

modern strains of *Y. pestis* bacteria, those sampled from marmots and other rodents in Kyrgyzstan, Kazakhstan and Xinjiang in northwest China, surrounding the Tian Shan mountain range, were most closely related to the Kara-Djigach strain. “We can’t really say it’s that village or that valley, but it’s likely that region,” says Krause.

Rodents are the natural reservoir for *Y. pestis*, and humans develop bubonic plague only when a vector such as a flea passes on the infection. Krause suspects that humans’ close contact with infected marmots sparked the Kyrgyzstan epidemic, whereas immunologically naive rat populations in Europe fuelled the Black Death.

Tian Shan makes sense as an epicentre for the Black Death, says Slavin. The region is on the ancient Silk Road trade route, and the Kyrgyzstan graves were found to contain pearls from the Indian Ocean, corals from the Mediterranean and foreign coins, suggesting that faraway goods passed through the area. “We can hypothesize that trade, both long-distance and regional, must have played an important role in spreading the pathogen westward,” Slavin said.

Medieval ‘death certificates’

Obtaining genomes from plague bacteria ancestral to those behind the Black Death is “a tremendous breakthrough”, says Monica Green, a medieval historian and independent scholar in Phoenix, Arizona. “The headstones are as close as we will ever come to ‘death certificates’. So we know this lineage of *Y. pestis* was in existence then.” But she’s less sure of the study’s conclusion that the plague’s ‘big bang’ occurred at around the time of the Kyrgyzstan deaths in 1338–39. Green has hypothesized, on the basis of genetic, ecological and historical evidence, that the thirteenth-century expansion of the Mongol Empire catalysed the spread and diversification of *Y. pestis* strains responsible for the later Black Death.

Sharon Dewitte, a bioarchaeologist at the University of South Carolina in Columbia, says the work opens the door to studying the Black Death – and the wider outbreak it was part of, known as the second plague pandemic – beyond Europe. She’s keen to compare demographic and mortality patterns from people in Kara-Djigach who died of the plague with those from European Black Death cemeteries.

“Having more plague samples from ancient Asia and China will be super-interesting in terms of adding even more evidence to the Asian origin of the first and second [plague] pandemics,” adds Simon Rasmussen, a computational biologist at the University of Copenhagen who has analysed ancient *Y. pestis* sequences.

Krause hopes to analyse remains from China to see how a pandemic that so scarred Europe reverberated in East Asia, he says. “We would really like to get the Eastern part of the story.”

AFRICAN RESEARCHERS LEAD CAMPAIGN FOR COLLABORATION EQUITY

Statement on research partnerships between the global north and south highlights unethical practices.

By Holly Else

Researchers at the seventh World Conference on Research Integrity, in Cape Town, South Africa, have been hammering out the equity issues plaguing science partnerships that span the global north–south divide. Several sessions at the event were dedicated to the design of a soon-to-be-published document called the Cape Town Statement on fostering research integrity. The conference ran from 29 May to 1 June.

The statement will offer guidance on how researchers from low- and middle-income countries can become equal partners in international projects. The organizers hope that having a set of principles for fair and equitable partnerships will help scientists from the global south to speak out against unfair practices. These include not being properly credited and pursuing research questions imposed by collaborators from the global north that do not benefit local communities.

Although not all international collaborations are problematic, unfair and inequitable practices are rife, says Lyn Horn, who heads the Office of Research Integrity at the University of Cape Town. She is formulating the statement together with a group of researchers and ethicists. “Even people and funders with very good intentions perhaps don’t understand how entrenched some of their practices and processes are,” she says.

Researchers in low- and middle-income countries often work with peers from wealthier ones. This can bring advantages in the form of secure funding, which might not be available locally, and better career prospects as a result of working with prestigious institutions. Their partners benefit, too, because they gain access to local communities and expertise.

But these collaborations can be fraught with inequity. Sometimes, the research is funded and led by overseas scientists who arrive with a fully formed research question that either doesn’t address the issues of local people, or disregards their customs and traditions. Local researchers often have little involvement outside data collection and fieldwork, and are not always given fair credit for their contributions. In the worst cases, local researchers are not involved at all – foreign scientists simply fly in,



Social-justice researcher Thuli Madonsela at the World Conference on Research Integrity.

do the study and leave, a phenomenon called helicopter science – or do work that would not be ethically approved in wealthier countries, a situation known as ethics dumping.

“The statement is going to open up space for people to proactively engage on these issues,” says Francis Kombe, director of EthiXPERT, an organization in Pretoria, South Africa, that promotes ethical research, and who is contributing to the Cape Town statement.

On 16 May, a paper outlining the issues and possible solutions was published for discussion at the conference (L. Horn *et al.* Preprint at OSF Preprints <https://doi.org/hz46>; 2022). It includes a preliminary list of key values and principles – such as accountability, mutual respect and fairness – that are important for fostering equality and could be incorporated in the statement. The document also proposes actions that funders, research-team leaders, institutions, journals, publishers and scientists involved in these partnerships can take to redress the balance.

Those leading the discussions at the conference will now finesse the text of the statement, and hope to publish the work in a journal later this year. “The fact that we have contributed to the generation of these principles makes us feel that they are ours – we can lead by them,” says Amos Laar, a public-health researcher at the University of Ghana in Accra.