# Resurrecting the past

## Angela Lieverse finds poignant stories and profound lessons in the bones of ancient people

ASHLEIGH MATTERN (BA'11)

DAVID STOBBE

In one high-profile case study last year, Lieverse and her colleagues discovered one of the earliest cases of human cancer ever found. Lesions on the man's left hip bone show the extent of the painful disease.

ANGELA LIEVERSE

Another case study Lieverse published in February revealed an ancient tragedy: the bones of a young woman who died trying to deliver twins.

VLADIMIR BAZALIISKII

Angela Lieverse works like a detective: from the buried bones of forgotten people, she pieces together a puzzle.

Lieverse is a bioarchaeologist; she studies human remains from archaeological sites. An associate professor with the Department of Archaeology & Anthropology at the University of Saskatchewan, Lieverse is a scientist who studies both the physical world and human society.

"Archaeology is one of those sciences that bridges natural science and social science," she says. "Doing one or the other would be inadequate. First and foremost, all archaeologists are anthropologists—we're all interested in the human aspect of it."

In one case, Lieverse studied the remains of a man who died of cancer some 4,500 years ago in Siberia. His bones had destructive lesions, essentially holes, characteristic of a lung or prostate cancer that had spread. It is the oldest evidence of metastatic carcinoma, one of the most common types of cancer in humans, suggesting the disease is not exclusively a modern one.

In another recent case study, she looked at a woman who died trying to give birth to twins 7,700 years ago. It is the earliest confirmed set of human twins in the world, and the oldest archaeologically documented case of death during childbirth.

Even though she works with human remains, Lieverse says she doesn't find the work emotionally difficult. At least not usually.

"It is [difficult] when they're very small children, or infants, or in the case of the twins, where you see this young mother who died in pretty much the most tragic death ever," she says. "Maybe it's because I'm a mom, too."

Case studies get the most attention because they remind us that ancient humans were just like us. Both of the aforementioned studies were featured in national and international news media, including CBC science radio show *Quirks and Quarks*. Yet Lieverse says most of her research and publications aren't the kind the public would find interesting.

For that work, she looks at big samples, reconstructing activity patterns, mobility, general disease and population health. This kind of research may not be as popular, but Lieverse notes it's still essential to understanding the case studies; the interpretations she makes about those studies are only relevant because they can be put into a broader context.

Lieverse often works out of Russia, visiting the country almost every year since she first started working there during her master's degree in 1997. Russia in particular offers opportunities difficult to find elsewhere in the world. The country's Irkutsk region features an immense collection of human remains from a time period when most people didn't bury their loved ones. And perhaps even more importantly, it's not a problem politically or socially to dig up and study these remains.

In this part of Russia, the local Indigenous people don't identify as being descendants of these early period individuals, who date from the middle Holocene epoch 4,000 to 8,000 years ago. The Russians also have a keen interest in their country's history and prehistory.

It all comes down to respect, as much for living people as for the remains of the people she studies.

"I would never excavate remains if there were living people today who associated with those remains, who identified with those remains, and had a problem with it in any way," Lieverse says. As a result, she rarely works in North America.

This year, she'll be excavating in the Lake Baikal region of Irkutsk along with a colleague and students. They'll be looking at cemetery usage, learning about the social structures of these ancient Siberian foragers and learning about their health by studying their bones.

Although she's working to uncover the distant past, Lieverse's findings may be able to help answer questions we have about humanity's present and future. One of the major projects she is currently involved in looks at human adaptation and human transition with environmental change.

"This is really relevant to what's happening in the world today," she says. "How do people adapt culturally and physically to a changing world? While we're experiencing unprecedented environmental change now, there has been environmental change throughout the history of humankind."

Even when her work doesn't have a direct impact on modern life, there's still great value in her ability to paint a fuller picture of humanity's lost past, which in turn provides a surprising existential comfort.

"I think the more we understand past people, the more we understand ourselves," she says. ■