Physical Review Letters. The reason: If the paper is correct, it could spell disaster for some aspects of Einstein's famous theory of general relativity.

Certain solutions to Einstein's equations for general relativity produce regions of infinite gravitational fields. If exposed to the rest of space, such "naked singularities" would render events in nearby regions completely unpredictable. Because such a notion is repellent to causality-minded physicists, they have hypothesized that all singularities must come "clothed" with an "event horizon"—a kind of cosmic censor that seals off singularities from the rest of the universe. Black holes, by definition, fall into this category.

Now a supercomputer simulation by two respected Cornell astrophysicists suggests that naked singularities might exist in nature. Stuart Shapiro and Saul Teukolsky used Einstein's equations to approximate the gravitational collapse of football-shaped, pressureless gas spheroids made up of point-sized objects, and found that such a collapse could theoretically create a naked singularity. If their results stand up to scrutiny, relativity theory could be in serious trouble, as it would lose all predictive power near such singularities.

Not surprisingly, many physicists remain skeptical. "[Their] computer simulation is quite idealized," says David Hobill, a relativity expert at the University of Illinois at Urbana-Champaign who says that someone will probably find a limitation in the Shapiro-Teukolsky simulation model. For instance, Hobill notes that since computers only deal with finite numbers, it is very hard to tell whether gravitational fields are really infinite or just extremely large.

Physicists are likely to spend a good deal of time looking for just such weaknesses in the simulation. And if they don't turn up, they'll face the more daunting task of finding the limitation in Einstein's revered theory.

Searching for Words

Tired of listening to lecturers who punctuate nearly every sentence with annoying "filled pauses" such as "ah," "uh," or "um"? Here's a surprising suggestion: Seek out a natural scientist and shun lecturers in the humanities or social sciences.

Recent research by Columbia University psychologists indicates that science lecturers use filled pauses far less frequently than do scholars in the humanities. This team, led by Stanley Schachter, theorized that speakers use filled pauses while searching for the next word (rather than when they're anxious, as others have suggested), so people with more word options to choose from will use fillers more often. This doesn't imply that scientists suffer innate linguistic impoverishment; rather, the psychologists believe that science lecturers more often follow precisely worded definitions—saying "atom" instead of "molecule" won't do. This limits verbal options and constrains those ugly pause words.

To test the hypothesis, the Columbia group compared 17 of the university's science lectures with 13 humanities lectures and 11 social science lectures. On average, they report in this month's issue of *The Journal of Personality and Social Psychology*, the humanities professors said "uh" four times more often than did the scientists (see chart). Among natural scientists, biologists won first prize, with the fewest "uhs" per minute, followed closely by mathematicians and chemists; social scientists fell between humanities profs and natural scientists.

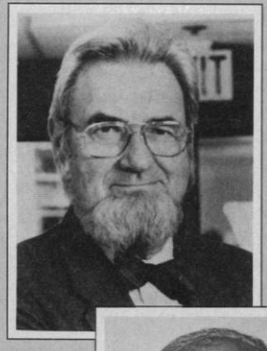
These results don't mean that scientists always use fewer filled pauses than nonscientists. When the researchers conducted interviews with the lecturers on identical subjects, they found no difference in "uhs" per minute between the disciplines—more evidence that the subject matter ultimately determines how frequently people say "uh" or "er." Still, the next time you hear an English professor criticize scientists for their technospeak, remind her that she might want to, uh, improve her own fluency.

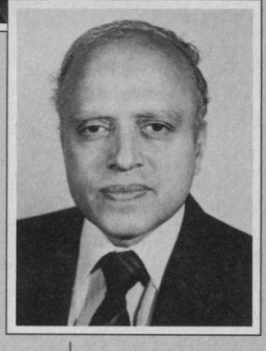
"UH" METER

Discipline	N	"uhs" per minute in: Lectures	Interviews
Natural Sciences:			
Biology	4	0.97	5.75
Chemistry	4	1.62	5.73
Mathematics	4	1.30	4.40
Psychology	5	1.8	5.04
Total (average)	**17**	**1.45**	**5.22**
Social Sciences:			
Economics	3	2.54	4.63
Political Science	4	5.61	5.67
Sociology	4	3.73	4.57
Total (average)	**11**	**4.09**	**4.99**
Humanities:			
Art History	5	6.06	5.62
English Literature	4	6.54	5.76
Philosophy	4	1.65	4.38
Total (average)	**13**	**4.85**	**5.28**

Environmental Prize

Former surgeon general C. Everett Koop and Indian agricultural researcher M. S. Swaminathan might not jump to mind as preeminent environmentalists. But the University of Southern California (USC) has just awarded the duo its $150,000 Tyler Prize for Environmental Achievement.





Environmental leaders. *C. Everett Koop; M. S. Swaminathan.*

Since 1974, USC has been giving this honor to scientists and educators who "pave the way" in preserving and enhancing the environment. Koop fit that definition, according to a news release from the prize administrators, because he has been "the conscience of the nation" for lending the stature of his office to antismoking efforts. As the "first national health official to acknowledge publicly that smoking cigarettes is linked to chronic lung diseases, strokes, and cancer of organs not related to the respiratory tract," Koop was "instrumental in inspiring many changes in state and local laws regarding smoking in public places," the release states.

Swaminathan, who has studied cereal grains in India for 43 years, is credited with helping that nation—once one of the world's largest food importers—to achieve food self-sufficiency. In the course of this "Green Revolution," Swaminathan has also championed "sustainable development" and the conservation of biological diversity, most notably through collecting and preserving more than 6000 endangered strains of rice from northeast India in the early 1960s.

Correction

A recent item (*Science*, 1 March, p. 1019) incorrectly connected a proposed gene therapy protocol to the University of Pennsylvania. The protocol was actually proposed by the University of Pittsburgh. *Science* regrets the error.