

## Hairy questions: As scientists edge closer to resurrecting mammoths, a host of ethical and scientific issues arise

Colossal Biosciences, a biotechnology company based in Dallas, announced [March 6] that it has produced a line of Asian elephant stem cells that can be coaxed to transform into other types of cells needed to reconstruct the extinct giant — or at a least a mammoth-like elephant designed to thrive in the cold.

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The project raises hairy ethical questions: Who decides what comes back? Where will the reborn species go? Could the money be better spent elsewhere? And how hard will “de-extinction,” as the revival efforts are known, be on the animals themselves?

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And perhaps more profoundly, there is the question of how a mammoth, if born, will learn to behave like a mammoth. “Most of the mammals and birds that are being talked about have complex social and cultural interactions that have been lost,” [University of Manchester Zoologist Matthew] Cobb said. “They are not simply their genes.”

Modern elephants, for instance, are highly social beings, passing down knowledge about the location of watering holes and other survival skills from one generation to the next. Their ancient cousins may be similar. “They’ve got no elders to raise them, to teach them,” [University of Southampton Heather] Browning said. “They’re got no way of learning how to be mammoths.”

[\*\*This is an excerpt. Read the full article here\*\*](#)