Thorne & Hatfield Moors Oral History Project

Interview with: Henry Chapman & Ben Gearey (Part 2)

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Interviewer: Lynne Fox

Can I come to talk about, specifically about the find that was made on Hatfield Moors because then we can see how that fits in to the whole picture….

HC Yes.

I hesitate to call it track way, but, because I know there are different interpretations of it, but tell me about, can you tell me a bit about that, how you became aware of it and a description of it and what, what's happened?

HC Well following the work we've been doing with the Humber, Humber Wetlands project. We've been working various projects, including Sutton Common in that overall landscape and so, we were sort of quite, we were sort of the archaeologists on the ground if you like, in that region. Following that we'd done some work for peat cutters in the past, you know, just in terms of archaeological mitigation, just checking in case anything gets found on the bogs, been doing that anyway within Thorne and Hatfield Moors.

Can I just, sorry I'm going to interrupt your train of thought there, when you talk about mitigation do you mean just a regular survey or actually going on when they find something?

HC Regular survey, really, very, very few finds have actually been made since this has been going on, now there are records of quite a lot of findings from Thorne and Hatfield Moors in the past, but much of the peat's been cut now, so maybe you're talking about stuff which people were occupying it in, in land surfaces which have now gone, been cut away. So part of our work was just checking up on, you know, occasionally doing a survey just to see, just to check another surface, just in case. But also the mechanisation of peat milling as well means that compared with hand cutting of peat, where, when you found things you'd know about it, you might not see it from a peat cutting machine. So really all the famous baulk archaeology, things like the peat bog bodies and stuff, most of those came back in the days of hand cutting of peat, that's how most of them were found.

But we, we've been working within that overall landscape and the two of us set up a project funded by English Nature, English Heritage, sorry, looking at the evolution of both Thorne and Hatfield Moors, in terms of the environmental evolution the, what happened really since the beginning of the peat, but also the pre-peat landscape. And this was aimed really at trying to model, there'd been so much work done before by people like Nicky, we wanted to bring all that together and try to use that, using sort of modern, digital techniques, to try and reconstruct and then predict where sites might or might not be more likely to be found within that landscape.

So we'd been working on that for a couple of years and it was at that point that we were, we're just coming up to our phase of the project where we're meant to be excavating, effectively testing our models and at that point we heard about discovery of the, of the track way by Mick Oliver. So we,

we'd been on the ground, we visited the site and had a look and following some of, just phoning round and talking to people, because we were already in our excavation phase, of our project, that was included within that project.

What, what were you excavating?

HC At that point we visited the site, the two of us, and we're very fortunate actually to have Nora Birmingham, who's a very well known wetland archaeologist who's dug a lot of track ways in the past, and she just happened to be with us at the time so we, we got down on to the site and previously the, well a small section of what actually turned out to be a platform, being interpreted as a track way as it was thought to be aligned broadly east west so that's across the bog. We went to visit it and looking at the site we found numerous other sections of the structure which were slightly less easy to see, I mean the first bit which was found was very obvious when you saw it, we found a number of other sections, about three or four other sections which we mapped, we recorded and…

This is the actual track way that Mick Oliver found?

HC Yeah, so he effectively found a section of what was a path, and the people who'd gone out and had seen it running in one direction, we walked round the landscape and found actually, found another section which was running north south, so completely different. So on the basis of that and following some negotiation we, we excavated a section of it because the, at that point there's a, following some normal archaeological procedures there's a number of questions which you need to get, before you can start making management decisions in terms of what happens next. You need to really know what it is for a start. Secondly, which is really useful to know, is how big is it, you know, if you are trying to manage a site, where's the boundaries almost. And the third one is, what date is it, and from that how rare is it, you know, how important is it, really just to inform the management or the curation decisions. But at that point that's the situation we were in at the time and then there's other questions like, to what extent could it be preserved where it is, is it possible to stop whatever's happening which might be threatening the site to keep it preserved.

So our, our initial involvement was to excavate just a couple of very small sections, basically just to assess the character of the site and to get samples so we could send them for radio carbon dating, which English Nature supported us on and do that kind of work. It was an evaluation in the very, very early stage and that was back in, straight after it was found. Two years ago.

Can you describe to me what you actually, what you actually saw when you first arrived on the site?

HC When we first got there, the, the area that Mick had found was, you could just see rows of poles, a lot of poles laid out in a line and these were up to, we guessed about four metres long, partially buried and partially completely exposed and the end of these had been caught by the peat cutting machinery and it looked like the actual site had been exposed for quite a while, so, it had the feeling that somebody had actually cut over the top, possibly seen it, but it hadn't been reported, the actual top of it had been damaged. It was completely exposed so it was very obvious when we eventually turned up on the site and we were talking to Mick, you know, he was, he know the moors very well, he knew that that wasn't what you normally see, so, that's why he reported it to the museum and so on and that was the first bit.

