

# NIH censure for Dr Martin Cline

## Tighter rules for future research plans

Washington

Dr Martin J. Cline, the California scientist who has admitted using recombinant DNA molecules in unapproved experiments with human patients, has been rapped sharply over the knuckles by the US National Institutes of Health (NIH). The director of NIH, Dr Donald Fredrickson, announced last week that he has accepted the recommendation of an investigatory committee that Dr Cline be required to obtain special permission from NIH in future to carry out research using recombinant DNA techniques, the first time such action has been taken against an individual investigator.

Dr Fredrickson also agreed that review committees assessing future grant applications from Dr Cline be provided with a detailed account of his admitted transgressions in attempting to treat patients with thalassaemia. However, the investigatory committee, which described his actions as a clear violation of NIH guidelines covering recombinant DNA research, has not suggested stronger action.

Rather it has proposed — and Dr Fredrickson has accepted — that the directors and advisory councils of the three institutes from which Dr Cline at present receives grants totalling about \$600,000 a year should decide whether any of his current support should be withdrawn. Dr Cline's sentence therefore rests essentially in the hands of his scientific peers, a precedent-setting situation which is being closely watched by groups such as the President's Commission for the Study of Ethical Problems in Biomedical Research.

Dr Cline resigned in February from his position as chief of the division of haematology-oncology at the University of California, Los Angeles (UCLA), although he remains on the university faculty as professor of medical oncology. His resignation followed the admission that, in conducting experiments with patients suffering from  $\beta$ -thalassaemia in Italy and Israel last summer, he had transplanted bone marrow cells whose genetic material had been altered by recombinant DNA techniques. This was despite the fact that he had earlier told the hospital authorities that his proposed therapy would not involve such types of cell.

Dr Cline told the NIH committee that he was unaware that strict federal regulations requiring prior approval of experiments involving human subjects was required for any experiment carried out by university researchers, whether in the United States or abroad. The UCLA committee subse-

quently told NIH that the definitions of collaborating institutions contained in documents distributed to research staff "are not as clear as they might be".

It was the unauthorized use of recombinant DNA molecules, however, that made the charges against Dr Cline more serious. In written evidence to NIH investigators, he says he took samples of cloned genes intending to perform *in vitro* studies of  $\beta$ -thalassaemic marrow in Italy and, if possible, organize clinical trials in Israel and Italy.

On the last day of his visit to Israel, he received permission from authorities at the Mount Scopus Hospital of the Hassadah medical complex to use purified genes in experimental therapy with a 21-year-old girl suffering from  $\beta$ -thalassaemic major, a blood disease rare in the United States but more common in the Mediterranean region. Having originally intended — and received the permission — to carry out the experiments with unaltered genetic material, Dr Cline decided to subject bone marrow removed from the posterior iliac crest to a DNA-mediated gene transfer technique using recombinant genes which had been planned for the *in vitro* studies.

A similar procedure, in which the treated bone marrow was replaced in the patient in an attempt to stimulate the production of healthy red blood cells, was performed four days later on a 16-year-old girl with the same disorder at the University Polyclinic in Naples, Italy. Describing the Israeli experiment, Dr Cline later told NIH that he had decided to use the recombinant genes on medical grounds "because I believed that they would increase the possibility of

introducing  $\beta$ -globin genes that would be functionally effective, and would impose no additional risk to the patient, since it was known that pieces of DNA are efficiently linked in all combinations once they are taken into cells".

The medical authorities at the Israeli hospital, however, who had taken great pains to check that Dr Cline's proposed experiment did not involve the use of genetically altered cells, were upset at discovering what had taken place. Dr Cline's collaborator at Hadassah, Dr E.A. Rachmilewitz, denied any knowledge that recombinant DNA was being used and investigations carried out at UCLA confirmed that Dr Cline had acted on his own.

Accepting Dr Cline's letter of resignation, the dean of the UCLA School of Medicine, Dr Sherman Mellinkoff, accepted that no known harm had been done to the two patients, and that the experiments might prove helpful in treating others. But he added "It is also true that the freedom to conduct experiments of benefit to mankind is jeopardized by failure to act in accord with the relevant regulations in these circumstances".

