

# The 'other' red meat on the 'real' palaeodiet

May 7 2015, by Darren Curnoe

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Reconstruction of a Mesolithic (late hunter-gatherer) tomb from France. It shows two women in their twenties or early thirties, both with traumatic injuries to the skull. One is believed to have been buried while still alive. Credit: Wikipedia Commons

The so-called palaeodiet, and now even the palaeo-epigenetic diet, has come under a lot of scrutiny of late for making wild and unsubstantiated

claims and for being downright dangerous to our health.

I think its fair to ask if we're serious about the palaeolifestyle, then just how far are we prepared to take this obsession with our Stone Age heritage and its claimed benefits?

If it really offers a panacea for good health, shouldn't we all become cave dwellers again and consume the full variety of foods our ancestors actually ate?

Are we really willing to eat the 'real' palaeodiet, even if it means munching on grandma when she passes away?

## **Being preyed upon by palaeodieters**

Palaeodiet advocates prey on the deep-seated anxieties we all share about health and longevity, as well as our cultural fixation with body image, and the idea of naturalness and a sentimental connection to our past.

Its highly selective and unscientific interpretations of human biology should be a massive pause for thought.

But, of course, this is a naïve view of the real world: the fad diet industry makes its money from sales fuelled by ill-informed celebrity endorsements and publishing companies that fail to give health claims proper scrutiny.

And, importantly, making cash from diets that by their very nature cannot work is what the fad diet industry is ultimately all about.

If these diets did work then there'd be no industry because we'd all be following the successful one, instead of shifting diets every year or so to follow the latest fad, forking out large sums of cash as we do.

And let's not be under any illusions here, the palaeodiet segment of the fad diet industry is worth a lot of money: [according to the Sydney Morning Herald](#), the on-line book shop *Amazon* has holdings of around 5,000 titles on the palaeodiet alone.

## Where's the science?

I've written previously about some of the problems with the palaeodiet and palaeolifestyle fad from a human evolutionary and anthropological viewpoint.

It's also the subject of one of the episodes of my UNSWTV YouTube series, *How did we get here?*

Last year the *Dieticians Association of Australia* [criticised the palaeodiet for being unhealthy](#) and going against best nutritional science, opening themselves up to an angry tirade on social media.

Earlier this year, the [Association of UK Dieticians](#) didn't pull any punches in its assessment of the palaeodiet either, describing it as, "An unbalanced, time consuming, socially isolating diet, which this could easily be, is a sure-fire way to develop nutrient deficiencies, which can compromise health and your relationship with food."

A common criticism I have received in the comments left after my article and film is that I'm missing the point about the palaeodiet, that it's apparently about eating 'real food' and rejecting government guidelines like the [Australian Guide to Healthy Eating](#), which apparently haven't worked.

Putting aside the fact that most people don't or have never properly followed government guidelines anyway, the palaeodiet is not unique in suggesting that people 'just eat food'.

The journalist and author [Michael Pollan](#), among others, has been saying this for almost a decade, nothing palaeo about his ideas though; and neither did his nor my grandmother live in a cave.

## **The 'real' palaeodiet?**

The simple fact is that for most people alive today we don't have a very good idea what our hunter-gatherer ancestors really ate.

That's because most of them gave it up 5,000 or 10,000 years ago, and there's little by way of a detailed archaeological record for us to reconstruct their diet from.

What we do know about hunter-gatherers around the world, ones studied by European ethnographers during historical times and those whose lifestyle we have managed to reconstruct in a very patchy way from the archaeological record, is that flexibility and diversity were the keys for our species.

No single diet fitted any single group, and everything eaten depended on where in the world people lived, keyed into local climate and environmental diversity, and seasonal availability.

One universal seems to be that people everywhere ate meat, from all kinds of animals; including even humans.

Of course, they ate a very wide variety of plant based foods as well, but meat seems to have been highly prized.

Cannibalism was practised by many different cultures across the world, and we're today probably all carrying the evidence for it in our genomes.

It seems distasteful, or even macabre, by modern cultural standards, and

is rightly outlawed, but we can't escape the fact that our evolutionary ancestors practised it at one time or another.

