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## Ideas & Trends; Blinded by Science

By PATRICIA LEIGH BROWN

THE impossible isn't what it used to be.

Not so long ago, the realms of science fact and science fiction seemed worlds apart, two swirling spheres orbiting each other around the galaxy.

But lately, news flashes from the front lines of science suggest a bewildering telepathic collision between fact and fantasy. In Australia, researchers in quantum optics say they have "teleported" a radio-signal message in a laser beam, using the same kind of principles that enabled Scotty to beam up Captain Kirk. In rural Quebec, images of H. G. Wells's "The Island of Dr. Moreau" have alighted upon genetically altered goats whose milk contains a gene from the golden-orb weaving spider, enabling goats to produce milk containing superstrong spider silk. Meanwhile, two young British researchers invented a "tooth phone" -- a microvibrator and low-frequency receiver that can be implanted into one's tooth, raising the possibility of a James Bond dental experience while undergoing root canal. All this and "cc" -- the cloned cat produced earlier this year by Texas scientists -- too.

The whirlwind convergence of science fact and fiction raises the question of whether a sense of the impossible is becoming passé. "Science fact is rapidly outstripping science fiction," said Neil Gershenfeld, head of the new Center for Bits and Atoms at M.I.T.'s Media Laboratory, where a researcher is developing "paintable" computers with chips suspended in viscous liquid, making the idea of running to the hardware store to buy a few gallons of computer a distinct possibility.

"I feel great sympathy for science fiction writers these days," said Paul Saffo, a director at the Institute for the Future in Palo Alto, Calif. "People used to go to psychiatrists to say, 'the C.I.A. planted a chip in my brain.' Now, the family dog has a chip to prevent him from getting lost. In a few years, psychiatrists may be asking, 'Have you been chipped?'"

Even paranoia isn't what it used to be.

In his forthcoming book "I'm Working on That: A Trek From Science Fiction to Science Fact," William Shatner explores the reciprocity between Starship Enterprise fantasy and real-life scientific breakthroughs. "What was suggested 30 years ago in 'Star Trek' is now old hat," he said in a telephone interview. "If you analyze the word 'impossible,' you break it down into 'possible' and 'I'm.' If I'm possible, anything is possible. One imagined flight of fantasy builds on another."

It all gets surreal.

As a culture, we have become writers of our own fantasy saga in which pacemakers, cloning, the Internet, speech recognition software and the like are merely part of the scenery. And while much of what now seems humdrum was first envisioned in science fiction -- from mobile phones ("Star Trek") to fax machines (Philip K. Dick) -- it can sometimes seem as though the tables have been turned, with reality now providing inspiration to fantasy.

The science-fiction writer Bruce Sterling, who once wrote about goats genetically altered to produce plastic explosives, sees scientists unveiling more and more ideas that can feed a fertile sci-fi mind.

"They're becoming more peculiar and far out," he said. "They're really into antigravity and time travel."

Mr. Sterling recently returned from a Computer Research Association conference, where computer scientists hobnobbed about genetic algorithms and ubiquitous computing. He says he came away with a full spiral notebook and the germs of a novel's plot: a world in which every object is seeded with sensors, where black helicopters hover over smoking ruins and spew out computers that detect breathing.

To the biologist Robert J. Full, director of the Poly-Pedal Lab at the University of California at Berkeley, this is "a revolutionary moment" made possible by cross-fertilization between disciplines. His laboratory is using the principles of insect locomotion and the suction qualities of geckos' toes to develop lifelike robots, including a fetching self-righting six-legged fellow named RHex. RHex emerged from collaborations between biologists, engineers, mathematicians, computer scientists, and even Pixar animators working on "A Bug's Life." Interplay with once-alien colleagues is allowing scientists to venture where they haven't gone before -- and science buffs are taking notice.

IN San Francisco, the Long Now Foundation, a nonprofit organization that is building a 10,000-year clock, recently launched a Web site called LongBets.org that attempts to take the pulse of the impossible. People -- many of them big shots -- are placing bets on what the future holds and will be publicly accountable for their predictions. Among them: "By 2030, commercial passengers will routinely fly in pilotless planes," and "At least one human alive in the year 2000 will still be alive in 2150."

"Things that clearly seemed impossible a few years ago, like nanotechnology, have moved from the lunatic fringe to core doctrine more quickly than at any time in history," said Stewart Brand, a founder of Long Now. "The downside has become taking the long term seriously. We need to develop civilizational patience."

In the meantime, it might be difficult to keep fantasy from springing forth from newfound scientific realities. Especially dreams of gossamer spider-silk evening gowns and Sean Connery whispering sweet nothings into our molars.

Photo: With science advancing at a rapid pace (above: a cell phone tooth implant), what's left to fantasize about? (Associated Press)