But then walking round the, the rest of the area there were a number of clues, firstly, if it had gone, if the site had gone east west it doesn't really make sense in terms of the topography because it's near to, Lindholme Island so you'd expect it, if it takes the form of any of the other sites known in the UK, such as the Somerset Levels, they tend to go from island to island if they're crossing anywhere, so you'd expect it to come from the island anyway, so not as it was being seen which was the land interpretation would have been based on just the direction of the way the poles were in the ground. So we, we looked round the, the surrounding area and what you could see was small sections exposed in the peat where you'd see the tops of just a couple of poles or a couple of pieces, you can trace this back in alignment for about fifty metres, so, and that's as good evidence as you get anyway for, as a track way for that length.

The only weird thing was that the actual alignments changed in terms of the direction of the poles, so whereas the, at the Northern end which would have been found by Mick it was slightly oblique sort of, south west, north east sort of alignment, whereas coming back it was more east west the actual line down the poles. So following the, what we know from other track ways across Ireland, Europe generally, of this type known as corduroy track ways, you always have the actual direction of the poles are across the direction of movement, so you're walking they're all laid down in a row so you're walking across the tree rather than along it. The only other sort of track way would be a brush wood, which would be less significant, a little less structurally sound and that might be laid in the direction of movement but it certainly wasn't one of those and we knew pretty much what we were dealing with, there was at least fifty metres of this thing and we can, you know, we could see sections of it.

So you actually think, I'm not sure I've got the right end of the stick here, literally, is that, the bit that you found, that Mick Oliver initially found, is not, is not the sort of, a track way?

HC No.

It's the bit that you've subsequently found by walking around, is a, naturally..

HC Effectively, I mean, we've now excavated the whole site pretty much, and it, what Mick found originally was a platform, it was an area which was a stable area within the bog, you know it was an area which has been built as an area you can stand on and it's possibly, although much of it's not surviving, we are expecting it to have been at least ten metres across by about four or five metres, so quite a large area, and what we found was the track way which connected that to dry land. So, it was sort of two separate sites, part of the same monument but with two separate elements to it.

And what would be the dry land?

HC The dry land is basically the Northern edge of Lindholme Island, so the blowing sands we've been talking about earlier on.

Have you actually found where it links onto the island?

HC Yeah, we, we've basically, this is extremely rare, there isn't another site where this has happened on. We've basically got both ends of the track, we've got the dry land end not too well preserved as you'd imagine really, for this, coming out of the peat, but we do have enough to suggest that is the actual end and we've got the Northern end which, where it meets the platform. We've

excavated beyond the platform as well just to demonstrate that it doesn't go any further and it doesn't.

It doesn't? I was going to ask you how you know it's a platform and not a part of the track way.

HC The site is architecturally it's intriguing, there's a number of elements which, that, you'd build the track way in a wet place for a number of reasons as I'm sure you'd imagine, you are either trying to cross something, keep your feet dry, or be able to get whatever you want to get across, or you'd build it to access a particular area within the bog and that might be found amongst that sort of activity or for accessing resources which you can't get on the dry land. So they're either crossing it or getting access into it, there's sort of two reasons why do it and the reasons for doing those I'll come onto, but, so from knowing that we had the extents of the site, we knew it wasn't the first, it wasn't crossing the bog, and we've exposed there for sort of three times now and after the second time we understood that.

But there's some weird architectural details about this site where, they, not only have you got the platform at the end and the track way running up to it the actual alignment of the track way forms something of a dog leg as it turns twice as approaching which is unusual and practically, in practical terms why would you do that, and there are parallels in terms of avenues and things and dry land sites which we can come onto. The other really weird feature about it is that the track way, it runs for about forty five metres before it meets the platform and at the Southern end, so the dry land end, it's about three metres wide, at the Northern end where it meets the platform it's about a metre wide, so it's shrinking down and from excavating the rest of the site there's a consistent narrowing of the structure, not only is it sort of forming this dog leg, sort of bending, it's also narrowing so it's funnelling access onto this platform in some sort of way and on top of that there is other really peculiar things such as there's two places where there's a gap in the actual track way and that's filled with birch bark, so almost like thresholds you step over as you're walking along the site.

So it's not a gap just because it's rotted away?

HC No it's in situ gaps, it two of them and…

Can you explain that a bit more to me? So the actual wooden poles are missing out of the..?

HC Yes. There's basically two sections, one about a third of the way along and you've got a section where the poles were missing, or they were never there and a surface of the muds underneath would've been covered in birch bark, so it's like a white layer, which would've been visible, particularly if you're on sites of rising water table, it looks mysterious through the water, and then again, just at the threshold between the track way and the platform there's another gap, so you've got these very peculiar, completely unpractical sort of ideas, up there, sort of, little bit early for this sort of thing, but if you're trying to get transport along a track way like that you wouldn't have gaps like that, it wouldn't make sense. You also wouldn't have it narrowing and so it's, so in terms of conclusion purely from the structural site it's not to cross the bog, and it's not a practical sort of structure, it's for some sort of other use, apart from just being, sort of hunting. The other one being sort of hunting or accessing resources, and also whenever you do have that sort of, that sort of interpretation for a site it's normally because you have those resources or tools actually on the platform, where people have dropped things or you have quite a few hazelnut shells, probably wouldn't have hazelnut shells at Hatfield, but you'd have that sort of, you'd have some sort of rubbish left over, where as other sites…

It's like leaving your litter behind?