Both Dr Cline and the university have declined to comment on the report of the NIH committee and Dr Fredrickson's subsequent decision. However, in a letter to NIH written in January, Dr Cline says "I greatly regret my decision to proceed with the use of recombinant DNA molecules without first obtaining permission from the appropriate committees", adding that "I exercised poor judgement in failing to halt the study and seek appropriate approval".

David Dickson

## Social scientists take over ANZAAS forum

Brisbane

The 51st Congress of the Australian and New Zealand Association for the Advancement of Science (ANZAAS), held at the University of Queensland in Brisbane (11–15 May) was publicized as a "stocktake for science", but it turned out that the association itself was most under scrutiny. The New Zealand contingent has threatened to withdraw and go independent. The prominence of social science has increased confusion about the role of ANZAAS, which will be added to at the next congress by the introduction of new sections on law and robotics.

For basic and applied scientists, ANZAAS has become a forum for retrospective reviews and personal contacts but no longer an occasion for the announcement of original research results. The specialist professional societies of Australia have now completely taken over that job. Thus more than 600 members of the Australian Society for Microbiology attended its annual conference in Canberra in the previous week but only a few dozen

people turned up to the microbiology section at ANZAAS.

ANZAAS's own 10-times-a-year journal *Search* publishes only a minute handful of the 800-plus papers presented at each congress. There is little professional discipline over the speakers — papers are not vetted before delivery and too many speak from notes. Although many speakers took their responsibilities seriously, the overall standard was just too patchy. Presentation of a paper at ANZAAS may provoke valuable discussion, but it does not guarantee publication or significant enhancement of scientists' reputations.

For social scientists and some humanities, however, ANZAAS has become a welcome place for the communication of new research results and ideas. Given the science-and-society approach of some of the more traditionally scientific sections of ANZAAS the social sciences have now become dominant at this, Australia's largest annual academic meeting.

The organizers of the Brisbane congress

latched on to the popularity of energy as a topic for endless talk and took "Energy and equity" as the theme. Australia is going through an excitable phase over energy matters. Australia's huge coal reserves are proving immensely attractive to foreign interests. Oil shale deposits, notably in Queensland, were the subject of wildly optimistic predictions of national self-sufficiency in oil, until the dominant Exxon partners pulled back on grounds of massively increased cost estimates.

Unfortunately, the symposia which offered well-known people a chance to air their well-known views did not significantly advance the professional, popular or political understanding of the facts and issues. Full publication of these addresses is unlikely, and the brief mentions they received in newspapers caused little impact. The organizers failed to capitalize on the large media contingent present with the energy theme buried in a snowstorm of unrelated items. The paper which attracted most news reporting and comment — even a newspaper leader — was a sociological study of the sub-culture of nudist colonies.

ANZAAS congresses suffer from a lack of continuity. Each meeting is organized in a different city by a totally different group. ANZAAS also seems to have no collective memory, so that the failings of one meeting are repeated. Its central organization is weak because it depends too much on volunteers — its membership subscription income remains static and it receives no government subsidy.

The enrolment of 2,300 at the Brisbane congress was disappointing, being right on the financial break-even point. ANZAAS will therefore now have to struggle financially for another year in the hope that next year's meeting in Sydney will attract enough delegates to lift its spirits and wipe out its deficit.

For all its faults, however, ANZAAS remains a potent force in Australian (not New Zealand) academic life, which could realise its potential if only it could get its act together. This year's congress came only two weeks after Prime Minister Malcolm Fraser announced a series of cost-cutting measures recommended by a group of senior ministers, popularly known as the "Razor Gang". The Razor Gang slashed into the supposed "fat" of publicly funded science and did so to an extent probably greater than any other single area. An indiscriminating cut of 2-3 per cent in the staffing levels of all public service operations will hit CSIRO hard, though this has as yet not been publicly recognized. Another act of the Razor Gang — the imposition of fees for second degrees in universities — is the cause of nationwide protests by staff and students alike.

Fears for the future health of Australian science were all the talk at ANZAAS, but only privately. Not a murmur was heard publicly about these problems. ANZAAS 1981 may well be remembered as an opportunity lost.

