## Brand's De-Extinction: Re-Birth of Ideas

This analysis is in response to your request for me to review Steward Brand's "The Case of De-Extinction: Why We Should Bring Back the Woolly Mammoth". I am particularly interested in this article because it poses a lot of interesting points about de-extinction. It will definitely make room for discussion amongst UTA students. You can even relate this article to Jurassic Park, because it more or less centers on the realization of Jurassic Park in our world! I believe this article will draw the immediate attention of readers of the Shorthorn. Further, this article is rhetorically sound, well supported and well written. Ultimately, I feel this article should be published in the Shorthorn because the topic will be interesting to students and Brand's use of rhetorical appeals is simply superb; it is clearly a piece of writing even the most discerning student can appreciate.

In this article, the author enigmatically but persuasively introduced his claim. According to Brand, "we should restore extinct genomes and species as well as protect endangered species". In other words, he believes that we should bring back extinct species and save those in danger. He gave some logical, well-thought out reasons to support his claim. First, de-extinction will preserve our rich biodiversity. Also, scientists can learn a lot. Finally, we will undo all the harm that humans have caused these animals. I think many UTA students will feel connected to this article since the reasons are so varied and the topic is so interesting. UTA is a very diverse community with students in the science field or students practicing conservation or even just adventurous people who are more than excited to hear that extinct animals can be brought to life! And the idea of "righting our wrongs" is something UTA students will latch on to because, as a whole, we care about doing the right thing.

As mentioned, Brand's first reason to support his claim is that restoring and reviving extinct and endangered species will increase the earth's biodiversity. This basically means that our environment will be filled with an eclectic collection of plants and animals. I feel this reason is likely to change the perspectives of Shorthorn readers, especially those who haven't put much thought towards this topic. It could also apply to those who have dogmatic feelings towards conservation biology/practices. To support this reason, Brand gives reference to a renowned

Russian scientist, Sergey Zimov, who noted that "if we reintroduce mammoths into the environment, they will in turn provide fertilizers". This is an example of how a species can affect biodiversity. This would enhance our biodiversity because more plants would grow and more animals would live off the plants. I feel that this reason is a good and sound logos appeal and that Shorthorn readers would agree. I would have liked to have seen a few more examples since not all UTA students know what biodiversity is, but I got his point and it is a good one. [TALKING ABOUT LOGOS, BUT IT COMES TO THE END OF THE PARAGRAPH TO TALK ABOUT IT]

[PATHOS] Brand also discusses the importance of the scientific information gathered from this experiment. Basically, de-extinction will help us learn more about science and technology. We have to remember that the Shorthorn audience not only includes freshmen students but PhD students and professors who are expected to put more effort into research. Imagine the reaction when these people read this! It will be more than fascinating; it will appeal to their sense of reason and curiosity. Brand tells us we are still learning within science and technology and we are limited when we only have bones to investigate. He mentions that, "tools for synthetic biology are advancing several times more rapidly than the Moore's law". In making this comment, Brand urges us to realize that we never expected technology to increase so rapidly, but it did. Why stop short of something so exciting? In this argument of degree, he is basically saying more of a good thing would be great. This makes sense to me but I am sure readers would have some concerns (which he acknowledges later). Nonetheless, I believe that Shorthorn readers, especially those in advanced fields of technology or science research, will find this reason compelling. In order to grow and learn more, we must take pioneering steps.

> The paragraph does not tell what It tries to do

Brand's final reason to support his claim centers on the morality of the audience. In this way, this piece of logos appeal is somewhat like a pathos appeal. But it is still effective because outside evidence is not really needed anyway. He says de-extinction will undo the harm that humans have caused in the past and wipe their hands from the guilt of their thoughtless actions. He means that it is our fault that some animals went extinct, so it should be our job to bring them

back to life through de-extinction. Some people might not feel it is their fault, what their ancestors must have done, but many UTA students would agree we all have a responsibility to make things better. Some readers will most probably be compelled to understand Brand's point of view with this reasoning.

Brand considers a lot of counterarguments too. Though he gives much attention to savvy biotech and conservationist naysayers, he also considers the general public. Brand realizes that readers such as you and I are worried about some particular issues in bringing back extinct species. For example, what if the animals run amok? Or they are kept in a place where they cannot fit in? He addressed this by saying conservation groups such as the IUCN Reintroduction Specialist Group and many others could help. Brand notes that readers may fear "can this even be done?" To be honest, he does not guarantee that restoration could definitely take place. But he assures people that it could almost be compared to cloning, so it won't be as hard as people think it will be to recreate extinct species and it is worth the time and money for what we could learn. He does admit to the fact that time is a barrier, and that he has no idea how long it will take to restore extinct species. But when I did my own research, I found some extinct species have already been brought back to life and it was not a super lengthy process - but then they died a few days after they were exposed to the environment - so the scientists had to start over. Anyway, it is possible and I believe, worth the effort. The way he approaches these counterarguments is done in a way that the Shorthorn audience can relate to, especially when he tries his best to respectfully give the most adequate answers to questions that concern readers.

## DON'T TAKE A STANCE ON THE TOPIC

Speaking of respect, Brand shows a vast range of credibility, which gives us the assurance that he knows exactly what he's talking about and is a trustworthy source. This is a strong ethos appeal. He mentioned that he established a credible organization with his wife, called "Revive and Restore" foundation. Also at the bottom of the article, there is a list of items showing his level of competency starting from how he attended Stanford University to how he worked under the supervision of his advisor, a well-known scientist Paul R. Ehrlich. He further establishes his ethos appeal when he mentions the event, TEDxDeExtinction, which he and his

co-founder set up in the National Geographic Society in Washington DC, featuring 25 scientists; all these accomplishments will make the Shorthorn readers compelled to trust Brand's expertise and his article. He seems pretty down-to-earth too, breaking down heavy science in a way all the readers can understand, further showing us that "pseudo-science" is not as impossible or complicated as we may have thought - and showing us he is intelligent but also thoughtful. Brand's attention to his audience extends to their emotions. He says there will be a pure thrill of bringing back extinct species to life and the sight of these species roaming the earth once more. This appeals not only to scientists or other conservation biologists but also to people like you and I. Brand shows his excitement when he says we should imagine an era filled with herds of mammoths "bringing forth tusker wisdom or a place where the skies are filled with clouds of passenger pigeons". He compares this excitement to that of man landing on the moon. This draws us to the exciting details of reviving and restoring these species. He tries to appeal to the feelings of the reader again when he writes "Children growing up in such a century might have a view of the relation of humans with nature that is not tragic, for a change." The essence of his reasoning is that if we accept his claim and bring back the extinct animals, we could live (or at least our children could live) in a type of emotional garden of Eden in which we all co-exist peacefully together. Students who are parents or have a passion for children will most likely find this appealing. To add to this, he says that with de-extinction "constant whining and guilttripping" could be replaced with "high fives and new excitement." As college students, we are on the cusp of life's adventures and the excitement of a revived species is something we can all relate to.

In conclusion, I feel that Brand has executed his logos, ethos and pathos appeals effectively, has carefully considered opponents and thoughtfully crafted this article. Thus, this will be a good article to publish in the Shorthorn. The article is informative; it creates awareness, and in total, is stimulating on many levels. Perhaps our involvement as readers of this article will further promote the advancement of de-extinction or at least get the conversation started.