

manufacturers are less able to sell their products on world markets and the United States must run a huge deficit on its trade balance — \$40,000 million last year, probably more in 1984. Even though the flexibility of the US economy has in the past year allowed for growth (by no less than 6 per cent) without accelerating inflation, even President Reagan agrees that this state of affairs cannot continue much longer. His offer last week to negotiate with Congress some way of moving towards a balance (by 1989) is unlikely to bear fruit in the run-up to the election. The question that will increasingly keep people awake at night is whether before then the house of cards will collapse, perhaps because overseas investors in the United States take fright, perhaps because still higher interest rates bring the economic recovery to a stop.

On the face of things, these arcane considerations may seem to have no bearing on the provisions in last week's budget for the support of basic science. But they are crucial. In due course, the federal government will have to balance its books more closely by increasing taxes or by spending less. Either way, the flickering economic revival will be impeded. If spending cuts are the chosen method, who can be sure that the generosity of this year's budget towards basic science can be maintained? If higher taxes bear the brunt, who can be sure that the funds now channelled from industry towards basic science will continue to flow. And if the administration, this or the next, chooses to fudge the issue by allowing inflation to run riot again, who will be safe? □

Time to move Greenwich

On the centenary of the choice of the zero of longitude, other places for it deserve a hearing.

In the week in which Britain, once an imperial power on whose vast possessions, it was said, the Sun never set, has suffered the humiliation of being thoroughly beaten by upstart New Zealand at the national sport of cricket (like baseball, played with pieces of wood and bruising balls, but unlike baseball in that games can last for five days), it is natural that there should have been nostalgic celebration of the centenary of the choice of the meridian through Greenwich as the commonly agreed zero of longitude. Here at least, wishful argument seems to go, is proof that there was a time when the centrality of the British place in the world was generally acknowledged. But even that may be a slightly hollow comfort.

The truth is that Greenwich is far from being the most convenient place through which to trace the zero of longitude. In Western Europe, one of the most densely populated regions of the world, several countries (Britain, France, Spain and so on) find themselves straddling the meridian, unable to decide whether they belong to the Eastern or the Western Hemisphere. Plainly a better choice would have been to place the zero of longitude 10 or even 20 degrees west of where it is at present; the first choice would have left only New Zealand uncertain where it is, the second would have bisected the surface of the Earth in such a way that no country of importance was thus embarrassed. Astronomers, after all, are usually reasonably clever people, and would have been able to assimilate the notion that the zero of longitude should be in the mid-Atlantic just as astronomers in Potsdam and Pulkova have had to learn that they have been well to the east of it.

It is also important, at this centenary, modestly to acknowledge that the conference in Washington in 1884 that settled on Greenwich (with one dissenting vote) let slip a splendid opportunity to put on a more reasonable footing the measurement of angular displacement. The sad truth is that, from sheer indolence and inertia, generation after generation of people who acknowledge the good sense of measuring most quantities on a decimal scale have indolently allowed themselves to continue measuring angles in an arithmetic whose radix, for practical purposes, is 60. By doing so, they have lazily adopted a system variously attributed to the Babylonians and to the ancient cultures of India. It is true, of course, that changing to a system in which, say, radians would be the equivalent of 100 degrees would have been a considerable undertaking, and that it would have been necessary also to decimalize time. But that is no excuse for having done nothing. □

How not to test drugs

British and French anxiety about human volunteers in drug trials should be settled quickly.

THE British pharmaceutical industry, long used to the cultivation of an air of injured innocence in the face of complaints from central government about the prices of drugs sold to the public health services and from sections of the general public that its products are unsafe, has every reason to be aggrieved that some of its arrangements for testing a new drug in volunteers should have called in question the whole basis on which the toxicity of new compounds is assessed (see page 495). The only immediate comfort is that a similar issue has, by coincidence, arisen in France.

The circumstances in which this row has arisen are not nearly as complicated as they seem. In Britain as elsewhere, clinical trials to assess the efficacy and side effects in patients of a potential drug require formal approval from the regulatory body, the Department of Health acting on the advice of the Committee on the Safety of Medicines. But manufacturers, required by established procedures to provide evidence of the toxicity of a new drug by means of tests with animals, also have an incentive to provide evidence that the new material causes no obvious harm to people. The tradition that a person responsible for developing a new material will try it out on himself and his close colleagues (never satisfactory) has in the past few years become outdated as the need has grown for more and more systematic tests in human beings as part of the process of licensing a drug for clinical trials. The result is the practice of delegating testing in volunteers to commercial companies.

Except to those who hold or seem to hold that new medicines as such are an abomination, there is nothing wrong with these procedures, at least when they are followed sensibly. What has gone wrong with the study of a putative tumour inhibitor is that the good sense of the proposal has not been assessed by people at once knowledgeable enough to make an informed judgement, independent in the sense that no benefit accrues to them and publicly identifiable. A commercial company's internal ethical committee whose identity is not disclosed will not suffice when volunteers are recruited publicly, and invites complaints that participants have been less than fully informed of the risks they run. The failure of the company concerned to inform the volunteers' own physicians of what was afoot is another needless omission. But it is sheer humbug that many who should know better have been complaining that by offering participants a cash reward of £250, those mounting the study have been offering inducements great enough to sway a person's judgement of his own long-term interests. It could just as well be argued that a participant without the wit to demand a fee of this order is unlikely to be fit to give informed consent.

The danger now is that the Department of Health will panic at what appears a little like the discovery of a loophole in the arrangements for the regulation of drug testing, introducing another layer of paperwork with which to belabour the drug industry and, worse still, to impede the development of new medicines. The need, however, is far simpler — a publicly agreed set of guidelines by which all drug testers can be bound. The rules should be easily devised. The socially disadvantaged, especially prisoners and old people, should not be allowed to volunteer for drug tests unless, as the French ministry of health suggests, there is reason to think their health may benefit. People who are not sufficiently alert to give informed consent should similarly be excluded. Consent for all drug studies should be given by properly constituted ethics committees, whose names and credentials are known and whose opinions will be made publicly available. Nobody should complain if people or even university departments occasionally make modest sums of money out of these procedures. Now and again, ministers of health should summon up their courage and make public speeches pointing out the need for such activities, now too easily and too often counted as dispensable. □