

mimicking the acceleration. "It's a remarkable result," says Marc Davis of Berkeley, who is not part of either group, but he agrees, "it's clearly going to take some time to digest this."

That certainly goes for theorists. Kolb, for one, says that the universe is starting to look like a cosmic version of the Marx brothers movie *Monkey Business*, in which more and more people show up in a ship's stateroom,

leading to chaos. The universe already contains visible and dark matter as well as radiation; now there's a mysterious new guest. "It's crazy," he says. "Who needs all this stuff in the universe?"

Martin Rees of the University of Cambridge, Britain's Astronomer Royal, sees it differently. Like Kepler, who was troubled that planetary orbits were ellipses and not perfect circles, theorists who long for a simpler uni-

verse might just be missing "the really big picture," he says. Newton's theory of gravity ultimately made sense of elliptical orbits, and some missing concept may ultimately make sense of a seemingly baroque universe. Cosmic simplicity's aesthetic lure, says Rees, "may seem, in retrospect, as shallowly motivated as was Kepler's infatuation with circles."

—James Glanz

AIDS THERAPY

Controversial Trial Offers Hopeful Result

A bitter, yearlong ethical dispute over the use of placebos in anti-HIV drug trials in poor countries moved into a new phase last week. A trio of U.S. and international health organizations announced that a U.S.-funded trial in Thailand has demonstrated that a brief, relatively inexpensive course of drugs given during the final weeks of pregnancy can lower the transmission of HIV from mothers to their newborn infants. Plans are now under way to make the cheap therapy available to thousands of HIV-infected women in the developing world, says Joseph Saba, spokesperson for the Joint United Nations Program on HIV/AIDS (UNAIDS).

Saba calls the results a "statistically significant" victory for AIDS research that was hastened by the fact that the therapy was tested against a placebo. This increased the statistical power of the study and gave health authorities confidence to recommend that the therapy be widely used and that other placebo-controlled trials be modified, he says. But critics, who condemned this and similar trials last April (*Science*, 16 May 1997, p. 1022), continue to maintain that the use of placebos was unnecessary and unethical.

The Thai study, whose main findings were released on 18 February, offered pregnant women the antiretroviral drug AZT orally for a brief period (4 weeks) before they went into labor to reduce the amount of virus they passed on to their children. The drug was already known to be effective in reducing HIV transmission when given in a more complex and expensive regimen involving intravenous injections and postnatal therapy for the child (*Science*, 4 August 1995, p. 624). The short regimen costs \$80 or less—one-tenth the cost of standard treatment. To make sure the study yielded clear-cut results, researchers gave half the women in the trial AZT and the other half, a sugar pill.

Last week, a special analytical panel took a look at the preliminary data from 392 patients

and concluded that short-term AZT therapy was working spectacularly well. According to a statement issued by UNAIDS and other sponsors, HIV transmission declined from a background rate of 18.6% in the placebo group to 9.2% in the test group—a 51% reduction. (In contrast, the original tests conducted in Europe and the United States of the longer term, more complex therapy reduced transmission by 70%.) The "results show that a simplified AZT regimen can be well tolerated and is effective in significantly lowering perinatal transmission from HIV-infected

well, the research sponsors moved rapidly last week to offer it to all patients in ongoing trials. AZT trials sponsored by CDC and the French government in Côte d'Ivoire, designed to enroll 1900 women, are now being revised to exclude the use of placebos. Another trial sponsored by the National Institutes of Health (NIH) in Ethiopia is being revised to omit placebos, as are trials sponsored by UNAIDS in South Africa, Tanzania, and Uganda. Researchers who collaborated on these trials were planning to meet at NIH this week to discuss how to restructure the protocols.

Without doing a placebo study, Saba says, investigators could not have gotten these decisive results so quickly. Observed transmission rates "have a huge range," he says, from 15% to 44%. Trial designers were concerned that the effect of short-term AZT therapy might be lost if no placebo were included.

Critics are not convinced. Sidney Wolfe, medical affairs chief of the Ralph Nader group Public Citizen in Washington, D.C., says he has unearthed data on a subset of women in the original U.S.–European study known as the "076 trial" that show that short-term therapy was effective. Wolfe claims the data were available as early as February 1994. A "disgraceful loss of life would have been avoided," Wolfe claims, if there had been no use of placebos.

Saba insists, however, that last week's results are the "first reliable data" on the value of short-term AZT therapy. And Lynne Mofenson, an NIH official who helps coordinate the perinatal HIV studies, says researchers had always planned to examine early data from one trial and, if warranted, drop placebos.

Saba and other organizers of the trials are now using the early data from Thailand to argue for increased funding of anti-HIV therapy. They aim to bring together government officials, health workers, and pharmaceutical executives for a meeting in Geneva in late March to consider how to make short-term AZT therapy available in the developing countries.

—Eliot Marshall

MAJOR PERINATAL HIV PREVENTION TRIALS				
Location	Size	Funding	Therapy	Enrollment
Thailand	392	CDC	AZT	closed
Thailand	1550	NIH	AZT	ongoing
Côte d'Ivoire	1200	CDC	AZT	in revision
Côte d'Ivoire	780	France	AZT	in revision
Ethiopia	710	NIH	AZT	not begun
South Africa, Tanzania, Uganda	1900	UNAIDS	AZT+3TC	in revision
Uganda	1500	NIH	Nevirapine	in revision
Uganda	408	NIH	HIV antibody	not begun
Kenya	450	NIH	bottlefeed 3+ mo.	closed
South Africa	700	South Africa	Vitamin A	ongoing
Zimbabwe	1800	Denmark	Vitamin A	ongoing
Malawi	700	NIH	Vitamin A	closed
Tanzania	960	NIH	Vitamin A	closed
Kenya	1000	EC	Vaginal lavage	ongoing

women who are not breast-feeding," the UNAIDS joint statement concluded. Helene Gayle, who heads the division of the U.S. Centers for Disease Control and Prevention (CDC) that sponsored this trial, says these results argue for "extending this therapy throughout the developing world." Gayle and others caution, however, that it's not clear how well it will work for children who breast-feed for half a year or more—as in Africa—and may be exposed to HIV in milk.

Because short-term AZT therapy worked so