HC Pretty much, yes. I mean, we don't have that at all. So the site's very peculiar. There's nothing else like it in the British Isles.

Where abouts is it in the peat horizon?

HC It's right at the very bottom, it's basically built on top of the muds which, I mean you could really explain that better than I can.

BG Yeah, basically the context of the site is, is situated within mud, mud deposit, so, a sediment which has been laid down in water, quite shallow water, we refer to it as the pool muds basically and they seem to extend across that sort of northern tip of Hatfield over and up to the north of Lindholme Island. Quite sort of, wide sort of, pool deposit belongs to, is the basic deposit, as you realise at the earliest stages of wetland formation at Hatfield, is the formation of this pool and the site is situated on the edge of this pool. The track way runs from the dry land across the edge of the pool to the platform which is situated again at what seems to be in terms of basic topography the slightly deeper part of the pool but we know that deposit stretches somewhere to the north as well which is what Henry's referring to when he says it's not sort of designed, it doesn't seem to be designed to cross that pool, the pool is bigger, you know, extends beyond the site, so it's not like it's just a small pool they cross, the pool is a large deposit and the site does not go all the way across it.

How deep would the pool be?

BG Probably not very deep and, part of the problem is that 'cause the peat's been cut away so heavily, heavily there, it's a bit hard to say, but on the basis of the archaeological stratigraphy and the relationship with the, in the underlying sediment, we not probably talking more than, you know, fifteen, twenty centimetres deep, maybe, in that region. So we're not talking about a big lake, we're talking about sort of a, a quite shallow, possibly seasonally quite dry sort of surface really.

So we're talking about a track way that is there before the peat is there?

BG There were very early stages of it. It depends what in pedantic sort of environmentalist way, it strictly is a peat, but it's not the peat as Henry referred to earlier, this is a long time, well it's in the very early stages of when we're getting this sort of raised bog growing, the raising bog, sort of only just starting to grow to the formation of moss peat, sphagnum peat, is only probably just happening towards the sort of, towards the end of this period really.

HC But, this whole landscape change at that point is hugely significant, I've not talked about dates at all for the site.

No I was just going to come onto that actually.

HC But, there's a lot of significance to the date, but what we are talking about is a later Neolithic site.

And what does that mean?

HC Well, the radio carbon dates bring it to, it's the early part of the third millennium B.C, which is basically between about 2900 and 2500 BC. So that sort of bracket it has been dated to, but the significance of this, this water body in the area means that what has previously been a pine dominated woodland now, giving you a bit of context of that, you go anywhere within the Humberhead Levels, you go anywhere in most of the UK at that time, throughout the Neolithic, the majority of the landscape's covered in woodland, so in terms of moving through that sort of woodland you're talking about, you don't have vistas in the same way as we do now, you know, you're understanding of geography is quite different. Now, if you have an area which has suddenly become wet you could argue that's a loss of resources maybe, or change in resources, for the Bronze Age certainly places in the Fenlands. It's been argued that actually there's almost a, because of wetland rise you've got a fighting of resources because you're losing land effectively. I think in terms of Hatfield it's quite different, you've had this woodland, never really these sort of views before, the rise in water and sort of beginnings of acid environment has killed the trees. So suddenly you are getting, for the first time, views, and this is quite, for a community which isn't used to that and these processes take time but, there's quite a dramatic landscape compared to anywhere else you're going to go in the Humberhead levels certainly. So people are coming along and they're coming to, not only is it just a wet pool, but lets say about fifteen, twenty centimetres deep maybe, that's hugely significant in terms of what you used to and actually the change of resources. So you know, it can't really be underplayed that this site has been built at a time when the environment's changed in a completely mind blowing way for the people who are living there.

Can you tell me something about the climate change, how we know what it is, well what happened and how we know that?

BG The roll of climate remains something of a moot point really both in the role of the formation of the peat lands and more generally throughout that period of pre-history and indeed later. The jury's still out to a certain extent on quite whether we've seen what role climate's played in the peatland formation, there is some evidence to suggest that the reason we're getting early sort of wetland spread, as it maybe, something to do with the climatic shift rather than the sea level. Which of course as Henry referred to, sea level is reaching it's current level around sort of with the Neolithic so the rivers which previously, as Henry said, previously draining the landscape stopped draining the landscape quite so effectively and start flooding, start, start, the base level, as the sea level would rise a little bit effectively the level of the rivers also rise up so they start to back up, is the expression. So water tables rise and it starts to get wetter which is why you get peat forming basically, because previously it's drained very well, the land's drained well. But, on Hatfield Moors of course we are talking about, it's, only a metre or so above O.D.at the track way site, that's about right.

So you're very close to sea level and with the rivers obviously so close to the moors there is the, the drains of the moors they started to back up water tables getting wetter, which is probably why you get these pool deposits forming and of course that's what's killing the trees, previously in dry sort of heathy landscapes but in the wet the trees are starting to die it's because there roots are getting saturated basically. So climate, the climate's doing some weird things generally throughout, you know, the last ten thousand years and disentangling some of those facts of climate changes is another story in itself, really.

