

professional associations and societies should pay more attention, perhaps following the physicians in their largely successful insistence that their responsibility to their patients takes precedence over that to their employers. There is no reason why, if organizations will not take sensible steps in this direction, legislation should not be used to compel seemly practice. Whistle-blowers who have failed to win satisfaction within their organization might even be protected if they make their complaints public. □

Embryos untouched

The British government must act quickly if it is not to lose the chance to regulate research.

AS expected, the British government is now in a fix over its plans to regulate research in human embryology. The danger that delay in following the report of the Warnock Committee last July with legislation would invite some lone Member of Parliament to take pre-emptive action has now materialized (see p.618). Mr Enoch Powell's bill is unlikely ever to become part of British law, given parliamentary procedures which, for practical purposes, will require either that the government should give the bill a helping hand or that the four private members ahead of Mr Powell in the queue should be willing to withdraw. Yet the size of the vote, and the tenor of the declarations in favour of the bill's proposal that embryos should never be subjects of research, will be an embarrassment for the government, which has still to decide in what form it will bring in its own legislation. The most the Minister for Health, Mr Kenneth Clarke, could promise last week was that there would be a set of proposals "within the lifetime of this Parliament", which could be three years hence.

The issues are complicated, but can they be so difficult? The most serious problem with which the government has to contend is the emotive character of public discussion, well illustrated by last week's debate, but also by Mr Powell's frank (and characteristically lucid) declaration that his opposition to research with human embryos stems from his "sense of revulsion, deep and distinctive, to the proposition that a thing, however it may be defined, of which the sole purpose is that it may be a human life, should be subjected to experiment to its destruction for the purpose of the acquisition of knowledge". Logically, Mr Powell went on to acknowledge that it is irrelevant to this position that potentially valuable research may never be undertaken.

For Mr Powell and many others, the issue is clear: a fertilized ovum is a human being and there is nothing more to be said. But is that indeed the case? A one-cell embryo can become a living person only if implanted in a uterus. No other means of converting one-cell embryos into people has been found. A project for designing artificial systems for maturation would be a daunting task, given the delicacy of the homeostatic systems that are involved, most of which are still unknown. Moreover, the intervention of a real uterus and the adult woman to whom it belongs is more than a mere source of nourishment; it is a means through which an embryo wins the emotional and physical security of its parents for much longer than the period of gestation. The Warnock Committee prudently dodged the over-simple question "when does life begin?", but who can object to the proposition that there can be no such thing as a living being without implantation?

That conclusion is not however a licence for unrestricted research with unimplanted embryos. Whatever may be the potential interest of investigations in this field, Mr Powell's instinctive revulsion is too widely shared to be ignored. That is why it is generally agreed that research must at least be regulated, preferably by means of the open decisions of a committee not dominated by researchers. In the absence of legislation, anything is possible and will luridly be supposed to be taking place. So why does not Mr Clarke take a leaf from Mr Powell's book and bring in a short bill of his own to set up a regulatory committee, to require that operations for the fertilization of human ova should be licensed, that those concerned should account for all

such embryos and also be required to seek approval in advance for all procedures other than the use of embryos in *in vitro* fertilization? The result would be acceptable to researchers, and would allow some research to proceed. It should also be acceptable to Mr Powell and his supporters, being an improvement on the present uncertainty. If it were as open as it should be, the procedure would also quickly nail the widespread supposition that laboratory people are just bursting to fashion Aldous Huxley's *Brave New World*. And Mr Clarke would then have time in which to deal properly with the other conundrums on the Warnock agenda. □

Reactors for trade

The plan to make the UK AEA function commercially hazards the independence of research.

ONCE upon a time, some thirty years ago, the British government created the UK Atomic Energy Authority in the belief that only a substantially independent public corporation could fully exploit the civil benefits of nuclear energy, previously a military business. For much of the early period of its existence, when most universities lived on shoestrings, the authority was one of the chief agents of research and an important source of technical innovation in Britain. But over the years, its pride has been dented in several ways. Thermonuclear power has proved less accessible than it seemed in 1958, thermal reactors went through a bad patch and the original hope that most British electricity would by now be generated in a careful mix of fast and thermal reactors has been put off for at least another thirty years. Then, last week, there came the final humiliation, for the authority is to be converted into what the British Treasury calls a "trading fund", organized as if it were a commercial entity which nevertheless will depend on the government.

This decision, announced by the Department of Energy on 11 February, is consistent with present British fashion of making as many government functions as possible into private entities standing on their own feet. Fair play, it is also true that much has changed since the authority came into being. In the past few years, the authority has hived off (as separate public companies) its interests in both fuel-processing and isotope applications (as British Nuclear Fuels and Amersham International respectively). The novelty of what is now proposed is that an entity which is essentially a research organization should be expected to run on commercial lines (beginning on 1 April 1986). The attraction of the new scheme is partly administrative tidiness and partly the hard calculation that an organization whose research is carried out for the nuclear power industry should win its support from its customers, the electricity undertakings. The first version of the Department of Energy's internal report on the subject put the issue in these stark terms. The version eventually published in abbreviated form last October went some way to recognize that a national nuclear industry cannot politically be entrusted with its own research on the safety of reactors, while even the conduct of long-term research (fast reactors, fusion, fission physics) cannot be fairly lumped as a charge on electricity consumers. Mercifully, these points seem now to have been taken.

For the time being, everybody seems mightily relieved. The British Department of Energy will continue to pay the authority for the cost of fast reactor research, now part of a joint European programme. The electricity utilities will pay for research and development directly related to reactor systems, but the government will foot the bill for attendant safety research. Research establishments such as Harwell, which has fifteen years of success in recruiting outside research contracts, will be expected to stand even more firmly on their own feet. But there will be a substantial part of the authority's present budget, concerned with basic research, that cannot be fairly charged against research contracts. Especially because most of the likely research customers are themselves monopolies, there are strong reasons why the government should match its wish to see an independent research capability with a determination to foot the bill. □