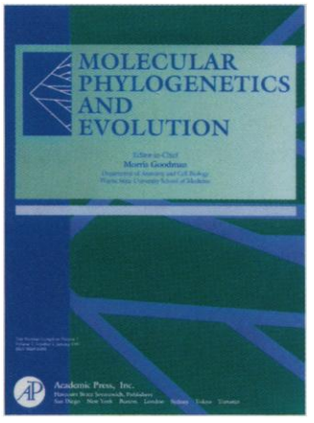
Molecular Evolution Rises in Prominence

■ Molecular evolution just keeps evolving, it seems, reaching ever greater prominence. The latest signs: First, molecular evolutionists will soon have a new quarterly journal dedicated exclusively to their studies; and second, the National Science Foundation (NSF) is currently putting together a major new initiative for the support of work in the discipline.

Called *Molecular Phylogenetics and Evolution*, the new journal is due out this summer. Its first editor in chief is Wayne State University molecular evolutionist Morris Goodman, who says the editors at Academic Press approached him to start the new peer-reviewed journal because they felt that molecular evolution was a hot new field that was growing rapidly. The new journal will concentrate on molecular studies that help sort out the phylogenetic relationships among organisms.

Of even greater importance to the field is a proposed NSF initiative in molecular evolution, which grew out of a 1-day NSF workshop last fall. Shortly after that meeting, NSF began work on a document that outlines the new initiative, which would provide more funding for molecular studies in developmental biology, systematics, population biology, and other parts of the biological sciences.



FEBRUARY REPORTS FROM THE OFFICE OF TECHNOLOGY ASSESSMENT

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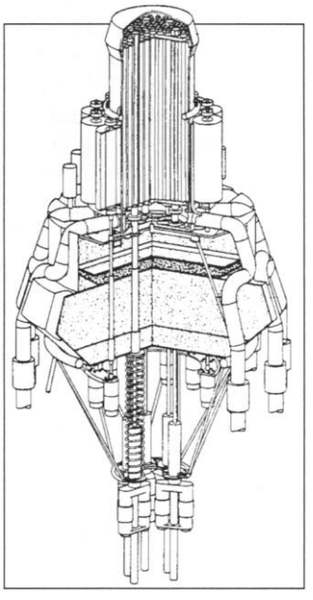
Explores how communities and companies can better handle the growing burden of industrial solid waste.

House Panel Questions Need for Space Reactor

■ Proposals to send nuclear reactors into space have always kindled debate, and a new House investigation may once again fan the flames—although this time the debate is about policy, not safety.

An oversight subcommittee of the House science committee has begun taking a close look at the Department of Energy's (DOE) SP-100 program, an attempt to develop a small nuclear reactor for use in space. According to a committee staffer, the investigation will focus on what the project has cost to date and whether there's a viable mission behind the program.

Sparking the committee's interest is the fact that the SP-100 is a technology without an identifiable customer. The Strategic Defense Initiative Organization, the most recent agency to show an interest in it, has retreated from plans to put nuclear reactors in space, so the Administration is scrambling to find NASA projects that could use small reactors. While officials have promoted both NASA's space station and a Mars mission as possible users of the SP-100, they have recently been hedging their bets. The trade newspaper *Space News* reported last week that the



White House budget office told NASA and DOE to speed up the SP-100 program and to reduce its cost. At the same time, however, the budget office ordered the two agencies to investigate an alternative nuclear reactor, the Topaz 2, which scientists from the former Soviet Union have recently unveiled.

The subcommittee hasn't set hearing dates yet, but it has commissioned a study by the General Accounting Office, expected in March.

The Wonders of the Neem Tree—Revealed!

■ Third World entrepreneurs may have a financial winner growing in their backyards. An upcoming report from the National Research Council (NRC), due out later this month, will tout the wonders of the neem, a tropical tree whose seed kernels can be used to produce pesticides, medicines, even a potent spermicide—which is why the report's authors believe the neem could boost the economies of developing countries. The NRC staff has been investigating neem for a couple of years. "We were just blown away," says Noel Vietmeyer, the NRC study director.

Pesticides derived from the tree, which is sometimes called the margosa and is native to India and Burma, have shown "remarkable effectiveness" against more than 200 species of insects, including mosquitoes and the desert locust, says Vietmeyer. Robert Metcalf, an entomologist at the University of Illinois and a member of the NRC panel, adds: "In this day and age when we're not very happy about synthetic pesticides, it has great appeal." And that's only the beginning: Other neem compounds fight tooth decay, viruses, and a variety of bacteria, says David Unander, a plant breeder at the Fox Chase Cancer Center in Philadelphia and a panel member. Contends Vietmeyer, "All of these things are based on good, solid science."

Squeezing bucks out of the neem ought to be relatively easy—the biologically active, polar chemicals can be extracted using technology already available to villagers in developing countries, says Eugene Shultz, an engineer at Washington University in St. Louis and chairman of the NRC panel. "Villagers smash 'em [the seeds] up, soak [them] in cold water overnight, scoop the emulsion off the top, and throw it on the crops," he says. Already, neem-based toothpaste has made it to Asian supermarket shelves, Unander points out. But Western capitalists know nothing of the neem. Hence the report, which Vietmeyer says is intended to open up the Western world's corporate eyes to the seemingly endless variety of products the tree might offer.

Neem backers also claim that their wonder tree might make a dent in other global problems. The fast-growing tree is already being planted in deforested areas of Haiti and sub-Saharan Africa, Vietmeyer says. And, he adds, neem oil appears to be a powerful spermicide that could help reduce overpopulation. NRC scientists are so excited about the mind-neembing possibilities that they're billing their find as "the tree that could help everyone."

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