THE END OF THE NEANDERTHALS – BIOLOGY AND CULTURE

photo – BBC – amended

There is an item today on the BBC web site connected with what sounds like a comprehensive TV treatment of the now classic puzzle of the end of the Neanderthals – BBC NEWS | Science/Nature | The **icy truth behind Neanderthals.**

What happened to the Neanderthals?

Did they die out? Were they wiped out by "modern" humans?

Are they still with us now – their unique qualities assimilated by a superior species?

Most answers are based upon the classic biological view – that they couldn't comepete with modern humans – Neanderthals were too specialized and adapted to a particular (cold and icy) environment, less smart, with less sophisticated tools, more "primitive".

There's some great stuff reported here.

The TV program producers got two people to sit in cold baths –

… one with the long limbed, athletic shape of a runner, the other with the stockier, heavily muscled body plan closer to that of a Neanderthal.

The heavily muscled person lasted longer in the ice bath, so Neanderthals would have had an advantage. His

muscle would have acted as an insulator, and his deep chest did help to keep organs warm.

Even so, the advantage doesn't mean that Neanderthal could have survived the icy extremes – this was a polar wasteland and his heavily muscled body plan needed a lot of feeding: about twice as much as we need today.

Nearderthals had powerful forearms – a sign, apprently, of an ambush hunter –

… waiting in a forest for his prey to stray close, and then attacking with a thrusting spear. Neanderthal was possibly the most carnivorous form of human ever to have lived.

Beasts!

And it seems they could have talked – albeit with high squeeky voices!

So what is the verdict?

It seems that something much more random could have played a significant role. About 45,000 years ago, the climate of Europe went through a burst of very sudden switches between warm and cold conditions that would have transformed the Neanderthals' environment.

The forests on which they depended began to recede,

giving way to open plains. Here, Professor John Shea believes, the Neanderthal thrusting spear and ambush strategy did not work. Neanderthals retreated with the forests, their population falling as their hunting grounds shrank.

By comparison, modern humans made lighter stone points that could be fitted on to lighter spear shafts. These could be thrown, enabling our ancestors to hunt more effectively in an open landscape.

Hunting in an open landscape also required high levels of mobility to follow migrating herds, and the agility to throw the spears themselves. So the question for our team was: how did Neanderthal stand up to our ancestors in agility?

Analysing the inner ear of a Neanderthal, Professor Fred Spoor, from UCL, has discovered clues to Neanderthal’s agility.

The semi-circular canals of the inner ear provide us with our sense of balance, and by studying a range of animals, Spoor, has found a high correlation between the size of the canals and agility. Throughout human

evolution, our canals seem to have increased in size as our agility has increased.

But Neanderthals have smaller canals than modern humans, and even earlier ancestors suggesting they were less agile.

Returning to the skeleton, Professor Trenton Holliday found an explanation for this – that the short limbs and wide pelvis of our Neanderthal would have resulted in less efficient locomotion than modern humans.

Neanderthals – they stumbled and tripped into oblivion? (Photo – BBC)

But hold on, I say.

Archaeologically, one of the key features of this prehistoric time is the marked change associated with what is technically known as the middle/upper palaeolithic boundary. It is all about culture, as well as the muddle of new and mixed species of humans [Link – interbreeding Neanderthals]. People start making different and more varied tools, living in different kinds of camp, and, most spectacularly, they start painting caves, and carving and making figurines.

My point?

What about culture in all of this? What about ways of thinking and ways of life – not just stabbing with a spear or throwing it, springing through the undergrowth or stumbling muscle-bound, but everything to do with the cognitive and cultural capacity to deal with life.

It is a no-brainer, as they say in the US. We have to reconcile biology and

culture. A simple behavioral and biological answer to such an enigma as that of the fate of the Neanderthals will never be adequate if it focuses upon biology and anatomy and ignores the main evidence we have for what was going on – the cultural evidence of the life of human species, “modern” or “primitive”.

We have to overcome these eighteenth century stereotypes of modern and primitive, smart and agile, dumb and stumbling.

The story is far more interesting than biological success and failure.

I think the enigma of the Neanderthals takes us to the heart of what we place at the core of human identity – culture, communication and self-consciousness. I think we can archaeologically track changes that mark the emergence of such a distinctive cognitive capacity that marks human identity. And it is about the co-evolution of biology and culture that accounts such as this offered by the BBC avoid.

This is the subject of one of the chapters in my Origins book.