

Identifying Richard III – an interview with Dr Turi King

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In light of the recent discovery of Richard III, Dr Turi King, lecturer in genetics and archaeology at the University of Leicester, talks about her involvement in the research project that found England's final Plantagenet king in this exclusive interview with The Post Hole.

You were an important part in the exciting search for Richard III. When did you become involved with the project?

Richard Buckley contacted me about the idea of my involvement in 2011, but it wasn't until August 2012 that the project went ahead. The University of Leicester worked in collaboration with the Richard III Society and Leicester City Council and the search didn't begin until 2012 due to issues with getting funding sorted and carrying out the desk-based survey.

In 1986, David Baldwin wrote an article called 'King Richard's Grave in Leicester' giving the potential location of Richard's grave. Then the historian John Ashdown-Hill wrote a book in 2011, *The Last Days of Richard III*, which again spoke about the likely location of the grave and also included a section on the possibility of identifying Richard through DNA analysis. John had traced a female line relative of Richard III, Joy Ibsen, who could act as a comparator if any putative remains of Richard III were found. This, among other things, inspired Philippa Langley to contact the University of Leicester Archaeological Services about the possibility of carrying out an archaeological project.

When DNA sequencing Richard III, the method involved using his DNA and also modern DNA – what process did you follow?

The process involved two case studies of modern DNA. Firstly there is Michael Ibsen, Joy's son, who is known to be descended in a straight female line from Anne of York, Richard's eldest sister. Joy Ibsen had sadly passed away some years ago; however, Michael kindly agreed to give us a sample.

The genealogical tree had to be independently verified, so Professor Kevin Schürer, our University's Pro-Vice-Chancellor for Research who is also an eminent historian and expert in genealogy, led the research finding every single document relating to that genealogy. He also set out to find another female-line relative, which was really important as it would allow us to triangulate the results. This other individual was contacted and they agreed to take part but wished to remain anonymous. The mitochondrial DNA of both these modern relatives should match as they are related through the female line, and if the genealogy was correct then their DNA should also match that of the remains – and that is essentially what happened.

Are there any differences when working with modern DNA and ancient DNA? Is one easier to use than the other?

Yes! Modern DNA is really simple to use; it's intact, there's lots of it about and it's very simple to analyse. Ancient DNA is much more difficult. DNA degrades after death. Whilst you are alive, your DNA is damaged through many processes – however, you have mechanisms in place in your body that fix that. After death, these mechanisms stop and you have various processes of degradation, so after time there is very little DNA left, if any, and what is left is in tiny fragments.

So there are two things you have to think about. Firstly, ancient DNA is extremely degraded, and secondly, it is very easy to contaminate the specimen with your own or other's DNA. That meant whilst Jo (Dr Jo Appleby – osteological analyst) and I were excavating Richard, we were in the full-on CSI outfit – the very sexy face masks (laughs), double gloves, hair back; that kind of thing. Anyone who had anything to do with the samples was completely gloved-up and suited just to minimise any possible contamination.



Turi King and Jo Appleby in protective clothing during excavation
(Reproduced with kind permission of Carl Vivian, University of Leicester)

Do you find that when working with ancient DNA, you face ethical problems? Do you come up against resistance or find that people are not keen on the idea?

I haven't found that people aren't keen on me doing this research on Richard, yet. There will obviously be ethical concerns regarding excavations with different populations in different locations across the world. For example, where I grew up in Vancouver, analysing ancient DNA of native populations has until recently been a very emotive issue; the view of the locals is that these remains are their ancestors. No matter what date they originate from, they felt very strongly about extracting DNA from them or disturbing them in any way and this needs to be taken into consideration.

This leads on to the arguments circulating the debate around the reburial of Richard III – whether he should be buried in York or Leicester. Do you take a personal stance on it?

I am from Canada, so it has been interesting to watch this from the outside, so to speak. To me it is pretty straightforward. When the University of Leicester Archaeological Services obtained the licence to excavate the remains, it stated he would be reinterred in Leicester Cathedral. This was in line with best archaeological practice.

I understand the arguments for him being buried in York surround the idea that he wanted to be buried there, but apparently there is no evidence for this. He didn't leave a will and none of his relatives are buried in York. He gave money to York Minster and some people say this is a sign that he wanted to be buried there, but he also gave money to Leicester and a number of other ecclesiastical establishments, so if you took that argument then Richard would need to be buried in around 20 different places.