How do you find evidence for things like climate change and trees disappearing as the water level

rises?

BG Well again it all comes from the palaeoenvironmental record, this is what it's all based on, and obviously we can't directly observe past eco systems, past environments, we only have fragmentary remains in the form of pollen preserved in peat as we've talked about already, in the form of insects and we can look at those records and draw certain inferences about, about the wider environment and from that sometimes about the climate as well. Plus when a bog starts growing, because of the way the bog's growing because of the fact that links to the atmosphere, which is where the water for the bogs comes obviously from the rain water, any changes in, in that rain water can be reflected in sediments in that record. So we can start drawing inferences if the bogs getting wetter or the bogs getting drier, we can make a start linking that to climate, but again that's another, just another use for raised bogs all of it's own really.

What kinds of differences would you see in the pollen record as you're going through it, what kinds of evidence will there be what kinds of plants..?

BG Typically we see the shift from woodland as Henry referred to, we see the shift from I suppose what we might refer to as the wild wood, I guess would be as good an expression as any, which by the Neolithic, so we're talking about closed woodland environments over much of the Humberhead Levels, and it's really only as we move into the Bronze Age and really Iron Age that that landscape starts to be opened up by people. So you start seeing over the pollen records that you start to see falls in tree pollen and rising percentages of grass pollen, periods of crops and herbs that are typical of grassy places, but that's as I say, during the Neolithic, during the time we are talking about the site, the pollen evidence shows we are talking about sort of a very closed up environment.

So again, that's sort of comes back to what we're talking about, the idea of a natural process of change killing trees, so the opening of the woodland by effectively what are natural processes which is something that wouldn't have, the people who were living in this landscape would have, that'd have been very obvious to them the fact that they're getting, what was dry land areas, you know on Hatfield Moors, is starting to become wetter and wetter and part of that process is trees dying, bogs are starting to grow and again if you live in that landscape, and generations before you lived in that landscape you'd understand it very well. So any sort of shift like that, which are really happening for the first time, would be a very, very profound, profound shift if you like, and I think that's important. Understanding the site and why the site's where it is I suppose.

Are you talking about a sudden change, and if you're talking about sudden what do you mean by sudden?

BG That's a good question within itself. By, by sudden it's, in a sense it's quite hard to quantify some of this and some of this work is still ongoing, but certainly the period between the formation of the pool deposit and building the site is about a thousand years, is it about that, I can't quite remember what the dates are. We're talking about the pools already being there for, for some centuries before they built the site, so we're talking in terms of that chronology, so it's not like the pool appears one year and the next year they build the site, it's not what you're suggesting, it's been a process that's been going on for centuries before hand but probably quite an inexorable one. So the pool probably starts quite small.

HC Starts in small areas.

BG And probably it starts to expand and maybe, you know, maybe you're talking about little pools that expand over the course of several centuries to start expanding, the trees and the landscape start to die and it's at that point you get the site appearing later on. So it's a big environmental change, but it is happening over quite a long period of time.

So if you say take three generations, which you could consider to be perhaps living memory, would you see, would you be able to see any change?

BG It's possible, again in disentangling this sort of thing from the environmental record is difficult because the nature of the record itself in terms of the chronology and separating the quite subtle changes out, we don't often have that resolution in the record, so again it's a sort of, it's a point you can debate, I mean, arguably you could say that it may have come in fits and starts as well. So you know, one, you need like a series of several very wet winters and that might be noticeable, you know, as we notice nowadays if we have several wet winters, but in terms of the process again that's more of a sub point for debate I suppose, if you like in terms of how perceivable that is by generations.

HC Some of the stuff we've been doing, say on the inundation of the North Sea, so when in really early periods we've done some modelling of this, so when Britain was cut off from the continent, the same questions you're, is in living memory, or in communal memory really, or is it stuff of myth. Which is really interesting because particularly in terms of how you respond to some sort of environmental changes, is completely significant and the sort of results we are getting, which are not directly applicable, but I think are interesting in, with respect to Hatfield, is that it's not the actual processes and the timing of the processes which seem to be significant, so not the actual rise of water, but it's the later on, knock on effect.

So what I would see at Hatfield, I mean this is my gut feeling if you like, is the, you've got the raising of the water, possibly in small areas, probably a bit of a mosaic of landscape, but becoming this big area and it's probably, it's noticeable but not hugely dramatic and that's been going on for probably a couple of centuries, as has been suggested and like I say there's a gut feeling but I think it's probably reasonable that as soon as that starts killing the trees in a significant way it's not the wetness that people notice, it's the sudden opening of this landscape and I think that's gonna be almost, more of a dominant effect. I think that although the actual processes are very long term, I think the actual impact and sort of perception of communities at the time is probably more rapid.

This is something which we are trying to get more resolutions on in terms of some of the dating we're doing, so at the moment we don't really know, that would be my, my views. It's not necessarily the actual processes themselves but it's the impact of the process and then the impact of that on the cultures at the time, the people who are actually living in those landscapes and I think probably for Hatfield, it's if it'd been a very rapid process you'd have had this landscape with the upstanding tree everywhere still, they'd be dead but they'd be upstanding and that somehow doesn't sit so well with the archaeology, as if you take it a bit of a longer time scale and you lose the woodland and you do create this natural clearance and that's what's becoming, is being revered, it's become different, it's distinct to people by that time. What do you reckon?

