

FUTURE SCHLOCK

By Steve Mirsky

WELCOME TO the last page, unless you mistook this magazine for a Passover Haggadah, in which case, welcome to the first page. Either way, we may ask: How is this issue of this magazine different from all other issues? Here's how. Most issues detail the knowledge that has already been discovered, the research conducted yesterday; this issue predicts tomorrow. And prediction is fraught with peril, especially when it's about the future.

Mark Bradley knows the dangers of prophecy better than most. The *Atlanta Constitution* columnist wrote the following after his town's Braves roughed up the New York Yankees in the first two games of the 1996 World Series: "It's doubtful the Yankees can take so much as one game.... We are no longer watching a competition. We are witnessing a coronation." Prince Charles may get a coronation before the Braves, who lost the next four.

Scientists tend to be relatively intelligent, which may explain why one of them, physicist Werner Heisenberg, came up with his famous uncertainty principle. Most nonscientists assume that science

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provides ironclad certainty. Working scientists avoid certainty like a *Yersinia pestis* infection, because certainty is the mother of embarrassment. For example, if that once unforeseen invention the World Wide Web is to be believed, ancient Roman engineer Sextus Julius Frontinus said, "Inventions have long since reached their limit, and I see no hope for further development." Only he probably said it in Latin. In 1895 topflight scientist Lord Kelvin ignored the lessons of the birds and the bees when he allegedly insisted that "heavier-than-air flying machines are impossible." Two wrongs don't make a right, but two Wrights made an airplane. It was in all the papers.

Speaking of the papers, in 1921 the *New York Times* dismissed Robert Goddard's early thrusts at rocket science. "Goddard... does not know the relation of action to reaction and of the need to have something better than a vacuum against which to react." Nature abhors those who misunderstand vacuums, and 48 years later the *Times* recanted with the headline "MEN WALK ON MOON."

Poor Thomas J. Watson, former CEO of IBM, is haunted so frequently by his bad prediction that I almost feel guilty for bringing it up yet again. Almost. "I think there is a world market for maybe five computers," he supposedly said. Tom, I have four computers in my house. (And those are only the ones I'm aware of. For all I know, my toaster has a computer in it.) But

I'll cut Watson some slack. In 1943, when he revealed his market analysis, computers were unwieldy behemoths. They were still distressingly huge in 1949 when *Popular Mechanics* made the accurate but limited prediction that "computers in the future may weigh no more than 1.5 tons." One of my four weighs three pounds. And it can run a disk that contains the entire *Encyclopedia Britannica*, which ordinarily weighs another 1.5 tons. Ken Olson, founder of Digital Equipment Corporation, climbed out on Watson's limb when he reputedly said, "There is no reason anyone would want a computer in their home." How could he have known that without computers in homes the endless e-mail stream of bad jokes, chain letters and Neiman-Marcus cookie recipes would be available only at work.

Browsing through old issues of *Scientific American* reveals that this publication has occasionally had problems with the reception on its crystal ball. In 1846 we preferred the paddle wheel to the screw propellers that currently power most motorized vessels bobbing on bodies of water. "It is truly astonishing," we wrote, "that men of capital in

England persist in keeping themselves so totally ignorant of the plain philosophical principles of Mechanics, as to suppose that a propeller of any form on the screw principle, can compete with

the simple Fultonian paddle-wheel." Besides being notoriously slow, however, paddle ships have another problem: as a ship rolls, more of one side of the paddle is submerged. That side provides more power. This unequal distribution makes for some dicey steering, which is at least partly behind today's paucity of paddle-driven aircraft carriers churning through the North Atlantic, despite our unique grasp of the "principles of Mechanics."

Of course, it is easy to make sport of the brave few who were willing to subject their beliefs to public scrutiny and came up short. Those who make predictions that hit the mark tend to be more easily forgotten. So let it be for the intrepid souls who have put their assertions on the line in these pages. May their prognostications be so accurate that we forget they ever made them. And

should you, dear reader, be tempted to attempt prophecy, remember the immortal words of Damon Runyon: "The battle is not always to the strong, nor the race to the swift. But that's the way to bet."

ABOUT THE AUTHOR

STEVE MIRSKY is a contributing editor at *Scientific American*. He predicted that the Super Bowl would be won by a football team, the Masters by a golfer and the Kentucky Derby by a nose.

