

Quotes

The Daily Chimpanzee

"So God created man in his own Image, in the Image of God created hee him; male and female created hee them".

The 6000 year old bible.

"Mystery of modern man's hands solved: Bone reveals that our limbs transformed into dextrous tools 1.42million years ago"

The Daily Chimpanzee 17/12/13

"Both are just a load of Old Fanny".

Chris Spivey – Just sayin'.

**Mystery of modern man's hands
solved: Bone reveals that our
limbs transformed into**

dextrous tools 1.42million years ago

- A bone found in Kenya is the earliest evidence of a modern human hand
- It is the third metacarpal which connects to the middle finger and the wrist
- There is a projection at the end of the bone which is unique to humans
- This feature is called a 'styloid process' and helps us to grip and use tools
- The bone dates back 1.42 million years – half a million years before previously thought

By [VICTORIA WOOLLASTON](#)

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The discovery of a human bone in East Africa may finally reveal the mystery of when our hands evolved to be able to use tools.

Researchers from Missouri found the bone, which has a unique projection that helps it to connect it to the wrist, in Kenya and it is thought to have belonged to early ancestor Homo erectus.

Until now the unique bone structure has only been seen in modern-day humans and Neanderthals, and the discovery means the feature may have evolved more half a million years earlier than previously thought.



Researchers have discovered what is believed to be a *Homo erectus* hand bone in Kenya, pictured. It has a unique projection previously only seen in Neanderthals and modern-day humans. The finding hints that the evolutionary feature may have appeared half a million years earlier than first thought

WHAT IS THE 'STYLOID PROCESS?'

The styloid process helps the hand bone lock into the wrist bones, allowing for greater amounts of pressure to be applied to the wrist and hand from a grasping thumb and fingers.

The lack of the styloid process created challenges for apes and earlier humans when they attempted to make and use tools and may have increased the chances of having arthritis earlier.

It has previously only been seen in Neanderthals and modern-day humans, yet the discovery of a bone with this projection in Kenya dates back 1.42 million years.

This is half a million years earlier than previously thought

and would have been when Homo erectus lived in Africa.

The earliest fossil evidence ever found of Homo erectus dates back 1.8 million years and originated in Africa.

Whereas, the first humans said to have Neanderthal features are thought to have lived in Europe as early as 600,000 to 350,000 years ago.

Humans have a distinctive hand anatomy that means we can grip and use tools and grasp items much tighter than apes and other non-human primates.

The evolutionary point at which our hands developed this feature has, until now, remained a mystery, because it had only been found in more recent ancestors.

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The new bone, found at the Kaitio site in West Turkana, Kenya, is thought to be the missing link because it dates back approximately 1.42 million years – when Homo erectus would have lived in Africa.

It is the earliest evidence of a modern human-like hand, indicating that this anatomical feature existed much earlier than first thought.

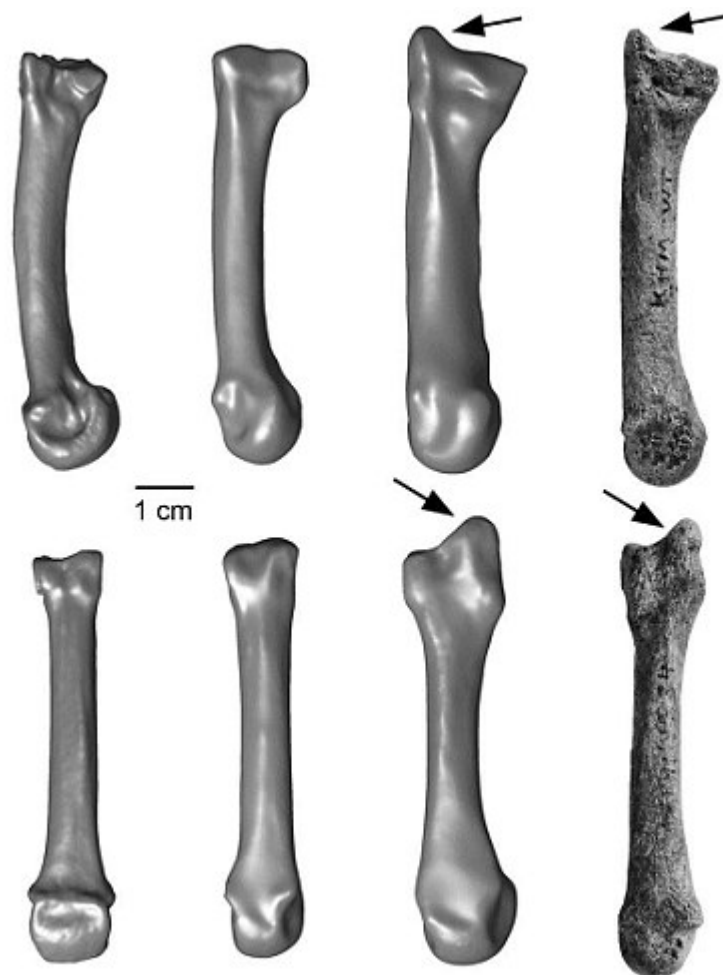
Professor of pathology and anatomical sciences Carol Ward of University of Missouri said: 'This bone is the third

metacarpal in the hand, which connects to the middle finger.

‘What makes this bone so distinct is that the presence of a styloid process, or projection of bone, at the end that connects to the wrist.

‘Until now, this styloid process has been found only in us, Neanderthals and other archaic humans.’

The styloid process helps the hand bone lock into the wrist bones, allowing for greater amounts of pressure to be applied to the wrist and hand from a grasping thumb and fingers.



ape *Australopithecus* human Kaitio

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This diagram shows the different hand bones in apes, left, the hominid *Australopithecus*, humans and the recently discovered *Homo erectus* bone, right. The researchers found a styloid process at the end of this latest discovery, which helps connect it to the wrist, and this is a unique feature found in more recent ancestors



The bone was found at the Kaitio site in West Turkana, Kenya, pictured. The earliest fossil evidence ever found of *Homo erectus* dates back 1.8 million years and the species originated in Africa



The *Homo erectus*, model pictured at the Field Museum in Chicago, may be the missing link in the evolution of the modern-day human hand. The lack of the styloid process created challenges for apes and earlier humans when they attempted to make and use tools and may have increased the chances of having arthritis earlier.

The bone was found near sites where the earliest Acheulian tools have appeared.

These are ancient, shaped stone tools that include stone hand axes more than 1.6 million years old and indicate early humans were almost certainly using their hands for many other complex tasks as well.

Professor Ward added: 'The styloid process reflects an increased dexterity that allowed early human species to use powerful yet precise grips when manipulating objects.

'This was something that their predecessors couldn't do as well due to the lack of this styloid process and its associated anatomy.

'With this discovery, we are closing the gap on the evolutionary history of the human hand.

'This may not be the first appearance of the modern human hand, but we believe that it is close to the origin, given that we do not see this anatomy in any human fossils older than 1.8 million years.

'Our specialised, dexterous hands have been with us for most of the evolutionary history of our genus, Homo. They are – and have been for almost 1.5 million years – fundamental to our survival.'

The study was published in the Proceedings of the National Academy of Science.

Read

more: <http://www.dailymail.co.uk/sciencetech/article-2524758/Mystery-modern-mans-hands-solved-Bone-reveals-limbs-transformed-dextrous-tools-1-42million-years-ago.html#ixzz2nibX9Cko>

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