

Genetic engineering sparks controversy

by Steve Thomas
Battalion Staff
In the laboratories of Texas A&M, scientists work diligently to unlock the secrets of genetic engineering, believing each step they take is a positive one for mankind.
But not everyone agrees. "We are in danger of treating human beings as animal stock rather than respecting their digni-

ty," J. Robert Nelson, professor of theology at Boston University, was quoted as saying in Time magazine last June.
Nelson was part of a group of national religious leaders, including Evangelist Jerry Falwell, Bishop James Armstrong and the leaders of the Southern Baptist Convention, who signed a seven-point declaration asking congress to ban genetic experiments that

might change human characteristics.
"I'm not convinced that genetic engineering will ever be used to manipulate the human genome (genetic structure)," James E. Womack, associate professor of veterinary pathology and genetics at Texas A&M, said.
Womack said scientists can experiment and make mistakes with lab animals and even farm anim-

als, but he said "with humans, you can't make mistakes." Thus he feels the idea of science genetically manipulating humans into "supermen" is unrealistic.
Assistant Professor of Biochemistry and Genetics James R. Wild of Texas A&M agreed with Womack, saying control of the human genome "can't happen."
Genetic engineering will have a great impact on humans, Wild said: "but I don't believe there will be any genetic perfection of man."
Humans, he said, are simply too complex.

Don H. Lewis, professor of veterinary microbiology and parasitology, said scientists working with genetic engineering have to deal with one minuscule characteristic at a time, and changing any human trait would require altering many different characteristics.
"The possibility of being able to do that," he said, "is very, very remote."
The organizer of last June's appeal to congress was Jeremy Rifkin, 38, a Reform Jew and a writer on economic and social issues. Rifkin's latest book "Algeny" speaks out against all forms of genetic engineering — plant, animal and human.

Rifkin says genetic engineering is ecological roulette; any mistake will be irretrievable.
Womack feels the public has a right to be concerned.
"I'm sometimes distressed that the voices leading the public are not scientifically informed," he said, but added that scientists should be held accountable for their work.
Carret M. Ihler, professor and head of the department of medical biochemistry, said he feels the most worrisome danger of genetic engineering is that governments may want to use it as a weapon.
"Most scientists are not interested in creating things that will kill you better," he said. But if a government or a society wanted to have genetically created infectious materials, he said they could do it.
Above all, Ihler said: "I think we can't predict the future."
To just stop genetic research, he said, would be crazy.
"It's better to guide it," Ihler said, "than to try to block it."

Lewis echoed Womack, saying the bacteria have certain growth requirements not usually found in nature.
"So there's no hazard," he said, of them escaping and growing.
Zero possibility?
"Now, let's not say that can't happen," he added, "but it is very, very, very unlikely."
Wild, who is chairman of the Institutional Biological Safety Committee at Texas A&M, said anyone who wants to experiment in genetic engineering here must first go before his committee and get approval.
All the genetic engineering projects here are working on safe questions, he said. The four containment facilities on campus are for extra safety, he said, and in case more dangerous organisms are used for higher level experiments.
John Artie Browning, professor and head of the department of plant sciences, pointed out a special consideration in the area of genetic hazards — the epidemic.
Browning offered the Southern Corn Leaf Blight of 1970 in which over \$1 billion of corn was lost nationwide as an example of this danger. This particular type of corn possessed the Texas Male Sterile Cytoplasm, a genetic hybrid cytoplasm that facilitates reproduction. Cytoplasm is every-

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Alternative education is short but expensive

United Press International
Katie Sampeck's tough schedule of training and showing horses just doesn't give her enough time to go to regular school five days a week.

The answer for her and about 140 other well-heeled high school students in Dallas and Houston is an alternative school where all instruction is from one teacher to one student.

Katie is enrolled in the Alexander School in Dallas. Last year she showed a national champion Appaloosa and also helped train a thoroughbred race horse. But

she's also taking college-level courses in organic chemistry and calculus and making good grades, although she only attends class three hours a day, four days a week.

"She's brilliant," says Alexander director David Bowlin, "and I expect her to get advanced placement in all of her first-year college courses."

Gene Phillips, who recently retired after accrediting schools for the Texas Education Agency for 22 years, said the one-to-one concept, while expensive, reduces learning time significantly.

"When a student is one-to-one he will accomplish in three hours what normally takes five. The students are getting tremendous attention from the teacher opposed to a kid in a regular classroom," he said.

Phillips said the most notable thing about the Alexander School is that it eliminates competition found in ordinary schools.

"It's more like golf than football with the student competing against himself. This is the point of the school," he said.
Tennis professional Sam Giammalva faced a similar problem in Houston before his graduation last year. He needed education, but he didn't have time for regular classroom work.

His solution was the Alexander Smith Academy, run by Dave Arnold.

Arnold said the one-to-one concept in Texas developed from part-time tutorial service founded by two Delta Airlines pilots, Paul Smith and Lou Alexander.

"The Alexander Smith started in 1968 and we evolved, pioneering the alternative school concept," Arnold said. "We were the first alternative school accredited in Texas and Dave Bowlin used to work for us before he went to Dallas and formed his own school."

Arnold said although he and Bowlin exchange references, their schools are not connected formally.

Bowlin's school caters to a failing student as well as the outstanding one, while Arnold's school deals primarily with highly sophisticated groups of serious students interested in college preparatory work.

At both schools, the parents' students have to have a lot of money. Bowlin's yearly tuition is \$5,300, comparable to a year's high school tuition at St. Martin's exclusive boy's prep school in Dallas.

Arnold's tuition for a year is \$6,000, equivalent to a year's private Texas university.

Phillips notes that the prep teacher ratio depends on economics, and the economics depend from the commitment parents place on education.

"You'll have the least number of pupils with the teacher you can afford. If there's little value placed on education, there will be a lot of kids in the class. Where there's real value placed on education, your classrooms are going to be smaller," he said.

Bowlin said his school teaches the basics — math, science, English and social sciences — and students attend a 45-minute class in each course Monday through Thursday.

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