

AMERICAN SCIENTIST

CONTENIDO

VOLUME 102, No. 5, SEPTEMBER-OCTOBER 2014

DEPARTMENTS

322 **From the Editor.**

323 **Letters to the Editors**

326 **Spotlight.**

Gleaning information from ancient DNA • Cooperation among amoeba • Briefings.

330 **Perspective.**

The superorganism revolution.

Robert L. Dorit.

334 **Engineering.**

Aspirants, apprentices, and student engineers.

Henry Petroski.

338 **Arts Lab.**

Etching the neural landscape.

Greg Dunn.

342 **Computing Science.**

A tale of pencil, paper, and pi.

Brian Hayes.

346 **Technologue.**

Why is it so hard to stop sports concussions?

Stephen Piazza.

386 **Sightings.**

Paleontology's x-ray excavations.

SCIENTISTS' NIGHTSTAND

389 **Brief Reviews**

The science of cheese • Science's most improbable questions, answered • The illustrated bird.

FROM SIGMA XI

395 **Sigma Xi Today.**

Interview with Derek Muller • Jerry Baker appointed dean • Treatments for fungal infections.

FEATURE ARTICLES

350 **A Threat to New Zealand's Tuatara Heats Up.**

This reptile produces excess male offspring when temperatures rise.

Kristine L. Grayson, Nicola J. Mitchell, and Nicola J Nelson.

358 **Master of Missing Elements.**

Henry Moseley's discoveries led to a reorganization of the periodic table.

Eric R. Scerri.

366 **What's in a Grasp?**

How we grasp reveals how we plan.

David A. Rosenbaum, Oliver Herbort, Robrecht van der Wel, and Daniel J. Weiss.

374 **New Twists in Earth's Radiation Belts.**

Fluctuations in ring of particles encircling our planet amplify space storms.

Daniel N. Baker.

382 **Quietest Places in the World.**

One man's search for silence in natural and artificial environments.

Trevor Cox.

THE COVER

Datail from the microetching Chaotic Connectome (2013), by Greg Dunn and Brian Edwards, offers a glimpse of the intricate network of neurons in the cerebral cortex. The Composition uses precisely engraved ridges on a photosensitive surface that is gilded to reflect light differently under white, blue, and red wavelengths; thus, different neurons appear and disappear as spectators change their angle of view. In "Etching the Neural Landscape" (pages 388-341), Dunn tells how Edwards developed a unique blend of photolithography, traditional Asian painting motifs, and neuroscience.