

"NOTHING has happened to climate in the past few years that is not the sort of thing that has happened already in the past few centuries". These words from Dr J. S. Sawyer (pictured right) of the UK Meteorological Office, sum up the 'establishment' view of the present concern about climatic doom (see the review on page 335). Serious droughts and floods are part of the climatic pattern, and there seems to be nothing unusual about the present fluctuations. A crash programme of research, says Sawyer, is not the answer to the problems posed by such floods and droughts; there is a need for more people to be active in climatic research, but there is also a need for time for them to grasp the problem as a whole.

Sawyer is also dubious about the value of frequent claims that man's activities are affecting the atmosphere. He likens the situation to a game in which people vie to think up new possible manmade effects, and points out that this is rather futile since there are nowhere near enough people to follow up all the suggestions with detailed studies. He accepts at least one aspect of man's effect on the atmosphere—CO₂ levels are going up as fossil fuel is burnt. With exponential growth, that will produce a rise in temperature by a "just appreciable fraction of a degree Celsius" by the end of this century. And since exponential growth will have



Round Britain

used up all the fossil fuel by then, further extrapolation is fruitless.

• Devotees of the Oxbridge scene will know of the enormous significance attached to keys. College keys are carefully accounted for in annual medieval ceremonies and woe betide those who cannot deliver at the right time. It was with some alarm, then, that we read in *New Horizons*, a Canadian journal of 'frontier' research, of the fate of two such keys belonging to Dr A. R. G. Owen, now editor of that journal and at one time Fellow of Trinity College Cambridge and Lecturer in the Department of Genetics.

On March 8, 1974, Mr U. Geller, who needs no introduction, demonstrated his metal-bending powers on Channel 79, Toronto. The two keys he selected from a large collection were the key to the Genetics Department and a Fellow's key to Trinity, number 13 "registered as issued to me personally". The genetics key was indubitably bent through 15°, though by what process we decline to speculate. Trinity's key remained unbent. Neutral observers will marvel not at Mr Geller's powers but at Dr Owen's ability to evade the Cambridge key audit for so many years.

• In view of the recent accident in Bantry Bay on the west coast of Eire, the development of the Vikoma system for the recovery of spilt oil by BP will be hailed as a guiding light for the petroleum industry. This system incorporates an inflatable boom for containing oil (mainly crude) and a skimmer for recovering it from the surface of the sea.

Primarily designed for BP's own spills, the system has now become commercially available. A towing vessel costs £24,000, and the recovery system £22,000. Although under development since 1967 and already in widespread use, the system has assumed importance as a result of future North Sea oil production.

Arms and the common man

from Wendy Barnaby

A RECENT meeting in Lucerne left a distinct impression that if everything were left to experts—no matter how well intentioned—laboratories would be thriving while the lot of the common man would steadily deteriorate. The meeting, one of a series of conferences being held to update the 1949 Geneva Conventions, was called by the International Committee of the Red Cross to consider the prohibition or restriction of conventional weapons "that may cause unnecessary suffering or have indiscriminate effects". It was hoped that the discussions would pave the way for recommendations to the politicians, whose next conference will be from February to April 1975. Progress was, however, very slow.

Take the case of napalm. The meeting spent some time discussing whether it is an 'all-or-nothing' weapon: that is, whether a person escapes it altogether or is killed by no matter how small an amount he encounters. Statistics of deaths of American soldiers in Vietnam after napalm had accidentally been

dropped on them were quoted to prove that it is not such a weapon. Only four out of 53 men died. But the effectiveness of napalm against personnel varies greatly with the training, experience and equipment of the victims, and with the standard of medical treatment and the rapidity with which it is given. It is therefore spurious to use this figure as a basis for calculating the effects of drops on civilians. Soldiers are trained, equipped and often experienced—and these particular ones received all possible modern medical care 10–20 minutes after the accident. Small comfort for the peasants.

This all-or-nothing sort of argument only confuses the issue by inviting conflicting evidence and adding to the general confusion of the debate. After all, everyone agreed that severe burn wounds are probably the worst possible type of wound. Surely that recognition is more important than a precise determination of how much of the worst possible type of wound is necessary to kill. If military action is aimed at incapacitating the enemy, it is obviously inhumane to achieve this through severe burning when other, less traumatic means are available.

Many argued that the accuracy with which napalm can be delivered makes

its use more discriminate and therefore more humane than less accurate, high explosive and fragmentation weapons. A typical 100-gallon container scatters napalm over a reasonably clearly defined area of about one-quarter of a hectare, whereas artillery of typical accuracy has a circular error probable (the radius of the circle whose centre is the target within which half of the projectiles aimed at the target fall) of 10–20 metres and a range error probable of 30–60 metres. On this basis, napalm was said to have great military value in close air support operations, where it is desired to destroy specific targets near friendly troops. This argument would be all very well if we could be certain that napalm would only be used against structural targets and never against people. Unfortunately such certainty is impossible in any war. The military attractiveness of its accuracy cannot compensate for the risks taken with human suffering.

Similarly, the fact that the experts disagreed on the seriousness of wounds caused by high velocity bullets should not be allowed to paralyse efforts to restrict their use. The problem is urgent because European small-arms manufacturers have developed 5.56 mm guns capable of firing such bullets, which