would be willing to see Comsat, the American satellite corporation, relinquish its dominant position as holder of 53·8 per cent of the vote in the international consortium (Intelsat) which runs the network. He would also like to see the Soviet Union and Eastern European countries as partners in the network and, failing that, as co-operating rivals. But he has said nothing about changing the formula that effectively keeps the Soviet Union out of Intelsat—the allocation of voting power on a basis of the amount of traffic sent through the system. (That gives Britain roughly eight per cent of the voting strength, although smaller countries have to share a single vote and the Soviet Union would be down among the one percenters.)

So should the permanent agreement be no more than a hardened version of the present one? There might be nothing so terribly wrong with that. Under Comsat's lead and a strictly commercial philosophy, Intelsat has performed near miracles since the interim agreement was signed in 1964. A good part of the globe is linked by four synchronous satellites. The gap over the Indian Ocean will be filled next year and capacity added all around as the new generation of satellites, labelled Intelsat III, is launched. So far, satellites have begun to pick up transatlantic customers that the cables cannot handle (Spain and Italy have just begun operating receiving stations) and the first over the Pacific was an instant sell-out.

What is wrong with the present international committee is that it leaves too much power in the hands of the somewhat stodgy, traditional communications carriers like the GPO and the American Telephone and Telegraph Company (biggest shareholder and biggest bogy of Comsat). According to the GPO's thinking, satellites are now being cosseted slightly; there is a holding back on extra cables until satellites have had a chance to prove what they can do. But in the last analysis, the Post Office is simply concerned with selling communications at the best possible price. If anybody in Britain is going to give the naive idealistic speech about what satellites can do to break down barriers of geography and politics and to educate the masses, he is not going to come from the GPO. President Johnson has done it in America, but he cannot be expected to suggest that Comsat take a back seat in Intelsat (where it could be outvoted by something less than the combined weight of all the other members).

There are other imbalances to be put right in the permanent agreement. More of the contracts should be placed outside the United States. There should be guarantees that communications networks in other countries should not find themselves, like the neighbour's children, restricted by the Federal Communications Commission's rules for Comsat. There should be some general assembly kind of body to give all of the 59 or so member countries of Intelsat a chance to speak out, even if commercial considerations keep their actual voting power in proportion to their investment in the network.

A lot of guidance could come from Britain on these matters, intricate to the point of tedium. As second in power only to Comsat, Britain is probably the only country which can tactfully suggest Comsat's graceful retreat while asking France and Germany not to launch an independent satellite of their own. The papers in Britain gave considerable space to Professor Fred Friendly's warning from America that lack of planning about satellite communications could create an electronic slum in the sky. The powers that be in British communications have as much and probably more chance than their counterparts in any other country to see that this does not happen.

Icarus in Parliament

THE asteroid Icarus has made an unexpected impact in the British House of Commons where Mr Keith Stainton, Member of Parliament for Sudbury and Woodbridge, has been asking the Government for assurances that there will be no collision with the Earth next June, when the two objects are predicted to pass within four million miles of each other. Mr Stainton's anxiety is that the predictions of the path of the asteroid may be seriously in error and he has in particular chided the British Government for what seems to him to be an over-trusting reliance on the calculations of the Institute of Theoretical Astronomy in Leningrad. The Government, in the person of Mrs Shirley Williams, Secretary of State at the Department of Education and Science, has replied to Mr Stainton's enquiries with a statement of the Government's confidence that Icarus will indeed miss the Earth.

According to Dr Samuel Herrick, of the University of California at Los Angeles, the uncertainty in the prediction of Icarus next year amounts to about 1,000 miles in the distance of the nearest passage, but this should be reduced to about 150 miles when the ephemeris is corrected to take account of an observation this summer by Dr Elizabeth Roemer at Tucson, Arizona. Dr Herrick has taken a continuing interest in the motion of Icarus since its discovery by Dr W. Baade at Mount Palomar in 1947. The most recent circular of the International Astronomical Union contains an ephemeris for the asteroid calculated in the United States and collated by Dr Herrick. The asteroid should first become visible in the early days of June next year as an object of the eighteenth magnitude low on the horizon. The closest passage on June 14–15 should be visible from both hemispheres, and the movement of the asteroid towards the Sun should be observable throughout the second half of June. Dr Herrick is planning to circulate more detailed instructions for the observation of the asteroid nearer the time of its closest passage.

The particular interest of the orbit of Icarus next year is that the asteroid will pass close to Mercury as well as to the Earth. This should make it possible to obtain a refined estimate of the ratio of the masses of the two planets. Because of the eccentricity of the orbit of Icarus and the fact that the perihelion lies 0·18 astronomical units from the Sun, precession should amount to about 11 sec of arc a century. This implies that study of the orbit may provide a further test of predictions of general relativity, if not on this passage then on some future occasion.