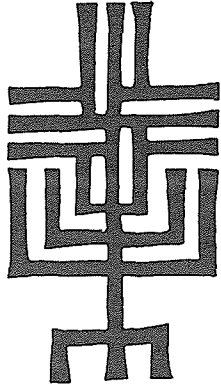


**RELIGION & PHILOSOPHY**

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*The Religious Coalition for Abortion Rights is comprised of religious groups—Protestant, Catholic, Jewish, and others—that support the right to choose legal abortion. The logo of the coalition combines a Christian cross with many branches and a menorah, symbol of the Old Testament, representing both the Jewish faith and the roots of Christianity.*

is located meets every test of a religious belief, says Jaffe. It is a religious doctrine, based on religious values, expounded by religious leaders, and taught by religious institutions.

In the current debate over the federal funding of abortions, says Brody, the issue of separation of church and state is being raised by pro-abortion groups as an excuse to disregard the legitimate rights of believers. Jaffe disagrees. Laws embodying religious beliefs (e.g., restrictions on federal funding of abortions) should be enacted only when the beliefs are very broadly shared, he says. When there are irreconcilable differences on issues of morality, it is impermissible, in a pluralistic society, for legislatures to enact laws which embody one set of beliefs and impose them on those who believe otherwise.

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**SCIENCE & TECHNOLOGY**

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*The Fateful  
Protein Markers*

"A New Power to Predict—and Prevent—Disease" by Gene Bylinsky, in *Fortune* (Sept. 25, 1978), 541 North Fairbanks Court, Chicago, Ill. 60611.

Conventional medicine is strongly oriented toward the cure rather than the prevention of disease. This could change dramatically, says Bylinsky, a *Fortune* staff writer, with the recent discovery by immunologists at Palo Alto, Los Angeles, and London that people carry telltale markers of susceptibility to specific illnesses.

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**SCIENCE & TECHNOLOGY**

These signposts are human leukocyte antigens (HLA)—protein molecules that float in the cell membrane and trigger a rejection response to foreign substances, such as organ transplants. The antigens also signal the presence of genes that make a person susceptible to certain diseases. Scientists have found eight kinds of antigens that are associated—singly or in combination—with more than 40 afflictions ranging from rheumatoid arthritis to juvenile diabetes.

The HLA known as “B27,” for example, is known to occur in 95 percent of all patients with ankylosing spondylitis, a variety of arthritis also called “poker spine” and frequently misdiagnosed as common low-back pain.

The prediction of susceptibility on the basis of HLA markers can be made for several different types of cancer, multiple sclerosis, chronic active hepatitis, ulcerative colitis, pernicious anemia, and a number of other conditions. Scientists at Rockefeller University, for example, have found that three different markers occur in 75 percent of people with rheumatoid arthritis. The children of some of these patients are now being screened for signs of these markers so that those with proven susceptibility can be monitored and treated promptly before overt symptoms of the disease appear.

While knowledge of susceptibility permits people to follow early preventive measures (e.g., appropriate diet), some scientists are concerned that employers and insurance companies may discriminate against persons tagged as susceptible to HLA-linked diseases. However, Bylinsky concludes that more sophisticated methods of prediction will eventually give rise to prevention and to methods of diagnosis and treatment “more specific, more individualized, less expensive, and considerably more efficient” than those we have now.

### *Super Machines of the Future*

“Mission-Oriented Research for Light Machinery” by Delbert Tesar, in *Science* (Sept. 8, 1978), 1515 Massachusetts Ave. N.W., Washington, D.C. 20005.

U.S. research and development in mechanical technology is in serious decline. As a result, the U.S. trade surplus in manufactured goods dropped from \$20 billion in 1975 to \$5 billion in 1977, contributing to the nation’s overall trade deficit of \$30 billion.

America’s neglect of machine science, writes Tesar, professor of mechanical engineering at the University of Florida in Gainesville, actually dates from the turn of the century when U.S. companies began importing design experts from Europe and American universities virtually abandoned the field. Today, in Georgia, a new tobacco-processing plant, the country’s third largest, uses European machines and is maintained by European technicians. And National Science Foundation funding for basic research is currently 30 times higher per faculty member for physics than for mechanical engineering and mechanics. American industry suffers the consequences; delays of five