

veloped his ideas at precisely the moment when modern synchronization took hold. The modern sense of time creates a feeling of anxiety, of always being rushed, but at its advent it

also created new (and more relativistic) ways of seeing the world and an enormous feeling of optimism about humankind's ability to comprehend and control the flow of events.

Resilient Rainforests

"How 'Virgin' Is Virgin Rainforest?" by K.J. Willis, L. Gillson, and T. M. Brncic, in *Science* (Apr. 16, 2004), American Assn. for the Advancement of Science, 1200 New York Ave., N.W., Washington, D.C. 20005.

The plight of Earth's tropical rainforests—disappearing at a rate of almost 15 million acres a year, with up to two-thirds of the loss due to slash-and-burn farming—may not be as dire as everyone supposes. Evidence has begun to accumulate that many of these rainforests suffered the destructive intrusion of humans in the past, yet managed to recover.

Case studies in the three largest blocks of undisturbed rainforest—in the Amazon basin, the Congo basin, and Southeast Asia—"now suggest that prehistoric human activities were far more extensive than originally thought," report the authors, all affiliated with the University of Oxford's Long-Term Ecology Laboratory.

In the Amazon basin, recent studies indicate that the most fertile regions in the lowland rainforest have a type of soil that was formed by burning and agricultural activities 2,500 years ago. Such "terra preta" soils cover as much as 123,550 acres in central Amazonia. Emerging archaeological evidence from the

Upper Xingu region of Brazil—which "now comprises the largest contiguous tract of tropical forest in the southern peripheries of the Amazon"—also shows extensive settlements between 400 and 750 years ago. "These were complex regional settlements indicating intensive management and development of the landscape and resulting in large-scale transformation of the forest to agricultural land and parkland," Willis and her coauthors write. But after "catastrophic depopulation" during the 17th century, "extensive reforestation" took place.

Recent studies in the Congo basin and the Indo-Malay region of Southeast Asia tell similar stories of early human disturbance and subsequent forest regeneration.

The rate and extent of forest clearing today may be much greater, but "the process is comparable to prehistoric losses" in many cases, say the authors. "These tropical ecosystems are not as fragile as often portrayed and in fact are quite resilient."

At Death's Door

"Darkness, Tunnels, and Light" by G.M. Woerlee, in *Skeptical Inquirer* (May-June 2004), 944 Deer Dr., N.E., Albuquerque, N.M. 87122.

"I was moving very rapidly down a long, dark tunnel. I seemed to be floating. I saw faces which came and went, and which looked at me kindly, but did not communicate. I did not recognize them. As I got nearer to the end of the tunnel, I seemed to be surrounded by a wonderful warm glowing light." So reported a woman who nearly died in childbirth. Indeed, wondrous near-death experiences such as hers have been reported for centuries, and there's no doubt that they're real.

But are they evidence of a spiritual realm—of life after death? Woerlee, a physician and anesthesiologist who practices in Leiden, the Netherlands, thinks not.

After his interest in the subject was piqued by the 1990 film *Flatliners*, Woerlee read many reports of near-death experiences. In an account given in a 1926 book, for example, a woman who came close to dying in a London obstetrics hospital first saw only darkness, then what she called a "lovely

brightness,” as well as “bright forms.” No one else in the room saw any of this. As Woerlee read the account, it became apparent to him that her medical condition “caused her pupils to widen. The woman was dying of heart failure, and lethal heart failure causes oxygen starvation; severe oxygen starvation causes the pupils to widen.” When that happens, a person sees bright light and, because of the reduced depth of field, sees clearly only “people upon whom the eyes are focused, while all other people are seen as bright and blurry forms.”

Oxygen starvation, which is responsible for the terminal loss of consciousness in more than 90 percent of deaths, can also cause both darkness and tunnel experiences, Woerlee learned. Because the retina requires more oxygen than the brain does, vision will fail—producing a perception of

darkness—before the loss of consciousness. And because the retina’s optical center happens to have the greatest supply of blood, peripheral vision will fail—producing a tunnel experience—before total vision does.

But what about the sensations of “moving, flying, or being drawn through a tunnel toward a light or entering the light”? Oxygen starvation affects not only the brain but “the sense organs that provide the brain with most of its information about body position and movement.” Add convulsions resulting from severe oxygen starvation, and movements of the body made in the course of treatment and care, combine all this with “a total loss of vision, tunnel vision, or the effects of pupil widening,” and the result can be those strange sensations. According to Woerlee, all aspects of the near-death experiences have a physical explanation.

The Politically Incorrect Diet

“The Economics of Obesity” by Inas Rashad and Michael Grossman, in *The Public Interest* (Summer 2004), 1112 16th St., N.W., Ste. 140, Washington, D.C. 20036.

Obesity was responsible for about 400,000 deaths in 2000, and is fast catching up with smoking (435,000 deaths) as the nation’s leading cause of preventable deaths. It turns out, though, that the two killers are working together in an unusual way.

After remaining steady for two decades, American obesity rates rose sharply between 1980 and 2000. The percentage of obese adults went from 14 to 30, and that of overweight children from five to 14. Genetics helps to explain an individual case of obesity but not the massive collective increase.

Economists have identified various causes, including a drop in food prices and the introduction of the microwave oven, which favors fattier foods. But the chief cause, responsible for up to two-thirds of the increase in adult obesity since 1980, say economists Rashad, of Georgia State University, and Grossman, of the City University of New York, is the explosive increase in the number of meals consumed outside the home, particularly fast food. And what’s the principal reason so many Americans are dining out so often? Women’s increased numbers in the labor force.

The next-most-powerful factor in promoting obesity, the authors note, is perhaps more surprising than the proliferation of restaurants: the war on smoking. Higher taxes on cigarettes, and the resultant higher prices, have prompted large numbers of smokers to quit. And once deprived of the appetite-suppressing effect of smoking, they eat more. Other things being equal, say Rashad and Grossman, a 10 percent increase in the inflation-adjusted price of cigarettes produces a two percent increase in the number of obese people. The authors calculate that the 164 percent increase in the price of cigarettes since 1980 is responsible for 20 percent of the national rise in obesity.

Rashad and Grossman don’t advocate that the overweight take up smoking, or that women quit their jobs to stay home and cook. But they do have a suggestion for the collective fight against fat: Perhaps the government should subsidize exercise programs and facilities for the obese. It might also work through schools and recreation centers to help children ward off those menacing extra pounds.