

# Our Cousin the Sea Squirt

## THE VIRGIN AND THE MOUSETRAP

Essays in Search of the Soul of Science.

By Chet Raymo.

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By Marcia Bartusiak

**T**HIRTY-TWO years have passed since C. P. Snow warned that the sciences and humanities were separating into two divergent cultures, each with its own agenda and vocabulary. Chet Raymo, a professor of physics at Stonehill College in Massachusetts and a science columnist for *The Boston Globe*, believes the gulf is as wide as ever. So he has strung a fairly sturdy high wire over the chasm with "The Virgin and the Mousetrap," a splendid book of essays.

Mr. Raymo is on a mission. He hopes to "look for the soul of science in our own experience" and "into the mirror of science for some glimmering reflection of the human spirit."

His wide-ranging essays are not science lessons. Instead, Mr. Raymo uses scientific fact as a springboard to contemplation, both serious and humorous. He entertains, he provokes, he informs. A description of how astronomers measure distances to the stars, for example, turns into a discussion of our displacement, both physically and emotionally, from the center of the universe, of our utter ordinariness and mediocrity in the universe. But "to be mediocre is not to be small," he reminds us, for "our minds encompass the universe."

The title of the book, "The Virgin and the Mousetrap," refers to the *Merode Altarpiece*, a 15th-century Flemish triptych that is poised historically between medieval otherworldliness and the coming technological revolution. The central panel shows the Annunciation while the right panel shows Joseph at his carpentry, with a little mechanical mousetrap on his workbench. Even while the donors adore the Virgin, the age of technology — and gadgets — is dawning on Joseph's workbench. Thus, the title of the book is quite fitting. Several of Mr. Raymo's essays take special note of the way in which many people, now reeling from the loss of cosmic specialness, have come to embrace astrology, energizing crystals and U.F.O.'s to regain a personal foothold in the universe. They have picked the Virgin over the mousetrap.

The consequences of that choice are alarming, in Mr. Raymo's view. We have an amazing "appetite for baloney," he declares. "At risk is the ability of the next generation of Americans to distinguish science from non-science. Science is confidence in the human mind's ability to discover some measure of truth about the world. Science is humility in the face of nature's complexity. And above all, science is a respect for consistency as a hallmark of truth."

Writing with a fine poetic sensibility, Mr. Raymo can turn a DNA molecule into a microscopic Gothic cathedral. The molecules of life, he notes, "inspire reverence for the invisible harmonies — of form and function, of complexity and simplicity, of sameness and variation — that define life and determine the uniqueness of every self."

Moving through this eclectic mix of 21 essays, some of which are based on articles that appeared in *The Boston Globe* and *Sky and Telescope* magazine, the reader gets to ponder why sex is necessary (it isn't), why we sleep (it's a mistake), our remarkable relation to the sea squirt (closer "than to almost anything else that might wash up on the shore" because it belongs, as we do, to the phylum

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St. Joseph with a mousetrap, from the *Merode Altarpiece*, a 15th-century Flemish painting.

Chordata) and "what immortality might mean." On this last topic, Mr. Raymo comments mischievously: "Can you imagine a love affair lasting nine hundred years? Or nine hundred years of television reruns?"

At one point, he compares the vulnerability of the "Star Wars" antimissile project to our body's immune system. "Cancer, AIDS, flu, and the common cold all represent failure, lapses of hardware or software, the 'invincible' system run amuck, overwhelmed, corrupted from inside, blasted, bamboozled. The body, for all its vast array of defenses," he writes, "is vincible."

But Mr. Raymo is not a big-science curmudgeon. "The complexity and cost of instruments must sometimes be in proportion to the boldness of our questions," he writes. "If we want answers to such questions as 'How did the universe begin?,' pure speculation is futile. Observation — of the very small, the highly energetic, and the very far away — is the only way to truth."

Several weighty subjects come under the author's gaze, including animal rights, acid rain and Chernobyl. But these imposing topics are much too massive for Mr. Raymo's fine-haired brush. Far more enjoyable — and insightful — are his examination of such odd curiosities as the pear thrips — "a tiny but voracious insect that defoliates maple trees" — and his simple wonder at such intangibles as the sea of radio waves surrounding us. "The air quavers with visual images borne on oscillations of incredible swiftness," he writes. "All space — this house, this room, the cavities of my heart — magically, miraculously tremulous with sights and sounds encoded as modulations of electromagnetic waves."

Halfway through the book, Mr. Raymo refers to his growing up in Tennessee. What had eluded me finally snapped into place. His essays conjure up an image of those easygoing summertime conversations of yesteryear, when people gathered on a back porch while bugs hovered around the light bulb and twilight slowly descended into a purple mist. Eminently readable and thoroughly enjoyable, "The Virgin and the Mousetrap" deserves a wide audience. Perhaps with each reading, the arts and the sciences will inch a bit closer. □