# NAS enters human life bill debate

At recent Senate hearings, advocates of the so-called "human life bill" sought scientific validation for their controversial measure. But last week, the National Academy of Sciences, considered the honor roll of U.S. scientists, firmly declined that responsibility, declaring that the bill deals "with a question to which science can provide no answer."

At issue is legislation introduced by Sen. Jesse A. Helms (R-N.C.) that seeks to define human life as starting from conception. If passed, the bill would challenge the 1973 Supreme Court ruling that a woman has a constitutional right to end a pregnancy if she has her doctor's consent. In making that decision, the Court refused to rule on when life begins. Anti-abortion forces feel that if Congress provides that definition, it would give the unborn constitutional rights under the 14th amendment and permit states to pass laws to protect fetuses from the moment of conception. In effect, the bill would allow states to declare abortion murder. Women who have abortions and physicians who perform them would be subject to criminal prosecution.

Science has been drawn into the fray by a statement in Section 1 of the bill that says "present day scientific evidence indicates a significant likelihood that actual human life exists from conception." At hearings held April 23 and 24 before the Senate Judiciary subcommittee on separation of powers, which is chaired by Sen. John East (R-N.C.), a troop of scientists was marched in to testify on that statement. The hearings proceeded amid demonstrations by abortion advocates and accusations that the witness list was stacked in favor of anti-abortionists.

On the first day, all five witnesses told the subcommittee that life begins at conception. According to Micheline M. Mathews-Roth of the Harvard Medical School, "In biology and in medicine, it is an accepted fact that the life of any individual organism reproducing by sexual reproduction begins at conception," which she defined as the "time when the egg cell from the female and the sperm cell from the male join to form a single new cell, the zygote." That conception marks the beginning of human life "is no longer a matter of taste or of opinion," said Pierre Lejeune, French researcher and discoverer of the extra chromosome 21 that marks Down's syndrome, "... it is plain experimental evidence."

Only one witness chose to venture beyond the scientific facts. While agreeing that "the beginning of a human life from a biological point of view is at the time of conception," Watson Bowes Jr. of the University of Colorado School of Medicine cautioned that "it raises very serious issues and problems regarding birth and pregnancy control, induced abortion and the medical care of women .... This straightforward biological fact should not be distorted to serve sociological, political or economic goals."

The second day of hearings broke the scientific unanimity. "I know of no scientific evidence which bears on the question of when actual human life exists," said Leon E. Rosenberg of the Yale University School of Medicine. "I believe that the notion embodied in the phrase 'actual human life' is not a scientific one, but rather a religious, metaphysical one." While the fertilized egg, or zygote, has the potential for human life, he said, science cannot determine when that potential becomes actual. "I maintain that concepts such as humanness are beyond the purview of science because no idea about them can be tested experimentally." Moreover, he added, the bill would prohibit use of contraceptives such as intrauterine devices (IUD's) because they prevent implantation of the fertilized egg, and would halt amniocentesis, the removal of amniotic fluid to test for genetic disorders, because of the small risk of miscarriage. Even the surgical removal from the uterus of a potentially malignant cluster of cells called a hydatid mole would be prohibited, he said, because it is actually a fertilized human egg gone awry.

The statement of the National Academy of Sciences, approved unanimously at the Academy's annual meeting April 28, agrees with Rosenberg's stand. Says NAS president Philip Handler, "We can't improve on [Rosenberg's] statement. The rest of us should stay quiet and let that statement say it." The resolution also faults the proposed bill for using the term "person" to include all human life, saying that "has no basis within our scientific understanding." The crucial statement in Section 1 of the bill "cannot stand up to the scrutiny of science," according to the 100-odd word resolution. "This statement purports to derive its conclusions from science, but it deals with a question to which science can provide no answer....Defining the time at which the developing embryo becomes a 'person' must remain a matter of moral or religious values."

According to Handler, the resolution will be formally transmitted to Congress by an Academy member who will be named to testify at future hearings on the bill. □

# NCI finds Laetrile ineffective

Laetrile has failed on four counts: It does not make cancer regress, it does not extend the lifespan of cancer patients, it does not improve cancer patients' symptoms and it does not help cancer patients gain weight or become more physically active. These are the results of clinical tests undertaken in July 1980 by the National Cancer Institute, in conjunction with four major U. S. medical centers—the Mayo Clinic in Rochester, Minn., the University of California at Los Angeles, the University of Arizona Health Sciences Center in Tucson and the Memorial Sloan-Kettering Cancer Center in New York City. The bulk of the results were presented last week in Washington at the annual meeting of the American Society of Clinical Oncology by Charles Moertel, who conducted the Laetrile trial at the Mayo Clinic.

The Laetrile trial included 178 patients with a variety of cancers for whom no effective treatments were available. One-third, in fact, had already received chemotherapy, but it had improved neither their condition nor their survival rate. The patients were given Laetrile for 21 consecutive days by intravenous injection and then orally for an indefinite period or until they showed extremely progressive cancer or died from their cancer. Although a variety of Laetrile regimens have been used by Laetrile advocates, Moertel says, the regimen used in this trial was the same as that currently being employed by Laetrile therapists in Mexico. What's more, patients were treated with a so-called "metabolic therapy" program. The program emphasized a diet of fresh fruits, fresh vegetables and whole grain foods, severely restricted intake of meat, animal products, refined flour, refined sugar and alcohol and included vitamins and minerals.

Results available from the trial to date are based on 156 patients out of the original 178. Of the remaining 22, one was considered ineligible because the initial diagnosis of cancer was not confirmed; two died within three days of starting the treatment from causes not directly related to cancer; one left the study after only eight days and was not evaluable; four patients are still being evaluated; 14 were recently placed on very high doses of Laetrile, and only preliminary data are available for them.

Within one month after starting Laetrile treatment, 50 percent of the 156 patients showed evidence of cancer progression, and 90 percent of them had experienced cancer progression within three months. (This experience, Moertel and his colleagues indicate, would be consistent with that expected if patients had received no treatment.) Only one patient showed any reduction in tumor size. He had metastasizing cancer of the stomach and was first given Laetrile at the Mayo Clinic, then at the University of Arizona. For the first 10 weeks, a tumor that had spread into his neck regressed. But after that the tumor got larger and larger although the patient remained on Laetrile therapy. (A tumor regression rate of zero to five percent is generally expected in studies of inactive