[Laughter]

BG Yes, this is where you move to an extent from, this is where archaeology becomes interesting I suppose because there's these sorts of points which you know, any story is valid as long as to an extent as long as you have the data to back it up, again that's something, you know, we've been discussing and we've got slightly different views.

What can the pollen record tell us about how quickly the trees disappeared and what happened to them?

BG Yeah, we can see that, we can see that quite well, you know, where we have pollen data and we have reasonably good chronology from radio carbon, so you can see some of the changes. We know that for example quite early on in the South of Hatfield Moors it seems likely that, really again, within a few centuries you're losing the trees quite quickly and then you have a period, for example, when it seems to get a bit drier and you get pine trees colonising the early surface of the mire. So you get, again you're talking about potentially, you know, over centuries rather than, you know, rather than millennia in the early stages of peat growth. But you have different processes overlaid at different, you know, different rates as well, just to really confuse the issue. Certainly in the early, in the early stages of peat growth we're probably talking about a reasonably rapid rise in water. We know from for example the preserved remains of the woodland in the south, in the north west part of the moors when you have lots of pre-peat trees preserved in the peat and that suggests that in those early stages that woodland died very quickly and the peat grows quite quickly, to preserve them if you follow me, by inference basically otherwise they'd have rotted away. So you're talking about, you know, processes operating at different time scales really.

Are these the trees that you can see as you're walking round sticking out of the water?

BG Yes they are basically, that's more or less.

The dead tree stumps?

BG The dead tree stumps, yeah that's trees that were growing either in the very early stages of mire growth or before mire growth on the actual, you know the drom sands themselves, the trees are usually, on Hatfield mostly pines. That's simply what the track way is made out of that's made out of pine, local, locally derived pine. Whether those trees have been chopped down by people or whether they're using the trees that are dying is another question itself, and that's also quite interesting in terms of how you interpret the site. Whether they are using dead wood or whether they are using wood they are chopping down, so.

And what kind of age would those trees be that you could see if you were walking round?

BG There's some of them, they're quite mature, I can't remember off hand, there has been work done by this, by, Gretel Boswijk, I can never pronounce her name properly! Who's a dendrochronologist, I can't remember what her pine chronologies show. The track way trees are I think at the maximum about twenty five, thirty years old. So you know, we're not talking about enormously mature trees, but…

HC But they do become younger as you go along the track way, as the track way narrows. The

actual diameters of the poles narrow as well, so they've got older trees at one end and younger trees at the other, so a selection.

[Inaudible]

HC Anyway, yeah.

I was thinking also, how old, as in what date they would have been around? What dates would they have been alive those trees? Can you tell me, is that something you can answer?

BG No I mean the dates for size, date, radio carbon dates on the timbers, so we have a date basically representing a date for those trees and those dates are radio carbon dates in between about 2900BC. So that's when those trees were growing, around then, you can get more exact calendar dates from dendrochronology of course, which is the study of tree rings, but those trees aren't, ones from the track way aren't old enough, they have to be a certain age, it's usually over thirty years old before you can compare what the chronology is. So I think it's unlikely we'll get an exact calendar date for the site, the date is based on radio carbon with that associated error that you have with radio carbon date which is effectively statistical measure rather than exact calendar date.

You talked a little about, I want to ask you about dating, you know, how, what did you use to date the track and..?

HC Well the structure of the track way is, there is this corduroy structure which means there is two layers, effectively, the underlying layer is poles laid down in the direction of movement and these are between two and a half metres apart at the southern end bearing down to less than a metre apart at the Northern end, so just two lines pretty much, following the route, in the direction of movement, then over the top of those you've got, you know, perpendicular to those you've got the other timbers. So when we sampled for dating, and all the dating was done by radio carbon, we sampled from both of the different layers, just in case, I mean it's very unlikely, but just in case there was a difference. Whether the substructure had been in use, and then the top bit had been mended and replaced, we wanted to sample from each section of the track way and those all came back consistent to be the same phase, at least statistically. But in addition to that we got numerous radio carbon data with peat as well from the surrounding landscape, and by surrounding landscape from the mean both of the whole of Hatfield Moors and there is bits from quite close to the track way and from further away which are not necessarily from the same unit but they also start bracketing things and the rates of change of peat growth and so we've got a number of dates from the actual site itself which gives us a secure dating for the actual structure, and from different bits of the structure and so on. But also we've got data which bracket that in terms of the landscape evolution which they can be tied back to all sorts of analyses which were done by people like Nicky and Gretel in the past.

Do you have anything else associated with human activity in the immediate area or an area that's relevant?

HC The immediate area is really quite, quite blank, but there are a number of small flint scatters which have sort of, the problem with the flint, let's say the Mesolithic flint is, you date it to an extent but technologies don't change that rapidly, so the, all the flint that's been found is not inconsistent with the date of the track way, let's put it that way. There's very little which is unusual if it was a normal

domestic site you'd expect to have more rubbish again and you'd expect to have more pieces around that landscape, there doesn't seem to be too much.

