

Could we bring back
the dinosaurs?



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Abstract

De-extinction is a brand new and exciting science, which is still in its development stage. Of all the extinct species to bring back, the most exhilarating and extraordinary would be species of dinosaurs, such as the T-Rex or the stegosaurus. A way of bringing back these animals would be to find a fragment of DNA of a dinosaur, which could be used to 'grow' one. However, it is very unlikely that DNA from 66 million years ago would still be intact today. Another method could be to reverse-engineer a chicken to have teeth and a tail. With so much difficulty though, and the ethical and safety problems, it is unlikely that this will ever happen.

Main Body

Ever since the dinosaurs became extinct 65 million years ago and their subsequent discovery in the late 19th century, humans have been transfixed by these prehistoric beasts, with many movies and books playing with the idea of somehow bringing them back. The most notable example of this is the 1993 science-fiction movie Jurassic Park in which the revival of several species of dinosaurs turns into disaster. But is this even possible and could it have a positive effect on us, contrary to the film. In order to answer the question, it is necessary to look at how it could be done, what the possible limitations of bringing back dinosaurs could be and whether the process of bringing back dinosaurs could have any positive effects on the world or humanity as a whole.

De-extinction, or the study of bringing back extinct animals such as dinosaurs, is a very new science, and one that is still very much in

development. However, recent developments do suggest that bringing back dinosaurs could be possible. The first (semi) successful de-extinction occurred in 2003 when a baby bucardo, an extinct mountain goat species in Spain, was born. The last bucardo previous to that, named Celia, had died four years earlier, however Spanish scientists including Dr Fernandez-Arias and Jose Folch had taken live cells from Celia when she was still alive. They then froze these cells in liquid nitrogen, keeping them alive. After Celia passed away, they managed to infuse the preserved bucardo nuclei with eggs of a goat and injected this into a mixture between Spanish ibex and domestic goats. Eventually one out of the 57 candidates became pregnant, giving birth to a bucardo in 2003, only to have it die not long after due to lung problems (Rincon, 2013). This, although not very successful in the end, is the first ever example of de-extinction, which could prove to be a big step in the right direction as far as bringing back dinosaurs is concerned.

Nevertheless, this technique in particular requires live cells from the animal, something that is tricky for us to obtain for dinosaurs. In Helen Pilcher's book, 'Bring back the King-the Science of De-extinction', she asks 'What if, many millions of years ago, there had been a hungry mosquito that dined on a dinosaur then became trapped in amber, with its last supper still inside its stomach. If one could recover a dinosaur blood cell from inside that mosquito and then transplant it into an egg that had had its own DNA removed', stating that this could lead to us being able to 'grow a dinosaur' (Pilcher, 2016). This theory is based on the fact that when tree resin fossilises, it forms amber, which is a gemstone. In fact, Dr Susie Maidment, a dinosaur researcher at the Natural History Museum has stated that, 'We do have mosquitos and biting flies from the time of the dinosaurs and they do

preserve in amber. But when amber preserves things, it tends to preserve the husk, not the soft tissues. So you don't get blood preserved inside mosquitos in amber.' (Osterloff, 2018). This means that although we have amber with insects from the times when the dinosaurs existed, the blood from the insects isn't preserved, meaning that dinosaur DNA couldn't come from amber. Even if dinosaur blood is found, that doesn't necessarily mean DNA will be found too, as Dr Maidment found out in 2015 when her team found red blood cells in a dinosaur fossil. These cells had nuclei in them, meaning they could not have belonged to a mammal, leaving making it likely that these cells were in fact dinosaur cells. After testing, however, they found out that these cells contained no DNA (Osterloff, 2018). The main problem is due to the fragile and vulnerable nature of DNA, with water and sunlight having very detrimental effects on it. To date, the oldest sample of DNA found anywhere is just shy of 1 million year old. In order for us to find dinosaur DNA, it will have to be well preserved even after 66 million years (Osterloff, 2018). The sheer time that has elapsed between when the dinosaurs were alive and now makes trying to bring them back very challenging indeed. If fragments of DNA were found my scientists, there would still need to be some work done to bring a dinosaur back to life. The main requirement would be a genome of a dinosaur, which is a full set of DNA of it. If we have a genome, then de-extinction of this animal would be possible. However, if we ever do find some fragment of dinosaur DNA, it is very unlikely that it would be a genome, meaning we would have to somehow fill in the gaps. Because birds are direct descendants of dinosaurs, bird DNA would be the best possible thing to create a dinosaur genome. Despite all of this, due to the extremely low chances of finding any dinosaur

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DNA, the likelihood of creating a dinosaur in this way is also extremely low. In theory, we could reverse engineer an animal, for example a chicken, so that it has a long tail and big teeth, like that of a dinosaur. This would create something that could look like a dinosaur, but this animal wouldn't be a dinosaur, because it would just be a genetically engineered chicken. Bringing back dinosaurs could be possible, but first we need to find dinosaur DNA, something that becomes less and less likely to find as time wears on.

It is also very important to discuss whether we should bring dinosaurs back if we could, and what the effects of that would be. Steve Brusatte, a palaeontologist at the University of Edinburgh, argues that the bringing back of dinosaurs would be a very bad idea. He states that 'bringing back *T. rex* and *Triceratops* would... simply be cruel' (Brusatte, 2018). The reasoning behind this is that, due to the fact that the world has evolved so much over the past 60 million years, a dinosaur would not be able to adapt to the conditions of the air, climate and even other species because mammals especially have evolved a great deal since the time dinosaurs were alive, as well as the fact that most of the species of animals alive today would be completely foreign to these dinosaurs. He further states that if we want to bring back dinosaurs to learn from and admire them, we should simply look at birds instead, which are direct descendants of dinosaurs, displaying many of the same traits as dinosaurs, including protecting their nests and fighting over territory. Additionally, if we were to fully concentrate on trying to bring back dinosaurs, it may bring attention away from currently endangered species who urgently need our help for example the giant panda. These ethical problems are certainly there, however a major reason to bring them

back if possible would be that we could definitely learn from them, and thus be able to truly ascertain what the earth truly was like 65 million years ago, also helping us to understand the future and possibly what the real effects of climate change will be. Of course, if we do bring back the dinosaurs, severe protective measures must be put into place, as no one wants a repeat of the events of the 1993 blockbuster, 'Jurassic Park'.

To conclude, we could one day be able to bring back the dinosaurs, by finding some fragment of dinosaur DNA either in amber or within fossils or bones. The chance of this happening is minimal at best, but it is possible. Alternatively, we could create an animal which looks or behaves like a dinosaur would, by genetically engineering a chicken so that it has a long tail and teeth as well as claws. Nevertheless, it would be a bad idea to bring back the dinosaurs due to the ethical issues surrounding it and that it would be very difficult to control, as well as the argument that we should just focus on species that could become extinct right now. De-extinction is a very exciting and new aspect of science, and has the potential to help us looking forward, but as far as bringing back dinosaurs is concerned, would be very tricky and we wouldn't really benefit from it either.

Bibliography

- <https://www.nhm.ac.uk/discover/could-scientists-bring-dinosaurs-back.html>
- <https://www.bbc.co.uk/news/science-environment-25052233>
- <https://www.salon.com/2018/06/24/a-paleontologist-explains-why-bringing-back-dinosaurs-is-a-really-bad-idea/>

- Bring back the King-the Science of de-extinction Helen Pilcher