Two kinds of cannibalism were practiced: so-called 'nutritional' cannibalism, where human flesh was a part of the diet, and 'ritualistic' cannibalism, where humans were eaten as war trophies, as part of religious sacrifice or perhaps after a revered elder died.

An article published recently by [Silvia Bello from the Natural History Museum in London](#) and her team in the *Journal of Human Evolution* described evidence for cannibalism in the UK dating from around 14,700 years ago.

These were some of the last hunter-gatherers in the UK before farming arrived, and their diet included human flesh.

Bello and her co-workers documented extensive evidence for defleshing, the disarticulation of skeletons, chewing, including human tooth marks, crushing of spongy bone, and the cracking of bones to extract marrow.

Evidence for Stone Age cannibalism exists from other parts of Europe, Asia and the Americas, as well as human flesh consumption in many places in much more recent times.

A well-documented example is the association between the [prion disease Kuru](#) and consumption of the human brain in cannibalistic feasts by women living in a region of the Papua New Guinean highlands.

## **Human flesh eaten far back in time**

Cannibalism has an evolutionary history going back to at least 1.2 million years, as seen at the hominin fossil site of Gran Dolina, in the Atapeurca region of northern Spain.

The species involved was [\*Homo antecessor\*](#) and evidence shows that in one fossil deposit alone dozens of fossils sport cut marks, percussion pits and scars left by stone tools during butchering.

Even earlier, the type specimen for the species [\*Homo gautengensis\*](#), skull Stw 53 from roughly 1.5 million year old deposits at Sterkfontein Cave in South Africa, and which I described in 2010, bears the signs of defleshing.

The signatures of cannibalism have even been suggested to be present in the genome of our species indicating a deep and global evolutionary ancestry.

Prion diseases like Kuru are under strong genetic control and in humans their susceptibility and resistance is associated with variation in the PRNP gene.

The pattern of genetic diversity of this gene has been [studied by Simon Mean from University College London and his team](#), who proposed that its high levels of global variability are associated with widespread cannibalism in our evolution.



Excavations at the 0.8-1.2 million year old Grand Dolina site in Atapuerca, Spain. The earliest evidence for cannibalism has been found at this fossil site.  
Credit: Wikimedia Commons

## **What about the bread for that human steak sandwich?**

Palaeodieters claim that humans didn't evolve to eat grains and that their consumption only began with the agricultural revolution around 10,000 years ago.

In other words, grains are not part of the '[natural](#)' human diet and should be off the palaeodiet menu.

Nutritionists have been especially concerned about this because most of us already don't get enough fibre in our diets, and for most people, wholegrains provide a vital source of dietary fibre.

When we look at the human genome we find that it contains a gene called the salivary amylase gene, which produces an enzyme in our saliva to help break down starch before we ingest it.

We humans possess an average of seven salivary amylase genes across the globe compared to chimpanzees which possess only two.

Interestingly, among living people, the number of salivary amylase genes varies from around 4-14 copies, and is associated with varying levels of salivary amylase protein and starch consumption.

Moreover, with the sequencing of the genomes of our Neanderthal and 'Denisovan' cousins we now know that they also had only two copies,

just like chimpanzees.

[George Perry from Pennsylvania State University](#) and his team reported salivary amylase gene numbers for our extinct cousins earlier this year in the *Journal of Human Evolution*.

They also suggested that the extra human copies arose in our evolution during the last 550,000-590,000 years - after we split from our common evolutionary ancestor with the Neanderthals - suggesting they probably pre-date our own species by a couple of hundred thousand years.

## **Good intentions, gone wrong**

It's laudable that people want to improve their health, or hope to stave off lifestyle diseases like cancer, diabetes and coronary heart disease, by adopting a diet based on healthy choices.

I also think it's admirable to aspire to eat in ways that might be a better 'fit' for our biology and evolutionary history.

As noble as this idea might be, we simply won't get there through some fad diet, like the palaeodiet.

It's not based on good science, as many of its celebrity supporters will openly admit, and now has more to do with making money than providing [good health](#).

Surely we owe it to ourselves to make the connection between what science tells us causes lifestyle diseases and a science-based approach to preventing them?

Darren Curnoe is Human evolution specialist & ARC Future Fellow at UNSW Australia.



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