Now whether there is more actually on Lindholme Island it's not known, although there's never been any significant indications by, there's been various developments on there and when you start moving further a field, as you go around the Humberhead Levels, there's a gap, because you've got this warping, you've got this improvement, but when you go beyond that you get quite a lot of Neolithic, Mesolithic and Bronze Age flint work, from around, there are a lot of people in that landscape, like any other in many ways. There are people moving through that landscape. But the chances are much of the flint was actually in the peat, or within, depending on what people were doing within that landscape, what we, where we found flint was sort of on the edges of the peat, you know, so it's actually on the dry land edge but near to rather than actually in it. There is activity but it's almost, it's notable as far as there's very little around the site itself.

There are certain parallels you can make in terms of that and dry land sites which all comes to our conclusion. Do you want us to talk about the general conclusion, what we think the site is?

Yes, please.

HC On the basis of everything, the basis of parallels, you said earlier about parallels to other sites, now firstly the track way and platform is unique. In terms of it's date it's the earliest corduroy structure outside, there's two examples, there's one in Holland and one in Germany, which it's quite difficult to actually get the references for, but these have dated slightly earlier, quite big robust sort of structures and a little bit different but the same sort of design. The Hatfield example is the oldest structure of its type in the world apart from those two, so it's very significant for that. It's also the only site which displays narrowing in this sort of weird architecture, it's also the only site which we have which we've excavated both ends, so known just for corduroy type structures. It's also immensely significant more broadly. So, for that it's very early for that type of structure.

You say it's immensely significant more broadly are you going to..?

HC Yeah, I'm going to talk about that. But the, the sort of evidence we have, firstly sort of lack of fires. Now, there's a phrase in archaeology absence of evidence is not evidence for absence. But this one thing, it's as if the sites been cleaned; people have actually made sure there's no rubbish on the site, arguably.

Second thing is the actual architecture, the architecture is very, very unusual, and it has more parallels with dry land sites of avenues which are normally seen as ceremonial structures, with the idea of actually forming this dog leg bending, [inaudible], narrowing and funnelling access, even so far as if you were to stand at the Southern end, at dry land end of the track way and you were to look along it, because it narrows it looks longer than it really is. This is a, this is a technique I think Leonardo da Vinci used, forced, forced perspective. So the actual idea that it's a designed landscape feature, the fact that the poles become narrower as you go down, it makes the actual platform look more spectacular.

Now one thing, you've also got the thresholds, you've got these birch bark bits which, as if you're passing from one, you know, one element to another element, walking over, we're calling them thresholds, that's the interpretation and also one thing I haven't mentioned is the actual track way, the

alignment of the track, when you model the sub-surface sands, the sub-peat sands, what you find is the actual track way is running parallel to a ridge of dry land. It was actually, it wasn't just going out into the bog, it was actually running parallel to the area, so the distance from the platform at the end, which is the destination if you like, was actually quite close to dry land on the end of this ridge. So why build this structure down to it which goes along.

Now, I've likened this to, you've got a number of archaeological details, and I've likened this, sort of sticking my neck out, well we have stuck our neck out, at the same time in British archaeology, well across Europe, you're getting new monuments being formed, round about sort of later Neolithic, sort of very end of the Neolithic coming into the beginning of the Bronze Age and this is when some of the phases of Stonehenge are built, particularly the bank and ditch around the site which is known at the henge.

So the very beginning of it?

HC Pretty much the very beginning. I mean there's other early features at Stonehenge, but the, Stonehenge is slightly earlier I believe, but, the, you get this tradition of circular structures made out of banks and ditches, and these have a number of architectural details which you can sort of list, generally speaking, and sort of recent interpretation of these sites comes under this. Firstly, you tend to have, this is sort of generalising but, you tend to have an external bank and internal ditch which, if you think in terms of it can't be defensive. But what that ditch does is separate whoever is on the bank from whatever's happening in the middle, these are seen as ceremonial structures. So the idea is you actually have, it's about performance, following from social science work. You have a central area for performance, whatever that is and then you have an area for spectating, which is on the bank. But you are actually excluded as a spectator from the nuts and bolts of what is going on. So you can turn that round and say that actually what's the point in doing a ceremony if people aren't going to watch it, it doesn't make any sense. At this period we are talking about, using this sort of ceremony for power as well as religion, all sorts of [inaudible] which I'll come to. So firstly you've got this bank which is cut off, so the spectator's cut off from the performance, quite often you'll have an avenue running up to the site and the avenue will have a number of architectural visual effects, quite often, places like Avebury, a great example of it, a huge example of it and in these cases, and Avebury, you actually get this dog legging, as one of the avenues it will actually bend so at certain points you see different things as you approach, it's a directed approach very much like stately homes, again sort of 1900.

So, Avebury is actually an avenue with stone...

HC With stone, yeah.

stones down the side.

