



This is not a word for word transcript.

William: Hello and welcome to 6 minute English. I hope you're ready for another five minutes and fifty-five seconds of wonderful English language conversation about an interesting topic from BBC News. I'm William Kremer.

Helen: Hello, I'm Helen Hu. Today we're talking about **genes**...

William: Oh right! Is that why we're both wearing jeans?

Helen: No, no, not that kind of jeans. Genes spelled G-E-N-E-S – these are the molecules in our body which hold genetic information. So genes tell our bodies how they should grow and develop.

William: Right, and genes are what parents hand down to their children. We carry genes from one generation to the next.

Helen: Now before we go any further, it's time for our weekly quiz. Were you very good at science at school, William?

William: Not particularly.

Helen: Good! You'll be rubbish at this then. OK, the question is: How many genes do human beings have? Is it

- a) between 10,000 and 25,000 or is it
- b) between 100,000 and 250,000 or
- c) between 1 million and 2.5 million

William: OK, well I have no idea so I'm going to go for c) between 1 million and 2.5 million.

Helen: OK, well the answer will be at the end of the programme. Now, a new scientific study has looked at the genes of lots of animals and found **traces** of the same **viruses** that existed a long time ago.

William: Right, they found traces – signs that something happened or existed. And the traces they found were of viruses, the tiny creatures that spread infectious diseases. So Helen, they think that these viruses have existed for millions of years then...?

Helen: Exactly. Let's listen to a clip from BBC correspondent David Shukman. See if you can hear which animals the researchers studied:

BBC correspondent David Shukman:

Researchers from Oxford, New York and Belgium have investigated the genes of 38 mammals – including humans, mice, elephants and dolphins, and they've found that most of them share traces of the same ancient viruses. The work has established that at least one virus infected our common ancestors as long as one hundred million years ago.

Helen: So, did you hear which animals were mentioned?

William: The researchers investigated 38 different mammals including humans, mice, elephants and dolphins.

Helen: That's right. And by comparing the genes of the animals they've concluded that there was at least one virus that infected our **ancestors** perhaps a hundred million years ago.

William: Wow. An ancestor is a person or plant that is related to something today but that lived earlier. So... so what? So what, Helen? What's the significance of that?

Helen: Well, for a start it suggests that these viruses are incredibly good at survival. And as we will hear in our next clip, these diseases have not only survived, but they also have **evolved** – they have changed and adapted slowly over a long time.

William: OK, so let's hear the next clip now. See if you can hear the word that David Shukman uses instead of the word viruses.

BBC correspondent David Shukman:

The scientists found that these micro-organisms have adapted to stay within their host cell, where they have thrived. So within the double helix of our DNA lies not only a legacy of past infections but also a miniature eco-system in which the viruses live on and evolve.

William: David Shukman used the word micro-organisms instead of the word viruses. A **micro-organism** is a very very small creature.

Helen: He said the scientists found that the micro-organisms had **thrived**, meaning they had prospered, they had developed well. The research suggests that our genes actually help viruses to survive and evolve. And some viruses have developed positive outcomes. For example the protein syncytin evolved from a virus and has helped develop the female placenta.

William: OK, so these micro-organisms can be good things?

Helen: Well, they are not exactly 'good', but they have helped us to evolve.

William: Ah sorry, I wasn't being very 'scientific'! Let's hear the final clip now, and we're going to hear the opinion of the senior researcher on the project. See if you can hear why he thinks his research could be useful in the future.

BBC correspondent David Shukman:

According to the senior author of the study, Dr Robert Belshaw of Oxford University, understanding these survivors from the distant past may provide clues to the early detection of cancers or infections.

William: Robert Belshaw thinks understanding the viruses might help the early **detection** of cancers or infections – they might help us notice these diseases early on.

Helen: OK, time to hear the answer to our quiz. I asked you how many genes human beings have and you choose c) between 1 million and 2.5 million. Well, the answer is a) 10,000 – 25,000.

William: Huh.

Helen: Ok, I can tell you're not that interested in this so why don't you do something useful and remind us of today's vocabulary?

William: Okey-doke.

genes
a trace
a virus
an ancestor
to evolve
a micro-organism
to thrive
detection

Helen: If you would like to know more about these words, download our pdf script on bbclearningenglish.com.

William: Goodbye!

Helen: Bye!

Vocabulary and definitions

genes	molecules in our body which tell our bodies how they should grow and develop
traces	small signs that something happened
a virus	a very small creature that spreads infectious diseases
an ancestor	a person or plant that is related to someone or something today but that lived earlier
to evolve	to change and adapt slowly over a long time
a micro-organism	a very small creature
to thrive	to prosper, to develop or live well
detection	noticing something

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