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The Dawn of De-Extinction. Are you Ready? TED Talk Annotated Resource List

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Annotated Resource List

Ted Talk Information

I chose to watch a TED Talk titled: “*The Dawn of De-Extinction. Are you Ready?*” The presenter, Stewart Brand, discussed the topic of extinction and how new innovations in the rapidly growing field of genetic biology aim to reverse the process. Brand begins the presentation with a brief history of the Passenger Pigeon, and describes how humans are directly responsible for its extinction and many other animals such as the Carolina Parakeet, the European Aurochs, and the Tasmanian Tiger. He goes on to describe, in general, the sci-fi-esque process of bringing one of these extinct species back to life.

Basically, the process requires a full genome of the extinct species and a living relative that is genetically similar to the extinct species. In the case of the Passenger Pigeon, Brand describes how two scientists mapped its genome using samples from dead specimens found at the Smithsonian. Then, by using new technology like the Multiplex Automated Genome Engineering Machine genetic biologists believe they can synthesize living Passenger Pigeon DNA. Finally, the newly synthesized DNA is introduced to a particular species of pigeon genetically similar to the Passenger Pigeon, known as the Band-Tailed Pigeon, and the result should be a living, breathing animal that was once extinct. Brand closes with a discussion about how this process could potentially save currently endangered species from extinction, and why humans have a moral obligation to try and repair the damage we’ve done to nature.

Ben Watson
UC 175 – Fulkerson
2/12/16

Book Source

Church, George M., and Edward Regis. *Regenesis: How Synthetic Biology Will Reinvent Nature and Ourselves*. 2014. Print.

This text was specifically referenced in the TED Talk by the presenter, Stewart Brand. It is written by George Church, a genetic biologist and inventor of the Multiplex Automated Genome Engineering machine I referenced in my summary. Church is a pioneer in the field of de-extinction and has a current insight into the field that would be highly valuable to anyone interested in the subject.

Scholarly Journal Article Source

Ogden, Lesley Evans. "Extinction Is Forever ... or Is It? (de-extinction)." *BioScience* 64.6 (2014): 469. Print.

This article provides a nice introduction to the idea of de-extinction. It touches on the origins of de-extinction and humanities past efforts at conservation. It also provides basic information on the subject that would be especially useful for the introduction portion of a research piece.

Cohen, Shlomo. "The Ethics of De-Extinction." *NanoEthics* 8.2 (2014): 165-78. Print.

This article deals with the ethics and philosophical questions raised by de-extinction. It asks if humanity is in fact, "playing god" by bringing extinct animals back to the world of the living. This article definitely raises questions about the moral ground on which de-extinction stands.

Reference Source

Matthews, John A. "Synthetic Biology." *Encyclopedia of Environmental Change*. 2014. Print.

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This encyclopedia entry provides basic information about Synthetic Biology. It is helpful because the process de-extinction itself falls under the field of synthetic biology. A basic understanding of synthetic biology can help to make sense of the technicality of de-extinction.

Internet Sources

Zimmer, Carl. "The New Age of Exploration." *Bringing Extinct Species Back to Life*. National Geographic, Apr. 2013. Web. 12 Feb. 2016.

This article provides a real life example of a recent de-extinction attempt on a now extinct species of wild goat from Spain. It gives a lot of background information about de-extinction. The article also provides insight into the current state and the future of the field of de-extinction.

"Mammoth Genome Project PSU." *Mammoth Genome Project PSU*. Penn State University. Web. 12 Feb. 2016.

Mammoth Genome Project is an entire website dedicated to sequencing the genome of the extinct Woolly Mammoth. Sequencing the genome of a species is a huge undertaking and this site provides great insight into the process. The first step of de-extinction is to complete the genome of an extinct species so it is vital to include this process in a research piece.