Peter Pockley

## Mitterand's new ministers On your Marx

With the all-important French legislative elections looming on 14 and 21 June — which will determine whether the new socialist president, François Mitterand, has real power or not — it may be unwise to read too much into the events of the past few days. But Mitterand's much-vaunted commitment to science seems in fact to be one to technology — albeit technology with a socialist mask.

Mitterand has appointed Jean-Pierre Chevènement, a 42-year-old left-wing intellectual and founder of the Centre for Socialist Studies, Research and Education (the broadly Marxist CERES), as Minister of State for Research and Technology. The other principal contender for the job, the scientist and director of the Institut Pasteur, Professor François Gros, has been appointed as scientific advisor to the Prime Minister, M. Pierre Mauroy.

Chevènement is a great admirer of the highly-centralized Japanese ministry for industry and technology, MITI; and as a Minister of State he will be a member of Mitterand's powerful inner cabinet of five. He will rank higher even than the Minister of Industry, M. Pierre Joxe (who, incidentally, also calls himself a Marxist).

Chevènement and Joxe are now locked in battle over who will control which of France's many scientific and technological institutions. The Delegation Générale pour la Recherche Scientifique et Technique (DGRST), which draws up guidelines and coordinates research throughout the government, but has only a small autonomous budget will be Chevènement's of right; and it seems he has also won control of the principal body funding basic

science in France, the Centre National de la Recherche Scientifique (CNRS), from the ministry of education. The Centre National pour les Etudes Spatiales (CNES) which controls France's scientific and technological work in space, may also be a major prize from the ministry of industry, and another could be the Agence Nationale de Valorisation de la Recherche (ANVAR), which promotes innovation in French industry. The control of the medical research body (INSERM) and the agricultural research council (INRA) is also in question.

Even the atomic energy authority (the CEA) might fall to Chevènement, but once the dust of Mitterand's energy policy has settled, the science and technology minister will be seen to be strongly pro-nuclear (see box). He is also greatly interested in nuclear weapons (he backs a French strategic nuclear capability), and in military research.

Where is socialism — let alone Marxism — in all this? It comes partly in nationalization: Mitterand has promised to nationalize nine big industrial companies, to give greater state control of major technical sectors of the French economy (this will be M. Joxe's preoccupation). It comes in promised efforts towards less centralized, more democratic control of technological decision making (Mitterand speaks of a referendum on nuclear power, for example). And it may come in Chevènement's professed concern for the impact of new technologies on employment and working conditions. His attitude to the problem of short-term contracts for young researchers and technicians, which has flared up regularly in the universities, CNRS, INSERM and INRA in recent years is not yet clear.

Robert Walgate

### French face energy questions

Energy policy in France is entering a rather confused period. The new government has cancelled the bitterly contested plans for a nuclear power station at Plogoff in Brittany but has announced the start-up of two new 900 MW stations at Gravelines and Tricastin. And when the outgoing government in its dying days gave the go-ahead for doubling the size of the spent fuel reprocessing plant at Cap de la Hague there was no demur from the already-elected Mitterand.

So where lies the new French government's energy policy? There is no energy minister in the new government. The President, it seems, would like to keep this difficult card in French politics to himself. And so far, in fact, Mitterand's pre-election promises and his first actions as President have been consistent. He offered only a "pause" to reconsider nuclear power, in which reactors under construction (like Tricastin and Gravelines) would continue to completion; Plogoff has not begun. And Cap de la Hague has been so inefficient it needs

refurbishment to cope with future spent fuel.

But there is disagreement in his cabinet about what to do next. Some say Plogoff is cancelled; others, that it is merely postponed. Mitterand may call some kind of referendum (and if he does, is likely to find the French in favour of nuclear power) or he may opt for a parliamentary inquiry, through his promised committee on technology assessment, or he may hold a public inquiry.

But barring accidents like Three Mile Island, France's nuclear programme will probably survive the storms, because the country needs the energy, and soon. Despite the vociferous opposition at Plogoff last year, the electorate of the region in fact voted overwhelmingly for pro-nuclear candidates in the first round of the recent presidential elections. The (Giscardian) member of parliament for the region complained last week "where will it be possible at sure cost, to find 5,200 MW for Brittany by 1990? And another 4,200 jobs?".

Robert Walgate