

1951 at the age of 22. He has been chief geologist since 1977. Peck received undergraduate and master's degrees in geology from the California Institute of Technology and a doctorate from Harvard. As a researcher he has studied the volcanic and granitic rocks of the West, and as a senior scientist he has served on many federal and international advisory boards, including the U.S.-U.S.S.R. Joint Commission on Scientific and Technical Cooperation.

Peck was recommended highly for the job by the National Academy of Sciences (NAS), according to a member of the panel which supplied a short list of candidates for the White House. This NAS geologist describes Peck as "a first class scientist" who fits the administrative requirements perfectly. Peck's main problem, he says, will be to find a way of getting along with his superiors in the Department of the Interior, who are making the agency an advocate of the rapid exploitation of resources on federal lands.—**Elliot Marshall**

## Studies Support Bendectin Safety Claim

Recent studies of Bendectin, a controversial drug taken for morning sickness during pregnancy, support claims by its manufacturer that it does not lead to birth defects. Alarms about the drug were first raised several years ago, when researchers reported finding a weak association between Bendectin use and birth defects such as cleft palate and heart deformities, evidence generally thought to be highly speculative (*Science*, 31 October 1980, p. 518). But two studies published in the *Journal of the American Medical Association (JAMA)* found no such evidence and concluded that the drug poses little if any risk.

One study, conducted by Allen Mitchell at Harvard Medical School and others at Boston University's School of Public Health, concluded that "in utero exposure to Bendectin in early pregnancy does not materially increase the risk of oral clefts or selected cardiac defects." The authors reached their conclusion by comparing a group of 441 infants who had those malformations with 970 infants

with other malformations. The rates of Bendectin use, as derived from interviews with the mothers some time later, were the same for each group.

The second study, conducted by Jose Cordero and others at the Centers for Disease Control in Atlanta, was similar in design, although it examined the possibility that Bendectin exposure might be linked to birth defects other than the oral clefts and heart defects. It did detect weak associations between exposure and infants with limb defects, a neural tube deformity, or the absence of an esophagus, all extremely rare. The number of infants affected is so small (14 out of 1231 examined in the sample), however, that "a causal relationship between Bendectin and the birth defects" could not be established, according to the authors. Given the widespread use of Bendectin, none of the defects would be as rare as they are if exposure is actually a cause.

A third study, conducted by Hershel Jick of the Boston Collaborative Drug Surveillance Program, will appear in *JAMA* soon. Jick says the results generally corroborate these two studies, although a weak association is detected between exposure to Bendectin and a birth defect of the intestinal tract. Again, the author discounts the significance of such a finding. "The studies present overwhelming evidence that this drug is not a measurable teratogen," Jick says, "although one still cannot rule out the slim chance."

All three studies were presented in preliminary form to an advisory panel of the Food and Drug Administration (FDA) that reviewed the safety of Bendectin last fall. The panel concluded that there is no demonstrated association between the drug and birth defects, although it urged that the Boston University and CDC studies be continued—and they are.

The Health Research Group, which has agitated for a withdrawal of Bendectin from the market, was frustrated at this turn of events and recently shifted its attention to the drug's effectiveness, rather than its safety. In a petition to the FDA, the lobby group pointed out that both of Bendectin's ingredients (the antihistamine doxylamine succinate and the vitamin pyridoxine hydrochloride) must contribute to its effectiveness for the drug to be on the market. The petition asks that

Bendectin be banned on the grounds that studies by its manufacturer apparently show that the vitamin inhibits the antihistamine's antiemetic action. But the manufacturer, Richardson-Merrell Inc. argues that the petition overlooks the drug's effectiveness in combating nausea, as well as vomiting, a characteristic to which the vitamin does contribute.

—**R. Jeffrey Smith**

## Air Pollution Rule Attacked

The Environmental Protection Agency's (EPA) method of setting air pollution standards came under attack at recent hearings of the Senate Environment and Public Works Committee. Several witnesses said that current language in the Clean Air Act requiring that standards be set to protect sensitive groups such as asthmatics "with an adequate margin of safety" (*Science*, 12 June, p. 1251) is deceptive and hypocritical.

George Eads, a member of President Carter's Council of Economic Advisers, said that although such language appears to place the agency in a narrow straitjacket, EPA can and does exercise much flexibility by carefully selecting which sensitive group it considers most important, by slipping compliance dates to reduce costs, or by making a private decision not to enforce compliance. "What then is gained by this elaborate charade?" he asked. "Congress is able to claim that it has forced business to protect the public health—which it of course has not. EPA is able to claim that costs have not entered into its decision—which is likewise untrue. And businessmen and other critics are able to claim that EPA is running amok—which also is false."

Eads suggested that Congress rewrite the language, substituting instead an explicit recognition that the pollution limits incorporate some notion of "acceptable risk" and economic cost. Similar thoughts were expressed by Frank Speizer of the Harvard School of Public Health and a spokesman for the Chemical Manufacturers Association. Other witnesses supported the language, however, and claimed that the flaws lie only in EPA's interpretation of it.

—**R. Jeffrey Smith**