HC It's completely different but similar. The threshold thing, quite often we have certain deposits, which are identified archaeologically, at the entrances between, you know, from outside inside, there's certain elements which are marked on a monument and these henge sites, which define that sort of threshold. So there's a number of different elements to, how we can interpret a henge, which is normally seen as a ceremonial structure, in the case of Stonehenge, it became the site we know.

If we translate that, not in terms of the actual form, but in terms of the intentionality behind the form to

the Hatfield site then what we have is a platform, an area of performance, which is very close to this dry land ridge, so you can quite feasibly see spectators separated by the wetland and an air of performance. It's a similar sort of arrangement, very different but similar ideas. You also have an avenue running up to it and the avenue is also visible, so as you walk up, the actual avenue has certain stylistic similarities to some of the avenues you get in the most late Neolithic sites you get elsewhere. The fact it narrows and has all these sort of architectural details, is visible, what you call them, just sort of architectural tools really in terms of the construction, these thresholds, there's a number of similarities which mark it similar to the henges. Also henges tend to be quite clean, you don't tend to get artefacts, not randomly scattered. It's not really evidence on it's own but it's an interesting aside. So altogether you are getting a sort of similar, obviously in terms of an architectural blue print, the actual form's completely different, but you are getting a similar series of effects and the sites being built, henges are normally within areas of some sort of significance, either culturally or socially, or just in terms of landscape views, these sorts of things and there tends to be regional differences and in the things which they pick out for that, sort of regionalism within the Neolithic and what we're getting is a distinct landscape which it's working within, it's very distinct opening up within what would otherwise be a wooded landscape.
So I think what we're seeing is a very regional response to the similar sorts of cultural changes which were happening in the late Neolithic, which in one area, eg Salisbury Plain are turning to henges and many other areas of the country and I think we've got the same sort of approach happening but in this case it's a platform a track way within the middle of a wetland.

So you're saying it's a cultural change as well as, I mean, we've been talking about environmental change, do you think it's a cultural change?

HC Possibly a cultural response to an environmental change without trying to sound like, too environmentally deterministic which is, which upsets archaeologists, but I think the point, it's effectively a wetland expression of the things that you see in dry land archaeology, certainly so with the henges and we think we can situate, in this sense, we can situate it within what we've referred to already and that is drastic changes in the environment over the period of the centuries before the site was built.

So, I suppose you could see it in terms of loss of land, the loss of hunting land, and we know that people were in that landscape before it gets wet and they used it to hunt and they probably, maybe if it was even, maybe that's a pathway through the landscape, maybe that's why the site is where it is, cause it's been a route for many centuries, but what's happening is that route's disappearing. The trees are dying, it's getting wetter so maybe that is the context for this, for this response, this ritual response, maybe for ceremonies. I say this again, slightly going out on a limb because we don't know, we don't really know what sort of ceremonies we are talking about, but it maybe related to the loss of hunting land, ancestral land. Yeah, the expansion of these big pools and of course even though we are talking about sophisticated people they have no way of knowing that these changes are linked to things like sea levels and so forth all that they would see would be loss of land and expansion of water and growth of different communities, a very acid bog growing at that point as well. Probably somewhere just to the north of the site, so that seems very alien, sort of new landscape and maybe that's, the site is a response to that, sort of local response to that.

So the track way is actually at the moment where you've got, is constructed at the moment when you have a real impact on human activity coming from the land, from the environmental changes?

HC Yes, yeah if you like that's quite a good way of putting it. We're talking about, I suppose almost like, Hatfield was almost like a tipping point if you like, your landscape is starting to change drastically and of course from that point onwards, you know that's pretty much the beginning of the end for that landscape as a dry land, apart from Lindholme of course which never gets under the peat but from that point on you started to see an expansion of the bog on a large scale..

BG The track way was never maintained so presumably it was covered over.

I was going to ask you about this, if you could tell me, do you have any idea how long the track way was usable?

HC I suspect that it wasn't for very long at all, the difficulty we have is that the actual peat cutting, as I said before it's pretty much taken it right under the surface of the track way, so, what'd be nice is if we had the peat above that to start looking at the longer term sequence for seeing where it comes in. But my suspicion is that because there is no evidence that the actual track way was maintained, normally you'd have some sort of maintenance or just restoring, and the fact that it's preserved is that it's either pushed into the peat or peat grew, wetland grew around it quite rapidly which preserved the site. So I suspect that it was built at that time when environmental change was happening and it was inundated quite rapidly. So it's preserved for us, but also wasn't used very much.

Can I just pick up something from what you said before I forget it, you linked this site with others such as Avebury and Stonehenge and that kind of thing, I think you said more widespread even into European…

HC Yeah, you're getting that sort of cultural response all over the place. There's stuff in Scotland which Richard Tipping has been looking at which has similar sort of evidence in terms of the construction at a time of environmental change locally. Because what we're doing is looking at some local pictures as well as regional pictures and the national pictures but there was a shift towards the end of the Neolithic, there was a shift in the way that people are actually expressing ceremonial desires and that's how it's, and this is, it's at that period really that beginnings of the massive monuments starting just like Avebury and Stonehenge, which then continue into the Bronze Age and then these landscapes become the foci for loads of other activity and burial activity and all sorts of things. We've got the same thing down the road here in Staffordshire. So you're getting these new forms, these henges coming, round about, well from about 3000BC round about and there, there's quite a, a sort of departure from what's gone before in terms of landscape monuments the idea it being a focus and a circle there was other sorts of trends but, without going into sort of huge detail there's a shift and whether these, it's been argued these shifts are to do with a rising elite amongst the people, how that works within the sort of mixture between religion and power and all sorts of things.

