

once in every 4,000 births, but the incidence has been rising in recent years. This is to be expected, the team reports, if in fact oral contraceptives are one cause, since their use has increased during the same period.

Janerich emphasizes that the defects are rare, that "the vast majority of pregnancies in which these drugs are used do not result in defective offspring," and that there may be a maternal predisposition to the malforming effects of hormone exposure. Janerich also emphasizes that the results, although significant, are preliminary at this point, and it cannot be stated with certainty that exposure leads to birth defects until more research is completed, including laboratory tests.

But physicians can modify some of their procedures in the meantime, Janerich says. First of all, pregnancy tests in which hormones are administered should be avoided, he says. A physician sometimes gives a large dose of estrogen or progesterone to a woman who has missed a menstrual period. If the period commences soon after the administration of the hormones, the woman is not pregnant, but if the period does not begin, she often is, and the fetus is exposed to the hormones during the crucial early stages of its development. There are many alternative pregnancy tests available and one of these should be used, Janerich says. A spokesman for the U.S. Food and Drug Administration told SCIENCE NEWS that that agency's drug bureau has reviewed hormonal pregnancy tests and an order withdrawing them from the market is expected soon.

Second, a physician should not prescribe birth control pills for a woman until he is sure she is not already pregnant. And third, physicians might be more careful about administering hormone therapy. These treatments are used "in many instances where a rationale is not well established," Janerich says, including preventative treatments for a problem that occurred during an earlier pregnancy but not the current one.

There have been related reports on hormones and birth defects by other investigators during the past year. James and Audrey Nora from the University of Colorado Medical Center at Denver refer in an editorial in the same issue of the medical journal to some of their own work. They found that defects of the spinal cord, intestinal tract, heart, throat and lungs and kidneys may also be associated with hormone exposure during pregnancy. Both groups emphasize the preliminary nature of the work thus far, and the need for laboratory and epidemiological studies before a positive link can be forged between hormones and birth defects. □

## Science, secrecy & grant applications

Scientists who fear piracy of their original research designs by unscrupulous colleagues have a new worry: A U.S. appeals court has ruled that Federal research grant applications must be made public under the Freedom of Information Act. Up to now, grant-awarding agencies have kept the proposals confidential. Some grant officials regard the ruling as a threat to the system of peer review by which grants are parceled out. They foresee theft-wary researchers submitting proposals so devoid of detail that review committees will be forced to blindly fund projects, giving investigators and institutions with established reputations the edge.

However, the decision by the U.S. Court of Appeals for the District of Columbia in September overturned that part of a lower court's ruling a year ago which also would have made the summary statements ("pink sheets") and site visit reports prepared by these review committees public information. The earlier decision ordered the Department of Health, Education and Welfare to surrender all documents relating to 11 National Institute of Mental Health grant projects involving drug treatment of hyperactive and learning-impaired children to the Washington Research Project, a nonprofit public interest group.

HEW appealed the decision, arguing that "ideas are a researcher's 'stock-in-trade'"; that to release research applications submitted in confidence would amount to revealing "trade secrets"—a category of information specifically exempted from disclosure under the 1966 Act.

The Washington Research Project disputed that research designs could be considered trade secrets because "secrecy is antithetical to the philosophical values of science and is notably absent from the structures by which modern scientific research is carried out." To wit: collaborative projects and elaborate communications networks. Even proposals submitted for Federal funding are reviewed by competitors who "consciously or unconsciously assimilate useful ideas from other proposals into their own work," the group contended. "If the work of one scientist is used by another to reach a desired result more quickly, the gain to society will be substantial."

In the end, the decision making research proposals public hinged on the legal definition of "trade." "It defies common sense to pretend that the scientist is engaged in trade or commerce," concluded Judge Carl McGowan in his opinion. "This is not to say that the scientist may not have a

preference for or an interest in non-disclosure of his research design, but only that it is not a trade or commercial interest. To the extent that his interest is founded on professional recognition and reward, it is surely more the interest of an employee than of an enterprise." He noted that profit-making "enterprises" aren't eligible for grants under HEW regulations.

The decision renders all types of grant applications—initial, continuation, supplemental and renewal—subject to disclosure under the FOI Act. Rejected grant proposals are presumably also included, although the court was not explicit on this point. The summary reports and site visit reports written by the review panels of experts who pass on the scientific merits of proposals were ruled exempt from the Act because they are primarily evaluative in nature and hence considered part of the internal deliberative process of the agency. HEW voluntarily discloses the purely factual information in these documents regardless.

The issue of public access to research protocols could go into a third round of legal proceedings if either side decides to appeal to the Supreme Court. In any case, the Association of American Medical Colleges, which filed a friend-of-the-court brief supporting HEW in the appeals suit, is already lobbying in Congress for legislation that would exempt grant applications from disclosure. President Ford on Oct. 17 vetoed a bill that would have amended the FOI Act to make government records more accessible. □

## Ancient fossil mammal

A vertebrate paleontologist from Harvard made a find so lucky recently that the others on the expedition wouldn't believe it at first. Searching through mountains near Billings, Mont., last summer and "feeling futile," Charles R. Schaff found a pile of bleached bones. Half of them were exposed from weathering and the other half were encased in soft, gray shale, but Schaff knew immediately what he had discovered. From a small tooth with three prominent cusps laying neatly exposed, he determined that the animal was a triconodont ("three coned tooth"), a small carnivorous mammal that lived among the dinosaurs 100 to 120 million years ago.

Triconodont skulls and teeth have been found before, but Schaff, expedition director Farish A. Jenkins Jr. and Harvard's zoology museum now have the oldest fossil mammal skeleton ever found in North America. □