

THE next move has now been made in the discussions on the desirability and safety of certain types of experiment aimed at producing microorganisms containing new combinations of genetic material. According to the Working Party set up last August by the Advisory Board for the Research Councils under the chairmanship of Lord Ashby, the potential hazards inherent in many of the new techniques for manipulating the genetic make-up of bacteria can be sufficiently minimised to allow the work to continue.

The problem was brought to the attention of the public by a group of American scientists who had pioneered these techniques. A committee of the National Academy of Science under the chairmanship of Professor Paul Berg proposed a moratorium on several lines of research: the construction of new plasmids containing combinations of virulence or drug resistance genes not found naturally, and the transfer of such plasmids into organisms in which they do not already occur naturally; and the linkage of DNA from tumour viruses to plasmids or other viral DNA. Much of the danger from these experiments stems from the fact that the bacterium most commonly used as host is the common gut bacterium *Escherichia coli*, which might be the means of disseminating the new genetic combinations amongst humans with unpredictable results.

Conventionally trained microbiologists and bacteriologists have often regarded with some horror the cavalier way in which molecular biologists and biochemists have tended to treat the organisms with which they work, and can perhaps be forgiven for regarding the current concern over bacteriological hazards with some sense of *déjà vu*. Their answer to the problems posed by possible novel organisms is that with proper precautions these bacteria can be contained in the same way that dangerous pathogens have been successfully contained in the past.

While recognising that the cases are not exactly parallel, the Working Party in its report comes down firmly in favour of the view that proper precautions can indeed reduce the risks from experiments in genetic manipulation to an acceptable level. They recommend that all those working with the new techniques should be trained in dealing with pathogenic bacteria and should have access to expert advice on the precautions necessary in any given case. All laboratories contemplating such work should be properly equipped and very hazardous experiments should only be carried out in special laboratories.

Certain simple and relatively inexpen-

sive precautions, such as no smoking, eating or drinking in the laboratory, wearing gowns and gloves which are removed before leaving and the sterilisation before disposal of all contaminated material, should suffice in most cases. More sophisticated procedures are available for dealing with material such as tumour viruses where the risks are potentially greater. There are also ingenious ways in which bacteria can be to some extent "disarmed" by muta-

Round Britain



tions which do not allow them to grow at above a certain temperature or without some rare growth factor.

Other recommendations include the epidemiological monitoring of all those working with the new techniques, special precautions to be taken when dealing with large-scale experiments and investigation into systems which might prove less hazardous than the commonly used *E. coli*-drug resistant plasmid combination.

The report should provide a timely basis for discussion at the conference called by Professor Berg and scheduled to be held next month.

● The daring young man on the flying machine is Dr Magnus Pyke, Secretary of the British Association for the Advancement of Science, currently to be seen on British television, advertising the appearance of a new partwork about science. Actually his machine amounts to nothing more than a pair of roller skates and a handful of bricks, so nobody seriously expects Pyke to fly. The aim is simply to demonstrate the principle which causes a jet to move—equal and opposite reaction stuff which

comes into play when Pyke throws the bricks in one direction and rolls off in another. The BA Secretary, who always makes entertaining radio or television, says the demo fits neatly his function as an explainer of scientific thought to a mass audience. So it's an important roll.

● The recent death in a London hospital of a patient suspected to be suffering from the virus disease Lassa fever highlights the growing problem of importing exotic and often dangerous diseases into Britain.

Ever since its discovery in Nigeria in 1969, Lassa fever has been viewed with trepidation by health workers. The four epidemics which have occurred in West Africa since 1969 have all been marked by a high death rate among hospitalised cases and by a high risk of infection by close contact, which puts nurses, doctors and relatives caring for the patients at great risk from virus-laden blood, urine and other body secretions.

There have been several cases of Lassa fever imported into Britain, the most recent being earlier this month, when a doctor returning from Kano in Nigeria, died of Lassa fever in the London Hospital for Tropical Diseases two days after his arrival in the UK. As with many tropical diseases, the main problem is a correct diagnosis, especially in Britain. Lassa fever in particular starts with a slowly mounting fever followed by headache, backache and nausea, and unless the doctor is aware that the patient has recently arrived from West Africa, where the disease is endemic, it is almost impossible to diagnose.

● GALLOPING inflation coupled with the slump in capital values of investments has finally forced the closure of one of the oldest established biomedical laboratories in Britain, the laboratories of the Lister Institute of Preventive Medicine in Chelsea Bridge Road, London.

An extra £300,000 a year at current prices would be needed to keep the laboratories in business. But at the end of last year, it was announced that it had been impossible to secure sufficient new funds to prevent the laboratories from closing in 1975.

Warning notes have been sounded over the past few years and the research effort had already been reduced to a level which the Governing Body regarded as tolerable only in the very short term. The laboratories in Chelsea Bridge Road were opened in 1898 and have been in continuous use for the 77 years of their existence. Over the years the institute has made important contributions to the understanding of infectious diseases and parasitology, as well as of basic chemistry and biochemistry.