The people who are distant relatives and want him to be buried in York want to challenge the terms of the licence under 'the right to family life' section of the Human Rights Act. They are distant relatives, not descendants of Richard, as seems to be often reported, because he left no descendants. If you calculate how many people are probably related to Richard at the same level that Michael Ibsen is to Richard, it's calculated to be between 1 and 17 million people. Indeed, as a geneticist, I can tell you that ultimately we are all related to each other and to Richard; it's simply a matter of degree. So if distant relatives are to be consulted, then to consult all the people who are equally related would involve somewhere over a million people.

From what I can tell, there is no compelling evidence, documentation or reason for him to be buried in York – much as I love York as a city! We don't know what he wanted. I do find it interesting and a little unseemly that it's descending into argument – I think the main thing is that he's respectfully reinterred in a suitable location.

Did anyone in the team have strong views on it?

Matthew Morris (Fieldwork Director) jokingly says that “York had 527 years to come and get him”. Many consider the terms of the licence and the fact there is no documentation he should be anywhere else as an indication.

Before the DNA results came back confirming it was Richard III, after carrying out the skeletal profile, did you initially think it was him?

The archaeological team were extremely convinced. To find him in the part of the Grey Friars where he was expected to be, the skeletal evidence, which was amazing, the stable isotope and radiocarbon were coming back confirming our thoughts... I would say the DNA evidence is a single strand in what is a much larger picture in the search for Richard III. Yes, I think the archaeologists were pretty happy and convinced it was him.

Before, we never really had a clear picture of Richard III due to varying interpretations. When you found the archaeological evidence were you surprised by it or not?

Well, we knew from contemporary accounts – one of them, John Rous, talks about Richard having one shoulder higher than the other, with Shakespeare indicating he was a hunchback with a withered arm, and Nicholas von Poppelau who talks about him just being slim in stature but nothing of any physical deformities.

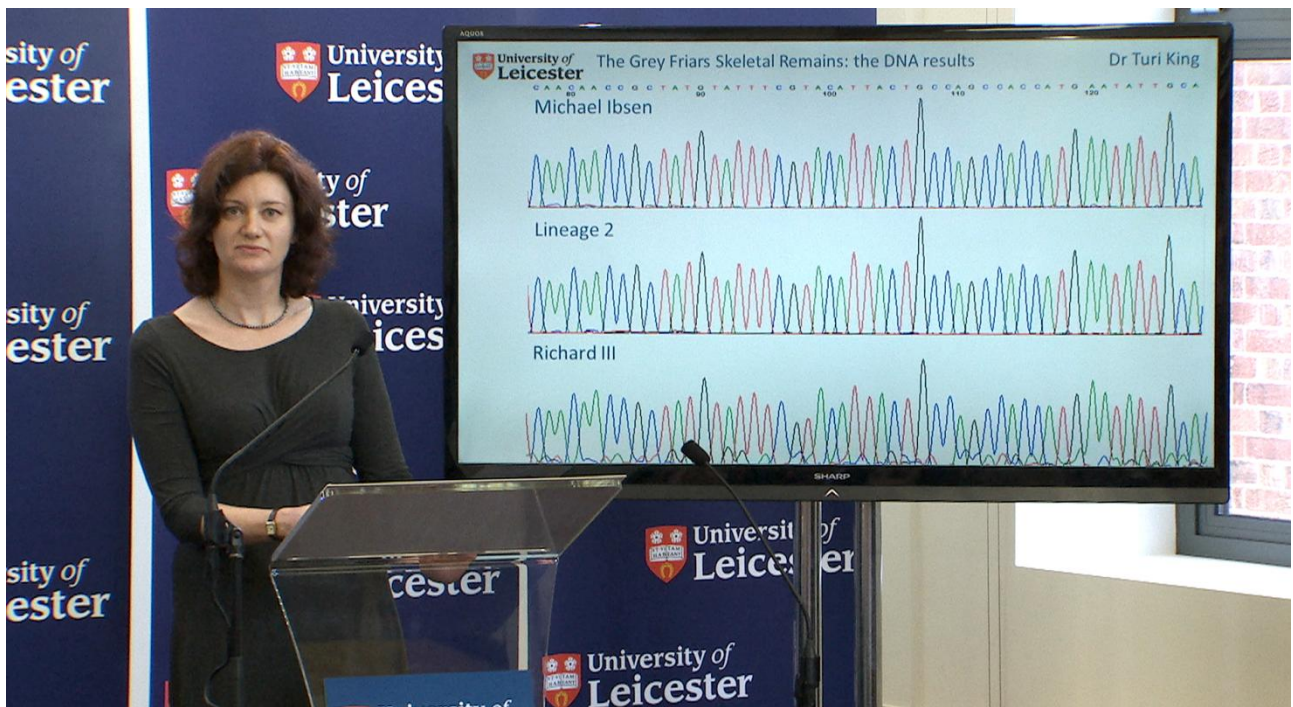
I actually missed the discovery of Richard – I had excavated with Jo on the Tuesday, but the next day I went off to a forensic conference. I remember Jo describing what she saw as she was excavating up from the pelvis; a spine was slightly bent and a skull with head injuries. The hairs on the back of her neck went up and it was, I think, one of those moments where she thought ‘oh my goodness’! The fact that he had severe scoliosis would be something helping us to identify him and suggested that we might have the right skeleton.

