

Molecular biology threatened by West German law

Munich

AFTER years of internal debate, the West German government is considering legislation that may jeopardize both research and production using recombinant DNA technology. Two laws now being drafted seem certain to have far-reaching, if not devastating, effects.

West Germany's broad-based environmental movement, including but not restricted to the Green Party, is preparing for a fight against genetic engineering that promises to be as intense as the continuing struggle against nuclear energy. There has already been a bomb threat against the Heidelberg Molecular Biology Centre (ZMBH).

Opinion has been crystallized by the report of the 'Enquete Kommission' appointed in 1984 by the Bundestag (parliament) to study the "Prospects and Risks of Genetic Engineering". In January 1987 the report urged more than 170 specific measures (see *Nature* 325, 474; 1987) covering such areas as cloning of human beings, release of genetically manipulated microorganisms and genome analysis by employers and law enforcement agencies. The Bundestag has begun hearings on some of these issues, which are meant to lead to a new 'gene law' by early next year.

Meanwhile, another measure on waste materials produced by genetic engineering has provoked a sharp response from the few researchers who have heard about it. (The Deutsche Forschungsgemeinschaft, which supports most university basic research, will probably file an objection soon.) It consists of a set of regulations to fill a gap in the West German Water Management Act (*Wasserhaushaltsgesetz*).

The first draft of the regulations would handle any plasmids or vectors containing foreign DNA as if they were pathogens and require that the bacteria be chemically or thermally treated "to destroy all materials capable of reproducing" outside the laboratory or production facility.

The measure was provoked by the pharmaceutical company Hoechst AG's plan to produce human insulin using genetically manipulated *Escherichia coli* bacteria. Although the Hoechst plant near Frankfurt was initially approved by local authorities (see *Nature* 329, 193; 1987), plans have now been stopped by a citizens' initiative, the 'Höchster Schnüffler und Maagucker'.

Molecular biologist Ernst-Ludwig Winnacker, director of the Munich Gene Centre, argues that the wastes should be treated according to their pathogenicity. Hoechst says that the insulin-producing bacteria are indeed incapable of surviving

in the outside world, but the principal author of the proposal, Jürgen Hahn of the Federal Health Office (Bundesgesundheitsamt), says that the law is meant to anticipate "not the pathogenic but rather the ecological consequences" of an accidental release. The operative principle is that, once released into the environment, new genes cannot be brought back.

The same arguments can be expected as the Bundestag nears passage of a gene law. Moderates such as Bundestag member Wolf-Michael Catenhusen (Social Democrat), who chaired the Enquete Kommission, consider it likely that the law will give legally binding status to the recommendations of the Zentrale Kommission für Biologische Sicherheit (Central Commission for Biological Safety), which can now propose guidelines only for federally supported research.

Researchers would support such a scheme as long as the regulations governing genetic engineering are not specified in the law. Otherwise, says geneticist Peter Starlinger of the University of Köln, changes in the regulations would require Bundestag approval, bringing delay and preventing West Germans from keeping up with advances in the field.

Environmentalists would feel betrayed by such a plan. In the view of Frankfurt attorney Hans Neumann, the ZKBS is inherently biased because some members come from private industry. (The ZKBS has twelve members, including six biologists and three representatives of industry, among them one man from Hoechst.) Furthermore, "the professors are not free in their decisions". The tone of the debate may have already been set by the opponents of genetic engineering, who have begun to use the slang word for a nuclear accident ("GAU") for an accidental release of recombinant DNA.

The bomb threat at the ZMBH may be a foretaste of what is to follow. The building, then under construction, was damaged by a bomb in 1985, but none was found this time.

Researchers cite one-sided media coverage as a cause for the public fear of genetic engineering. "Even scientists and physicians are being made afraid", says Hermann Bujard, director of the ZMBH. ZKBS member Gerd Hobom of the University of Giessen adds that "in the United States, there is only one Jeremy Rifkin, but here there are lots of him and they are better organized". If the laws materialize in their most extreme form, Bujard says that "we'll have an exodus" of molecular biologists: "all the good students will go to the United States." **Steven Dickman**

Frog liberationists croak up

Berkeley

ANIMAL rights has moved into the classroom in California, where a new law gives primary and secondary school students the right to refuse to perform animal dissection, provided there are alternative means of studying the material.

The law, the first of its kind in the United States, is likely to encourage more students to protest against classroom dissection. The issue came to national attention when Apple Computer ran television advertisements featuring a California high-school student who refused to dissect a frog, proposing instead to learn from a computer program called 'Project Frog'. The California law was drafted at the request of the Peninsula Humane Society in San Mateo, one of the leading animal rights organizations in California. Critics say the law creates an issue where there really is none: few California students have opposed dissection, and, according to a California School Board Association spokesperson, the cases have been handled adequately by local school officials. The new law will not actually force schools to excuse students from dissection, rather it will leave the ultimate decision up to the individual school. As such, it is not a state mandate, said one school board official, and does nothing to change the way schools now handle such cases.

But it promises to increase the number of cases the schools must address. Supporters of the law say its main purpose is to draw more attention to the plight of animals that are dying needlessly in the name of education, and to encourage students to demand alternatives.

At least one other state may soon follow California's lead. The Massachusetts legislature is currently considering a similar bill. **Marcia Barinaga**

Maths prize

London

THIS year's Crafoord prize has been won by Brussels-born Professor Pierre Deligne of the Institute of Advanced Study in Princeton, New Jersey, and Berlin-born Professor Alexandre Grothendieck of the Université des Sciences et Techniques du Languedoc in Montpellier, France. It was the turn of mathematics for the prize, which is awarded by the Royal Swedish Academy of Sciences in areas not covered by the Nobel prizes. The two mathematicians are cited for their fundamental research in algebraic geometry, and will share an award of \$270,000. Swedish research in the same area will benefit from a subsidiary award of \$150,000. **Peter Newmark**