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Care to Dance?

SCIENCE NEWS®

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Cover: Recent studies of *Melipona panamica* reveal a communication system that rivals the honeybee dance. The stingless bees, from Panama, combine buzzing sounds with turning motions to communicate the distance and height of a food bonanza. **Page 216** (Photo: Nieh)

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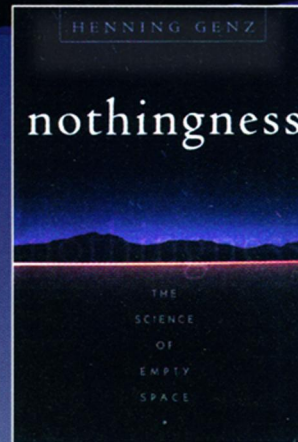
Does empty space have an existence independent of the matter within it? Einstein thought not. In his universe, there can be no space without matter, but quantum physicist Werner Heisenberg's famous "uncertainty principle" allows for the spontaneous, though fleeting, creation and destruction of fundamental particles from empty space. As physicist Henning Genz shows, "empty space" is really not empty at all. In fact it is an ocean seething with the creation and destruction of subatomic particles. Through the use of crystal-clear prose and over 100 cleverly rendered illustrations, Genz takes readers from the metaphysical speculations of ancient Greek philosophers, through the theories of Newton right up to the latest theories of quantum physics and cosmology.

Some of the most delightful episodes of the book consist of Genz's descriptions of early experiments on the vacuum, from teams of horses trying in vain to pull apart two iron hemispheres joined only by a vacuum, to more sophisticated tests with water and air. These and many other fascinating investigations of the deep and exciting new physics of quantum mechanics and cosmology reveal incredible properties of the interplanetary and interstellar vacuum.

While some ideas about the vacuum of outer space have been treated sporadically in other books, this is the first book for the nonscientist on a much neglected yet incredibly interesting segment of modern physics and timeless philosophy. It will delight and inform everyone interested in the latest concepts in physics, as well as the philosophical implications of scientific discoveries.

—from Perseus Books

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The nature-nurture controversy has never been more hotly debated. Scientists send shock waves through the culture whenever their new theories of what is biologically inherited—as opposed to socially learned—confront our old ideas about the self. Nowhere are these ideas more arduously tested than in the labs of world-renowned molecular geneticist Dean Hamer, whose cutting-edge discoveries of specific genes linked to behavioral traits such as anxiety, thrill seeking, and homosexuality prove without a doubt that we are in large part hardwired to behave the way we do. Hamer is one of a small group of researchers mapping the human personality. His findings help to explain why one brother becomes a Wall Street trader while the other remains content as a librarian, why some people like to bungee-jump while others play Scrabble, and why some are born Don Juans and others wallflowers.

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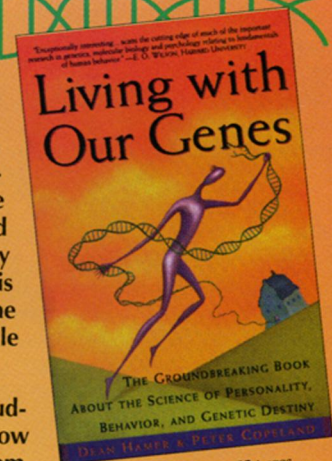
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Hamer shows how much of our behavior is heavily influenced by genes, including how much we eat and how much we weigh, how we think, and how much we drink, use drugs, and have sex. He also sheds light on some compelling and vexing aspects of personality, such as shyness, aggression, depression, and intelligence. Each chapter provides the reader with a blueprint for understanding himself and his family.

The emerging science of molecular biology shows that genes are the single most important factor that distinguishes one person from another. We come in large part ready-made from the factory. Yet genes are not fixed instructions. Indeed, as Hamer is quick to point out, it is our nature to respond to nurture. This is a user's manual for understanding why we do the things we do.

—from Doubleday



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