What was the general atmosphere like on the site?

We genuinely never thought we would find him and when excavation of the remains were carried out, I was actually in Innsbruck (Austria) and texted Jo asking about how the excavation was going. Her text back was along the lines of that she thought they'd found a likely skeleton. At first I thought she was joking and I don't think it sank in until quite a long time after, because you are in the middle of this big project. It has been a really interesting, if slightly stressful, project to be involved with due to this intense media interest. The difficulty was in trying to keeping things under wraps and not being able to announce certain things.

I can imagine there was intense pressure on you from people wanting to know if it was Richard III

There was intense press interest and I had people actually emailing me if I could give out Richard's DNA sequence, wanting information, etc. It's obviously something you want to present in a proper academic way, quietly and calmly, not some sensationalist kind of event; so we all worked together to maintain a proper academic approach to the excavation and revelation.



Turi King at the press conference (Reproduced with kind permission of the University of Leicester)



*Some of the media coverage of the press conference
(Reproduced with kind permission of Colin Brooks, University of Leicester)*

Was it therefore difficult to keep it personally under wrapped, from family and friends?

My husband didn't even know the results (laughs), although I think he probably guessed, as towards the end of the week I was dancing around the kitchen after doing the analysis and the results came in showing that the DNA evidence also pointed to this being Richard. So yes, very few people knew about it at all – indeed the rest of the team didn't know until the day before the press conference. I had the media trying to find me, contact me, ringing my phone, but if I didn't recognise the phone number I wouldn't answer.

How long did it take you to get the results from the DNA and remains?

I had to get into two DNA labs for the research, so that involved slotting into their schedules. I didn't get into the first lab until December and January for the second. I was working up to the wire, so it wasn't until the Thursday or Friday before the press release that I was sure it looked like Richard III.

After finding the remains and waiting for the results to come back, what was the feeling of the team? Was there a level of confidence, or were you all trying to be very cautious?

We were all quite cautious, but behind the scenes as each piece of evidence came back we were thinking 'this is looking really good'. The archaeology was pretty much done by January, so it was just a case of me finishing the lab work off. I didn't tell the rest of the team until the Sunday before the press release which was on the Monday.

How do you feel now, after the press release?

It has been amazing and I don't think it's completely sunk in yet. It perhaps won't sink in until I publish the paper with everyone.

Do you know when the paper will be out?

I am still working on it, but when the work is finished, the team will publish all the papers. It will hopefully be out either at the end of this year or early next year.

Finally, aside from researching Richard III, are there any other projects you are working on at the moment?

Mainly Richard, but I am the Research Fellow and Project Manager on a project called 'The Impact of Diasporas on the Making of Britain'. This involves using modern DNA to look at migrations to Britain during the first millennium AD. We are combining archaeology, linguistics, genetics, history and even social psychology.

I think its excellent incorporating disciplines with archaeology

Yes! I think multi-disciplinary work is definitely the way to go.

Thank you to Turi for speaking to us. You can find out more about her work and the project that found Rickard III at...

- The Discovery of Richard III, University of Leicester webpage: le.ac.uk/richardiii
- 'Richard III – Identifying the Remains' video: youtube.com/watch?v=mfi6gOX0Nf4
- 'Richard III – The Scientific Outcome' video: youtube.com/watch?v=91R-LkW2x3s