NEWS & NOTES

• **ARMSTRONG STEPS INTO ACADEME:** Neil A. Armstrong, the first man to set foot on the moon, will assume the post of full professor at the University of Cincinnati's College of Engineering on 1 October. Armstrong has been NASA's deputy associate for aeronautics since July 1970. In his new job, he will be closely associated with Paul Hergett, head of the university's observatory, who is also a former consultant to the U.S. space program.

• **FDA X-RAY GUIDE:** The Food and Drug Administration has issued a booklet to guide health personnel in the prudent use of diagnostic x-rays. The publication places particular emphasis on factors that doctors untrained in radiology should consider when referring patients for x-rays. *X-Ray Examinations . . . A Guide to Good Practice* was jointly produced by the FDA Bureau of Radiological Health and the American College of Radiology. It is available for 35¢ from the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402.

• **NEW SOCIETY:** Scientists interested in a multidisciplinary approach to health and disease formed a group called the Society for Environmental Geochemistry and Health on 1 July. The object of the society is to further knowledge about the effects of geochemical environment on both plant and animal life. President of the group is Delbert D. Hemphill of the University of Missouri's Environmental Health Center.

• **STANDARD REFERENCE JOURNAL:** The National Bureau of Standards has decided on a new procedure to provide more effective dissemination of the evaluated property data and critical reviews produced by the National Standard Reference Data System (NSRDS). The American Institute of Physics (AIP) and the American Chemical Society (ACS) have agreed to publish jointly the NSRDS output, and the material will appear in the *Journal of Physical and Chemical Reference Data*, to appear quarterly, beginning early next year. Offprints from the journal and book-length compilations will also be published through the new arrangement. Subscriptions will be obtainable through the AIP or the ACS.

great concern to environmentalists. PCB's have been detected throughout the world in fish, birds, waterways, and humans. In a study released by the Environmental Protection Agency (EPA), PCB's were detected in samples of human fatty tissue with concentrations as high as 250 parts per million (ppm).

Despite Monsanto's assurances that the present uses of PCB's are safe, critics say the recent fish meal incident vividly illustrates that use of PCB's in any form is too risky to permit. Leading the fight against PCB's are consumer advocate Ralph Nader and New York Democratic Congressman William Fitts Ryan. They argue that, even if Monsanto can stop PCB's from getting into the environment, products containing them are in wide use and will continue to disperse PCB's in the environment in harmful amounts. The government should act now, Nader asserts, to ascertain where PCB's have been used before they cause serious damage to the environment and get into the food chain.

Besides the fish meal incident, there have been two other hazardous leaks of PCB's in the past 2 years. One of these accidents, in Japan in 1968, resulted in 300 people developing a severe skin disease and in babies showing symptoms of chlorobiphenyl poisoning. Indeed, the preliminary research, though incomplete, makes Nader's anxiety about PCB's potential danger quite plausible. University of California research ecologist Robert Risebrough, one of the foremost authorities on PCB's, says that while the effects of PCB's on humans are undetermined, the contaminants in PCB's are "among the most poisonous compounds known." Tests of PCB's by the Environmental Protection Agency's Florida laboratory revealed the chemical killed one-half of the test population of pink shrimp exposed to 1 ppm and similarly killed samples of white shrimp. These tests, EPA's Thomas Duke told *Science*, indicate that PCB's are a "potential threat to the environment." Monsanto, however, has reported that its own tests have shown "no adverse effects" to rats or other laboratory species fed PCB's in amounts up to 100 ppm. This conflicts with tests repeated by others that have linked repeated dosages of PCB's to liver damage in mice and lower fertility in birds.

In fact, the recent contamination at the North Carolina plant that manufactures fish meal was detected only after the hatchability of eggs from chickens fed the meal began to diminish alarmingly.

The PCB's were traced to a leak in a pipe in the cooling system at the fish meal plant. Although the leak began in late April, PCB's were allowed to drip into the fish meal until the defect was discovered in mid-July. In the intervening period of 2½ months, approximately 16,000 tons of fish meal had been distributed to more than 60 companies in ten states. One of the purchasers of the fish meal, Holly Farms, the nation's largest poultry producer, voluntarily slaughtered 77,000 fowl after discovering PCB's in amounts above those deemed safe, reportedly as high as 40 ppm. In the meantime, the U.S. Department of Agriculture undertook its own tests of poultry that had been fed the fish meal. On 29 July, USDA said that its tests turned up no evidence that chickens given the contaminated meal were unsafe. The chickens in the ten-state area, USDA reported, were "wholesome," and the consumer could continue to eat chickens "with confidence." But this did not explain why chickens at Holly Farms contained unsafe amounts of PCB's. In response to this apparent disparity, Harry Mussman, director of USDA's laboratory service division, told *Science* that the department "surmised" that Holly Farms got an "extremely contaminated" batch of fish meal while the other producers did not.

Contaminated Eggs Seized

Two weeks later, on 13 August, FDA, under prodding from associates of Nader, revealed that it had seized over 75,000 eggs because tests had detected excessive amounts of PCB's in eggs from chickens that had consumed the contaminated fish meal. On 16 August—a month after the leak was detected—USDA took its turn and "detained" more than 50,000 pounds of frozen-egg products in which the level of PCB's was high. When FDA seized the 75,000 contaminated eggs, a spokesman said they knew of no incident in which contaminated eggs had reached consumers but could offer no assurances that this had not happened. Unwilling to stop there, associates of Nader and Ryan conducted their own ad hoc investigation and, to their dismay, discovered that contaminated eggs had reached the consumer. The FDA, on 18 August, confirmed that a shipment of 60,000 contaminated eggs had reached the retail market and apparently had been consumed in the Wash-