



Murder and Suicide Around the World

Suicide and homicide rates tend to have an inverse relationship.

Murder rates are high in Africa and the Americas and suicide is highest in Asia, according to the World Health Organization's *World Report on Violence and Health*. The report, released on 4 October, chronicles global violence, from witch-killing to rape to war, with the aim of persuading governments to treat it as a public health problem.

Is there a core body of knowledge about science that every educated person should possess? For Columbia University undergraduates, the answer may soon be "yes."

Students are already required to take science courses at Columbia. But science has never been part of the school's core curriculum, a graduation requirement since 1919. That didn't make sense to astronomer David Helfand, who's leading the reform effort. "Most students, when they come to Columbia, don't have well-developed scientific habits of mind," says Helfand. By building basic scientific literacy among all students, adds Austin Quigley, dean of Columbia College, "we're going to knock

Science at the Core

down the barrier between the two cultures" of science and humanities.

Last week Helfand gave the inaugural talk in an open-to-all six-lecture pilot course, supplemented by a seminar that 25 students will attend for money rather than credit.

His text was 20th century cosmology; his subtext, a respect for numbers. "If Marco Polo had started to count the 100 billion stars in the Milky Way," he pointed out, "and his descendants took over after he died, they wouldn't be done yet." Helfand hopes the courses will "expose students to the tremendous excitement of what's happening in science today ... [combined with] fundamental scientific concepts and techniques, such as how to make back-of-the-envelope estimations and how to distinguish between correlation and causation."

Will it fly? Sophomore Niko Klein, who's planning to major in comparative religion, says the new course works for him. "He makes me want to take more science," says Klein. Max Murphy, a sophomore who's planning to major in math or physics, thinks the course "will prevent people from just taking the easiest possible science class." He adds, "A lecture like this reminds me of why I love [science]."

La biotech—qu'est ce que c'est que ça? Ask the French and odds are good they will confuse "biotechnology" with plant therapy, according to a survey carried out last month for Amgen France, the French subsidiary of the U.S. biotech firm. In the poll, 1021 people randomly chosen from around the country were given a list of eight applications and asked which ones they associated with biotechnology. Two-thirds of the sample reported that they had heard of biotech; the rest indicated they hadn't a clue what it was.

French Mystery Word

About three-quarters of those polled did know that biotech is used to create genetically modified organisms. And 55% said it is used for diagnosing genetic disease. After that, however, perceptions grew hazy. Forty-four percent thought biotech had something to do with phytotherapy; 34% checked organic farming, and 30% checked medical imagery.

The polling firm, Ipsos, comments that the fashionability of the prefix "bio"—used for many items in France, including organic food—probably contributed to the conceptual confusion. As the prefix suggests the world of nature, "the French have difficulty in understanding what bio can do for technology and the other way 'round," Ipsos adds.

If a sparrow tried to mate with a fighter jet, that would fairly describe the kamikaze sex lives of

males of a bizarre seafaring octopus. Australian and British scientists have discovered that among the rarely encountered blanket octopus (*Tremoctopus violaceus*), females outweigh males by up to 40,000 times.

Zoologist Mark Norman of Museum Victoria in Melbourne and his colleagues had what they say is scientists' first-ever encounter with a live male blanket octopus, photographing and collecting one during night dives in deep water off the northern Great Barrier Reef. The adult male is about the size of a jellybean, weighing about a quarter-gram—making it about the size of the pupil in a female's eye.

Blanket octopuses are pelagic, never touching the sea floor. It's hard for males to find females in the open ocean, says Norman, and pelagic males seem to devote all their resources to sex. He suggests one reason the males miniaturized was to cut down on development time and beat competitors to the punch. Females grow large to produce as many eggs as possible so at least a few will survive in the vast deep. Males give

Octopus as Extremist

females their all when it comes to mating, says Norman. When a male uses his special reproductive

arm, the sperm-loaded limb breaks off and crawls into the female's gill cavity, and the males usually die. Scientists have found females containing multiple still-living arms from males in them—evidence of male competition, Norman says.

"The extreme nature of the size dimorphism is staggering," says cephalopod specialist John Forsythe



Male (inset) is small enough to fit in eye of female (above).



of the University of Texas Marine Biomedical Institute in Galveston. More extreme examples can be found among several barnacle species, but there the male lives on the female and is basically "reduced to a sperm generator," Norman says. The scientists will describe their findings in the December *New Zealand Journal of Marine and Freshwater Research*.