

# Can You Dig It?

An archaeologically fertile area of the Middle East finally opens up.



Michael Danti, the archaeologist leading the effort to search the isolated Kurdistan region, stands atop a dig near Gird-i Dasht thought to include artifacts from the Early Iron Age.

## All of Iraq is not created equal

— at least not for archaeologists. Its war-torn northern region, known as Kurdistan, has been closed to digs for more than half a century. But the Kurdistan Regional Government (KRG) is now allowing a team led by Boston University archaeologist Michael Danti to search the mountainous area for artifacts. Their continuing efforts in the western Zagros Mountains, along the Turkish and Iranian borders, likely represent the best chance yet to dig at the root of Kurdish origins.

Case in point: While widening a road leading into Iran, Danti says Kurdish workers dug into a 25-kilometer section of hillside, exposing the buried and burned remains of several stone, adobe and timber buildings from the Early Iron Age. After carbon-dating them, Danti believes these charred remnants are connected to local marauding by Assyrian King Sargon II, who sacked the region's Kingdom of Musasir/Ardini about 27 centuries ago by unexpectedly

attacking from the east. “We think this modern road probably follows the route that Sargon II followed in 714 B.C.,” says Danti.

Danti's Rowanduz Archaeological Program — the first American project ever granted a five-year excavation permit in Iraqi Kurdistan — began work in spring 2013 at Gird-i Dasht. The site, thought to be an ancient fortified settlement, likely was continually occupied from roughly 3000 B.C. to A.D. 1800, during the area's Bronze Age, Iron Age, and Middle and Late Islamic periods. The archaeologists hope to determine just how much interaction there once was between ancient cultures in the area.

Danti predicts the team will uncover the remains of an Early Iron Age “militarized frontier zone,” complete with fortresses, watchtowers and population relocation camps. It would be a fitting reminder that history often repeats itself. —BRUCE DORMINEY

## Ask Discover

**Q** Why aren't we using thorium in nuclear reactors, given the possibility of a meltdown is nearly zero and the waste cannot be used to make bombs?

— Dennis Dorando  
Concord, Calif.

**A** In a word: precedent. It's certainly possible to base nuclear reactors around thorium, as opposed to the most commonly used element, uranium. And thorium reactors likely would be somewhat safer because of thorium-based fuel's greater stability versus uranium-based fuel, with the added benefit of not producing as much nuclear bomb fuel.

Of course, they're still not perfect. Even though a conventional meltdown would be unlikely, thorium still produces harmful radiation that needs to be contained, and something could always go wrong.

But the real reason we use uranium over thorium is a result of wartime politics. Cold War-era governments (including ours) backed uranium-based reactors because they produced plutonium — handy for making nuclear weapons.

With some modifications, today's commercial nuclear reactors could switch to thorium-based fuels, but at great cost. Thorium nuclear power might well be the answer for some countries, though; India and China are investing heavily in its development. —ADAM HADHAZY



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