

AMERICAN SCIENTIST

CONTENIDO

VOLUME 100, No. 1, JANUARY-FEBRUARY 2012

DEPARTMENTS

- 2 From the Editor.**
- 3 Letters to the Editors**
- 6 Macroscope**
Freakonomics: What went wrong?
Andrew Gelman and Kaiser Fung.
- 10 Computing Science**
A box of universe.
Brian Hayes.
- 16 Engineering**
Washington Monument.
Henry Petroski.
- 21 Marginalia**
Rereading Darwin.
Robert L. Dorit.
- 24 Science Observer**
How a fungus boosts a beetle's invasion • Relative risk, one result at a • In the news.
- 28 "On the Cover" over the Years.**
Using images to tell (and sell) science.
- 66 Sightings**
Finding groups truth from above.

SCIENTISTS' BOOKSHELF

- 68 Book Reviews**
Deep history • Sunbelt aridity • Fast thinking • Hominin fossils.

FROM SIGMA Xi

- 90 Distinguished Lectureships, 2012-2013**
- 93 Sigma Xi Today**
Reflections from Stan Ovshinsky • The Annual Meeting in photographs • Reiss shares

Nobel Prize.

FEATURE ARTICLES

30 How To Be Manipulative.

Understanding ecosystems is complex but can be taken on one tweak at a time.

Robert M. Pringle.

38 Artificial Noses.

Electronic olfaction aims to mimic mammalian systems.

David R. Walt, Shannon E. Stitzel and Matthew J. Aernecke.

46 Runaway Devils Lake.

A North Dakota lake swells without regard for people or property.

Douglas W. Larson.

54 American Scientist Classics: Galaxies

American Scientist Classic: The Experimental Analysis of Behavior.

Stephen F. Ledoux.

THE COVER

Brian Bender lives on Martin, North Dakota, about 45 miles from Devils Lake. One day last June he drove toward the expanding lake for a fishing outing. At the junction of what used to be Highways 19 and 281, he found the latter underwater and made this photograph. "I've driven that road many times in the past, so it was amazing to think how much the lake has risen to gobble up this highway," Bender says. "The peaceful look certainly belies all the turmoil that the rising water has caused." As Douglas W. Larson makes clear in "Runaway Devils Lake," (pages 46-53), flooding in the closed Devils Lake basin —attributed to a shift in climate— has been devastating, taking lives, homes, communities and farmland. And there is no easy fix on the horizon. Larson asks us not only to think about this environment crisis, but to reflect on what it foretells for a world that soon may encounter more widespread climate change.