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THE FIRST WORD/

CONTROL OF NATURE

You may drive out Nature with a pitchfork, yet she still will hurry back.
Horace. Epistles

E

ach time we take control of the formerly uncontrollable, we also shoulder a new responsibility. The fates chuckle; the furies sharpen their talons; lawyers salivate; sales of Tagamet, Zantac, and Valium ratchet up another notch.

The admirable John McPhee, wrote *The Control of Nature* about precisely the kinds of problems we face when we expand our zone of control.

Somewhere far upstream from New Orleans, McPhee begins, the Mississippi is within a hairsbreadth of breaking out and cutting a new channel to the sea, a route that would leave New Orleans stranded inland, gasping like a beached fish.

The U.S. Army Corps of Engineers has been charged with preventing this. First, they piled up a 10-billion-pound dike to seal off the Atchafalaya River—the course that gravity, water, and time have all agreed upon. The dam is but a small part of one of two barriers the U.S. has built to hold the barbarian river in its channel—each of them a wall as long as the Great Wall, but higher and ten times as wide. And (to return to the problem of feedback control we touched on last month), each time they build the levees higher, the water moves more swiftly and the downstream floods become more extreme—so they build the levees higher still, which speeds the water, *which*...You get the idea.

Consider, too, the folly of Los Angeles, a city sprawling into the seismically fractured, chaparral-covered hills—an environment so dry that the vegetation has turned itself into aliphatic-soaked tinder to promote brush fires...the only way to return nutrients to the soil in an environment where bacteria can't get a foothold in the duff. But human efforts at conservation have increased the intervals between fires. The duff is deeper. The fires, when they come, burn hotter and they burn over a wider area—driving some of the slick aliphatics deep into the soil, where they coat the soil particles. So when it rains, the mud doesn't stick together—it quivers in a queasy suspension until somebody sneezes. And then the hillside sighs, releases its grip, and slides into the valleys like a Brobdignagian chute-full of ready-mix concrete. The hills are scored retaining basins and concrete spillways—tangible testament to the danger. Still, when the debris flows, as it must, those who survive react with horror, outrage, and lawsuits. Having made an effort at control, the regional flood control officials have made themselves responsible as well.

Biotechnology faces similar problems, and will face them more in the future. In this morning's *New York Times* is a story about an eleven-year-old California boy who has been taking human growth hormone—first cadaver-derived, then recombinant—since 1985, though he is just a few inches under average height and shows no hint of any hGH deficiency. Why? "You want to give your child that edge no matter what," writer Barry Werth quotes the boy's mother "I think you'd do just about anything." So it is in the name of "just about anything," for the sake of an inch or two, for some imagined ideal, that this boy and his parents have subjected him to six years of daily injections already...at a cost of \$15,000. (The parents' insurance company—which is to say a good chunk of society generally—has picked up the tab for this cosmetic excess. One wonders why.)

This is not a medical problem, though it looks like it. It is not a biotechnology problem, though people will call it that. It is not even "medicalization of social problems," though we would lay good odds that that banner will be unfurled.

It is a problem of control and responsibility. Something can be done, or might be done. We are addicted to intervention, to heroic measures. We cannot allow ourselves to back off and let nature take its course; we do not realize that we are dealing with complex systems, complexly regulated—that levees may make the river run faster and flood higher, that conservation may make the fires burn hotter and the hills slip farther.

—Douglas McCormick