It's been argued in all sorts of directions but what you are getting in late Neolithic is almost the culmination of what's been, like over a thousand years, more than a thousand years worth of development towards some sort of ceremonial focus power base, sort of structure. It was at that point that you're starting to get these sorts of, these sorts of cultural changes, at the same time you got the, the axe routes and you know, artefacts of….

What sorry?

Axe routes, you know, the polystone axes of, prestige items moving huge distances across, across the country, getting all these sorts of elements going on as well. The whole idea of communication at the end of the late Neolithic, across the country and prestige items and showing off the power and ceremony, religion, all those things really coming to a head at the end of Neolithic which is what, the date we're talking about the site.

The, the environmental change and the changes, cultural changes you just talked about, are they accompanied also with changes in economy and the way that people get the food that they need to survive?

HC Yes, this is again another really interesting debate which a lot of the assumptions of past years have changed now. It used to be seen that the Neolithic was the beginning of agriculture, which it might have been in sort of Southern Europe, but where we are it's not really, it's, the whole process of domestication, domesticating animals, you could argue well maybe this is in the Mesolithic people were, were maybe burning areas of woodland or chopping bits to try and attract new shoots, which attract animals, it's almost husbandry in it's own right. So there's not much of a far cry between that that gives us domestication but as far as things like the idea of having fields of crops it's not happening like that but you are getting, you're getting more of, you're getting bits of all of it, so it's been a gradual process from the early Neolithic all the way through this domestication. What you do tend to get is, you almost get this feeling that the Neolithic people, it's almost as if they're aware of being Neolithic and actually quite proud of the fact, I suppose!

[Laughter]

What do you mean by that?

HC Well they've got new monuments, they've got new artefact types, the new, sort of expressions of what they do in terms of ceremony and to take a sort of completely logical point of view which is not normally one which covers archaeology but you would, you would normally come, if you thought about this purely in terms of what's best for the individual. As soon as you start farming, from ethnographic parallels from people who studied what might be similar cultures elsewhere, which again has it's own arguments, it's been pretty much demonstrated that to become a farmer, whatever that means, is a lot more work and the pay off isn't very good compared to being a hunter gatherer type and this, I mean, I'm talking in hugely overly generalised terms but, so the, so what's happened by the Neolithic, you have to work harder for everything, finding things are getting a bit worse, you start to get the beginnings of things like tooth decay, because you're having a higher carbohydrate diet, you're having all these sorts of elements going on but still they're persisting. Now either that's coming from above where you're talking about power, which has been argued, or you're talking about people are actually just sort of flippant, off the hand comment there, it's like they're really proud to be Neolithic. It's almost just that, they can do it to spite themselves, it's that sort of approach.

But it's a really interesting period and I sort of see that whole phase as beginnings of almost beginnings of modern culture, you know we haven't changed at all since then.

How do we know that they're not farming?

HC Environmental evidence again.

BG I guessed we're sort of straying slightly to a sort of bigger debate that I don't know if you, you know these are some of the central debates in archaeology generally so..

I was just thinking in terms of how we know and what evidence would we get...

BG Farming evidence is based of course, evidence for farming of course is based partly on artefactual evidence for example processing crops and also remains of those crops as well, whether that's in the form of seeds, well usually in the form of seeds. That's the sort of information we talk about. Deposits from archaeological sites that show evidence for cultivation of cereals, sometimes in the pollen record but that's not quite so reliable really but I mean again, these are big debates and big questions themselves, quite what deposits represent in terms of, in terms of cultivation and again it's very regional things. It's something we were talking about the other night. It seems to be a very regional patched thing, who growing what where and when, when you're talking about as Henry says you're probably not talking Neolithic over night, settling down, growing big fields of crop, we're talking about more of a slight shift in pattern where they're probably just growing little garden plots within, within a woodland environment and then moving round and you know, with the herbs as well. So, but, I mean again these are big, you know, these are big debates within themselves really, quite honestly.

Ok, and so what happened to the track way after, we've got the construction, we've got a reasonably short period of use, what happened to it?

HC It becomes buried under the peat as it seems to be that it was constructed in that area, now different areas of Hatfield are slightly different as there, the development of peat or raised mire, it seems to be constructed just at the point when it's becoming raised mire so, it's, I mean the easy answer is it becomes buried underneath moss peat which is gonna be, which will become several metres thick we assume, and would've been different, different times throughout the history has been more or less accessible but the track way is invisible to anybody up until when the peat cutting started.

And is there any further evidence within the peat of any human activity, in terms of a settlement or economy?

HC Not really is there?

BG No well the problem is of course the records are largely missing, you have a [inaudible] of Hatfield Moors about fifty centimetres of peat at the most so, really the only thing that happens after that is it's largely guess work.

[Recording Ends]