A HODGEPodge OF Evidence

For decades, scientists subscribed to the Clovis-first model of the peopling of the Americas, the idea that the earliest humans on the landmass had crossed the Bering Land Bridge after the Last Glacial Maximum when glaciers began to recede, about 13,000 years ago. These people spread widely throughout North and South America, as evidenced by the leaf-shaped spearheads they left behind. Some discoveries have begun to poke holes in the model, however. The Clovis people were in the Americas 13,000 years ago and did spread widely, but it's becoming more and more clear that they weren't the first humans to inhabit the New World.

who interact, and bacterial genomes evolve more quickly than do human ones. These factors mean that bacterial sequences could provide hints about how different groups may have traded or otherwise associated with one another, Achtman and his colleagues reasoned.

In a 2021 study, Moodley and an international team of scientists took samples of H. pylori from the stomachs of more than 500 humans currently living in different regions of Siberia and Mongolia. The researchers then compared the genetic sequences of these bacteria to those of representative strains of the bacteria sampled throughout the world, and found that the genetic lineages of the bacteria split during the Last Glacial Maximum: one group seemed to have remained isolated in northeast Asia, while another showed new mutations that researchers believe were introduced when people left Siberia during the Last Glacial Maximum, then returned thousands of years later.

The results suggest that some people survived in Siberia, despite the extremely harsh environment during the Last Glacial Maximum, with subsequent generations harboring their ancestral strain of H. pylori, a finding supported by fossils in the region. “The bacteria that these people would have had in their stomachs 24,000 years ago, it’s still alive and well [in people] in Siberia,” says Moodley. While the ancient people may no longer exist as a distinct population, he adds, “the bacteria that originally populated the stomachs of these ancestral northern Eurasians [is still there].”

Challenges ahead

These current genetic analyses offer many clues to how people moved through the continents, but considered in isolation they can only tell us so much. Unfortunately, melting ice has left...