A mammoth find in Khatanga

MAMMOTH:
The Resurrection of an Ice Age Giant.
By Richard Stone. Perseus Publishing. 250 pp. $26

We are drawn to vanished creatures, writes Stone, who himself is particularly drawn to mammoths: "majestic animals"—covered with long, orangey-brown hair over dense, soft undercoats—with "long narrow heads, downward-sloping hindquarters, small ears, and tusks up to 16 feet long." About 11,000 years ago, mammoths died out and their bodies fossilized or froze. Native Siberians thought the buried bodies were giant ice rats; Europeans thought they were elephants swept north in biblical floods.

Modern paleontologists know that mammoths lived on northern continents—Europe, Asia, North America—at the edges of Ice Age glaciers, on cold, dry grasslands called the mammoth steppe. What paleontologists don't know is why they vanished. Not to worry, though, for scientists always have theories: Maybe the warming postglacial climate changed the mammoth steppe and the mammoths starved; maybe our ancestors hunted them to death; maybe a killer microbe wiped them out.

Theories need evidence, and evidence in this case requires expeditions. So about a year ago, professional and amateur paleontologists, a Discovery Channel film crew, and a few journalists—including Stone, *Science*'s European news editor—journeyed to Khatanga, a mining town in Siberia, where a frozen mammoth was being held in cold storage. An earlier expedition had found the mammoth buried in permafrost. Instead of melting it out, which would have damaged its tissues, members of the expedition cut out the whole mammoth/permafrost block, hitched its 23 tons to a helicopter, and flew it to the refrigerator in Khatanga.

The second expedition aimed to thaw the mammoth out gently. Once thawed, the tissues could be studied by a group of scientists for lethal microbes. Another group of scientists, more forward looking, could extract sperm cells, use the cells to fertilize an elephant, and resurrect the whole species. Some nonexpedition scientists, more forward looking still, made plans to recreate the mammoth steppe for the species to come home to.

The book describes these expeditions and their leaders. Bobbing in and out are the stories of much else: other mammoth-finding expeditions, attempts to isolate mammoth DNA, technology for cloning extinct species, and evidence for extinction by starvation, by hunting, and by disease. The result at times feels like a shell game of people, history, and science, and the reader's biggest problem is keeping an eye on the pea. (Maybe someday we'll thaw out another extinct species, the book editor.)

The outcome of these expeditions is apparently disappointing. In a recent article, Stone says that the block of permafrost didn't hold the expected amount of mammoth, certainly not enough to verify any theories, let alone make some elephant a single mother. That needn't bother the reader, for the fun is in getting there. The book's science is beautifully clear, the expedition leaders are obviously nuts, and those mammoths are lovely to think about.

—Ann Finkbeiner