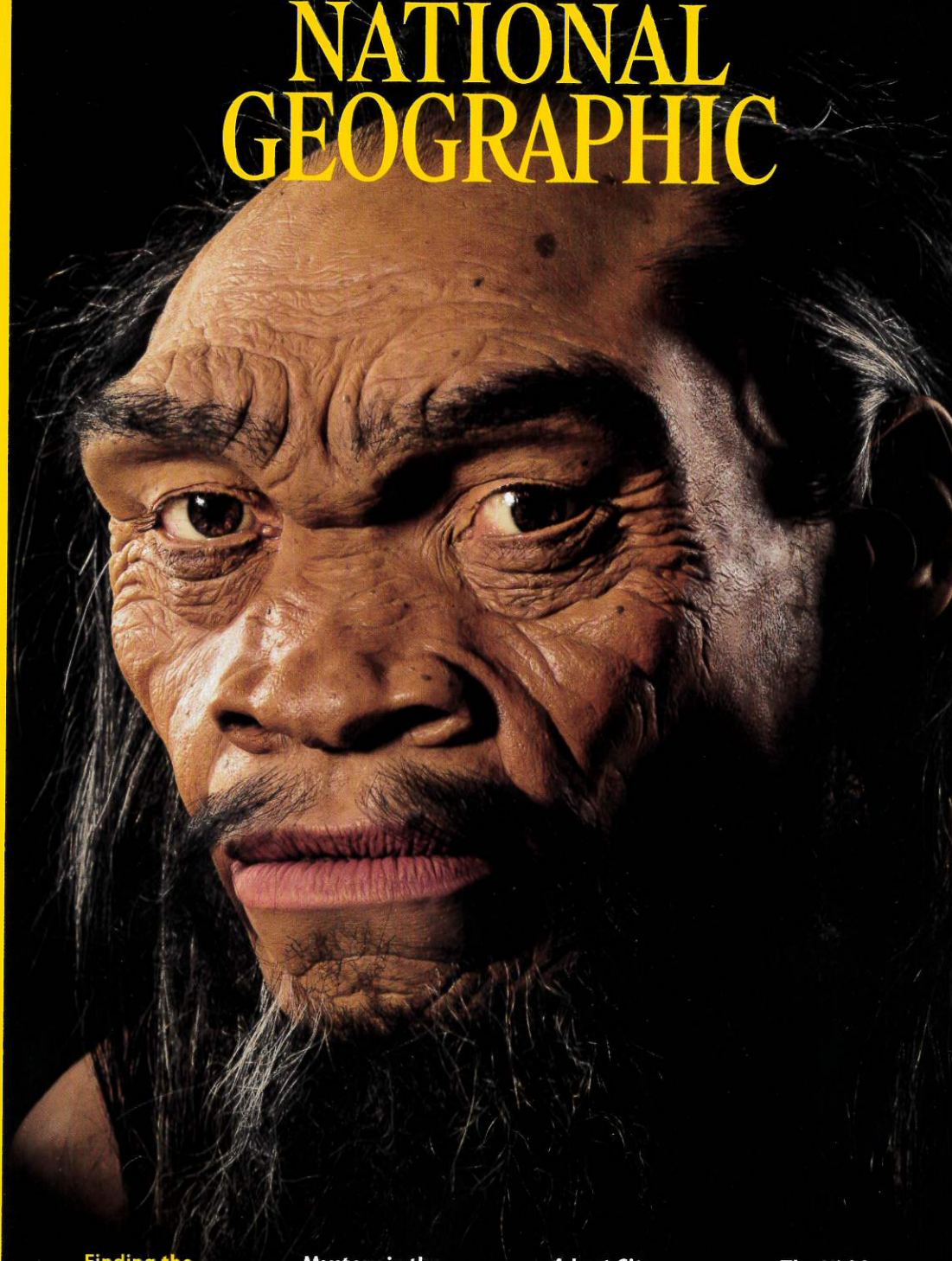


NATIONAL GEOGRAPHIC



**Finding the
Other Humans**

How new science is
rewriting the story
of our species

P. 14

**Mystery in the
Mediterranean**

Solving a
riddle on the
seafloor

P. 56

**A Lost City
Under Ice**

A Cold War
secret inside an
Arctic glacier

P. 86

**The Hidden
Lives of Ants**

A very close
look at a very
busy world

P. 110

CONTENTS

6 *IN FOCUS* / 13 *CONTRIBUTORS*

14

THE HUNT FOR THE OTHER HUMANS

For centuries, there was a gap in our understanding of how *Homo sapiens* evolved. New discoveries and biomolecular breakthroughs are now filling that void, revealing a new species of hominin and a far richer family tree than ever imagined.

52

SECRETS TO A LONG, HEALTHY LIFE

Hint: Don't worry about your lifespan. Focus on improving your health span—the number of active, disease-free years you have ahead.

56

THE MYSTERY OF THE RINGS

When scientists detected more than 1,300 perfect circles on the bottom of the Mediterranean, people puzzled over what they'd found. Eruption craters? Debris from World War II? Or could they even be ... alive?

80

GHOSTS OF THE GUANO ISLANDS

A 19th-century fertilizer boom turned Peru's bird excrement into a cash crop. But at what ecological cost? A photographer creates a powerful way to visualize the impact on local seabirds and the places they once called home.

86

REDISCOVERING PROJECT ICEWORM

Built inside an Arctic glacier, a classified Cold War base was heralded as an engineering triumph before it was abandoned. Now the lost facility is attracting attention for the surprising climate research that went on there.

102

THE TINY FOREST OF A BONSAI GIANT

First planted more than 70 years ago, this living work of art started out as a single tree and was expanded into a miniature forest known as Goshin. Its meticulously sculpted branches and exposed roots are the epitome of a vibrant Japanese art form.

106

INSIDE THE NFL'S FOOTBALL FACTORY

It takes a team of more than a hundred craftspeople to make Super Bowl-worthy game balls that honor the time-tested aerodynamics of the original design. See how they do it.

110

MEET THE HIDDEN KEEPERS OF THE FOREST

A rare close-up of the fascinating lives of red wood ants reveals the indispensable ways that these tiny (and stinky) insects play a big part in the world around them.

132 *NEW FROM NATIONAL GEOGRAPHIC*

ON THE COVER Paleoartist John Gurche took four months to create this reconstruction based on an estimated 146,000-year-old skull found in northeastern China and believed by some to be Denisovan.

Photograph by MARK THIESSEN