different times, where as the actual ombotrophy, this raised mire seems to be slightly later and I would say is pretty more, as a single phase. You know more about this than me.

BG Yeah, I, as Henry says, Hatfield Moors is, basically underneath Hatfield Moors you have sand, cut sands which are sort of deposited at the end of the last Ice Age, so very sandy soils. Thorne Moors is a clay basically from Lake Humber which again is a pretty [inaudible] at the end of the last Ice Age, you had a big lake in that part of the world and deposits this clay sub surface, so yes, you get very probably quite different vegetation growing underneath even though they both end up as mires which is why we refer to them as a pair in as Thorne and Hatfield Moors, certainly in the very early parts of the Holocene they'd look quite different and it's only really that end point was reached thousands of years later. So for example on Hatfield pre-peat landscapes probably dominated by pine trees for example, heather, quite, sort of open vegetation compared to Thorne where we've got heavier soils, we got more, more of a sort of typical Humberhead Levels woodland with oak and birch trees, alder trees and so forth, so they both followed slightly different pathways to the same end point which is of course acid raised mire.

I might be going beyond what you can actually answer, but, when we talk about Lake Humber and we're talking about the formations, the silts on Thorne Moor and the sand dunes on Hatfield Chase, are we talking, first of all in, with Lake Humber we're talking about an open, a piece of open water?

HC Yes, well there's a, general, general debate about whether Lake Humber is in one continuous body of water or lots of smaller bodies of water, that's probably more a question for a geologist than for ourselves to answer. Certainly you see the Lake Humber clays all over that part, it's a very distinctive deposit which lies under a lot of the, you know, a lot of the later deposits in the river valleys

Thorne & Hatfield Moors Oral History Project

as well, as well as on Thorne Moors.

And are they at the same time, so, I'm trying to get an image of what it might look like, we've got a piece of standing water and like a beach basically is, is that...

BG Yeah, there are beach like deposits, I think certainly some of the work that Mark Bateman in Sheffield has done is looking at some sort of deposits from the edge, very edge of Lake Humber but again this remains a of whole area of research in itself if you like, we tend to be, it's not something we work on, it's some thousands of years before the peatland certainly start forming and so even before, even before the start of the Holocene, so again that's something that's more a question for a geologist really.

Yeah, what I'm trying to establish in my mind is whether, are we looking at the very edge of Lake Humber when we're looking at the difference between Thorne and Hatfield?

BG I see what you mean, yeah.

HC That's a tricky one.

BG Why? Because Thorne is clay so you're saying that's Lake Humber where as Hatfield is sand.

HC I think it's probably, and correct me if I am wrong on this, but what I see is you've got Lake Humber right across but you're getting a reworking of those sediments very, very early, straight after the glacial period, so what's happening is in, this is, this is one story, where you've got Lake Humber which is arguably or not a standing body of water, eventually as the ice sheets were retreating, this water broke through the Humber gap so that's where the River Humber is, estuary is, and water comes off the land, it comes off very, very rapidly and at that time you've got a reasonably treeless landscape and not much vegetation to stabilise things, so what's happened is, and some tundra I suppose at that point, you've got very deeply incised rivers because the sea level is so low, the water's trying to get off the land as quick as it can, because of all the sea water was held up in the ice, these ice sheets are still there. So the water's trying to get off the land and its cutting very, very deep channels, so when we come to, say, the Mesolithic landscape, 6,000 BC, something like that, you've got these very, very deep, 'V', sort of profile rivers which are a function of this water running off the land. But the whole land, that's just one aspect of that early landscape, it's a huge amount of reworking, this point where the loess on the Hungarian plain, large chunks of Europe have completely altered, because, as far as I see, I'm not an archaeologist but, it's because there's no vegetation to hold the, to stabilise landscapes and so it's a vicious open environment, it's a huge environmental change. I think what's happened is, places like Hatfield, Hatfield's slightly more complicated than just being sand it's also a ridge of glacial moraine, that's what runs through that landscape creating a central island you've got sand blowing up to that and creating this, sandy area. So it's all just, a process of reworking and changing to the landscape, so, locally at the Humberhead Levels you get huge changes, if you go to Sutton Common for example, you've got one of these rivers cutting straight through the middle of this Iron Age site, well, predating the Iron Age site, and you've got the formation of little islands and things which have become occupied in the Iron Age, it's all that reworking, at that very early phase, which is creating what is Thorne Moors and Hatfield Moors, at least pre-peat. Would you concur Doctor Gearey?

Thorne & Hatfield Moors Oral History Project

[Laughter]

BG Yes, I mean all these processes are happening, by the time we've moved into the Holocene sort of ten thousand years ago, the climate has improved and the vegetation has been colonising everywhere, anyway, at that point, see you get a different vegetation, as I say, on Thorne and Hatfield Moors anyway so, in terms of, Lake Humber's long gone by then, that's, that's a late Devensian thing.

And, and followed by trees?

BG Yeah.

The trees that you've described?

BG Yeah, the sequence of vegetation development, as I say, pretty much for the region as it is for the rest of England where you get the trees arriving fairly rapidly after around 10,000, 10,000, 9,000 years B.P. Sorry we're switching between B.C. and B.P. dates, just to confuse the issue..

[Both talking] [Inaudible]

BG Just to confuse the issue, so yeah, we get the trees arriving, quite a well ordered succession really, so really by, seven thousandish years before present we're talking about a substantially closed woodland environment over all the Humberhead levels really.

And at what point in theory would you expect humans to live in that environment?

HC They come in from the very early phases, from beginning of the Holocene we've got evidence of people, the very, very early Mesolithic is quite difficult to see in many places but what's happened of course is that, while sea level's been really low, Britain as it is as an island now has been connected to continental mainland by, what's been referred to in parts as a land bridge. It's not really, it's more, because sea level's so low the actual, the sea bed was exposed, it was a dry land, it was a proper landscape with woodlands and rivers and everything else, it's referred to commonly as Dogger Land, following some work by Nick Coles some years back, but people have been occupying that area, that was just another landscape rather than being a bridge it was actually where people were living and it just sort of has, each time, going way back in time, each time there's been an Ice Age, or Ice advance, Ice has come down, people, animals, have migrated south into other parts and then as the, as the ice has retreated back, the plants, animals, people have retreated backwards and forwards, so it's all been this, this ongoing sort of wave of movement and really at the end of the last Ice Age, the Devensian people were occupying and were able to access, or were already living in, in Britain at that time anyway, so the actual movement of people was not, we had people here by the early Mesolithic.

Which is what?

HC Round about, 10,000 B.C., something like that.

And do we have any actual concrete evidence for that?

HC We do.

Thorne & Hatfield Moors Oral History Project

In the Humberhead Levels?

HC In the Humberhead Levels, it's, much of the evidence comes from, comes from flints, this is, this is gonna come back to the whole reason why wetlands are so important. What happens is, the people were, very earliest part of the Holocene we keep on finding these little sites at the edges of where the rivers have been, remember these deeply incised rivers taking the water off the land, and you get these little areas where people have been sat working tools, making tools, so sort of, knocking the flint, breaking it down to make little, it means making little fragments which are called microliths which you can stick together and make arrows with and so on, so you find these areas of really rubbish after they have been making their tools there, normally take the tools away, occasionally find those, it's normally the rubbish left over, so you find out where they've been making their little tools on the sides of the rivers, particularly, and that's your evidence for the Mesolithic, the majority of our understanding of the Mesolithic, in particular the early phases and the dating of this really comes down to differences in ways of working the flint. Now for a very long period that's, the majority of the evidence is purely the actual flint itself, now occasionally you get sites which have other sorts of evidence which you can start dating using things like radio carbon, but, and the Vale of Pickering is very good at this, again slightly later on, but in each of these cases really you are relying to some extent, and certainly for that part of the world on the creation of weapons, so the earlier you can get formation of peat, which is normally a result of sea level rising and rivers changing their nature and starting creating flood plains, so until that sort of happens you are not getting the sort of sediments that you can start dating easily to really tie this stuff down. So for large periods of the Mesolithic certainly, the evidence is dominated mostly by just these stone remains, occasionally you sort of join dots between sites which are more dispersed and try and understand them.

[Recording Ends]