could hope to share some of the costs with industry, although that should not be a prerequisite for the setting up of organizations like this. Ironically, of course, the arguments in favour of such an organization for telecommunications lack analogues where agriculture or even medicine is concerned. There, it will be surprising if the Dainton working group does not seriously consider

## Are Institutions capable of Change?

DR DONALD SCHON has been one of the more successful of the BBC's public monuments to its first directorgeneral. In his series of Reith Lectures, Dr Schon has talked about the interaction between the forces tending to change society, especially technology, and the institutions which have in the past given society its sense of permanence, some say smugness. It is, of course, almost inevitable that Reith lecturers should find themselves tempted into discussions of this familiar problem—on such a conspicuous public platform, most other subjects must seem outrageously inadequate.

The undertone to the Reith Lectures has been sombre (which is not the same as gloomy)—Dr Schon considers that there has been such a transformation of the pace of change in recent years that what he calls the belief in the "stable state" of society has disappeared. People no longer expect that institutions will do what has been traditionally expected of them. Survival entails that people should be prepared existentially to work things out as they go along.

As in all questions like these, the concept of the stable state is necessarily subjective—Dr Schon admits as much. One of the necessary assumptions of civilized life is that existing institutions and current conventions can be supposed to be valuable until they are found by experience to be faulty. If, for example, countries such as Britain find themselves saddled with the institutions of parliamentary democracy rather than with those belonging to a more formal and more explicit constitution such as that of the United States, it is nevertheless worth persevering with the machinery which is to hand at least in the sense of supposing that difficulties which become apparent are to be accepted as difficulties in their own right and not as faults within the system. Thus, for example, if the British economy should be afflicted-as it is—by a severe bout of inflation, the sensible course is to seek some way of using the machinery that exists to put the economy right rather than to ask whether a radical reform of the machinery of government would be the best solution. The proper course is at least to see whether the existing institutions are sufficiently tough and flexible to deal with the problems they confront.

Does it follow that institutions should never change? Is it never right that institutions should be discarded? Nothing in the view that existing institutions are to a first approximation adequate can justify inaction or blind conservatism. For one thing, the mere process of using existing institutions to solve new problems brings change. This, for example, is the spirit in which research councils in Britain have introduced schemes for encouraging academic research of potential value to industry. In some circumstances, the interaction between institutions and the events with which they deal is so fruitful that the institutions can keep alive for decades or even centuries. a separation of responsibilities for academic research (which could conveniently be transferred to the Science Research Council) from the more secular responsibilities of the two organizations (which might with advantage be amalgamated with those of the scientific establishments now separately maintained by the Ministries of Health and of Agriculture).

Elsewhere, it may become painfully apparent that institutions once sufficient for their purposes have become outmoded and even useless. One of the practical problems in social reform is to distinguish between the institutions that are worth preserving and those which might be got rid of. The present concern about the British Association for the Advancement of Science is, in its small way, a poignant example of the dilemma of whether to keep alive or to discard and start again.

One of the most serious weaknesses in Dr Schon's argument is the unavoidable difficulty of demonstrating that present circumstances are exceptional. Dr Schon says that "it is apparent" that "the threats to the stable state now exceed our various strategy for defending it" but goes on to quote as evidence the way in which the United States has allegedly ceased to tolerate what Dr Schon describes as "the great imbalance between the product-based consumer society and the requirements of the public system", the discontent with the position of minorities and the disenchantment of large numbers of young people with the social goals of recent decades. Dr Schon is no doubt right in asking for a greater awareness of the functions and the limitations of social institutions, but there is nothing in his argument to demonstrate that this need has recently and suddenly become apparent.

## **100 Years Ago**



THE frost which has now lasted for a fortnight is the most severe that has been known in England since the memorable one of Christmas, 1860, that is, for exactly ten years. The lowest temperature at Blackheath was  $15.3^{\circ}$  F. on the night of the 24th December ; but in the eastern counties the cold was more intense, being 8° at Hull, and nearly as low at Norwich, Nottingham, and Leicester. The highest minimum recorded by Mr. Glaisher in the *Gardener's Chronicle*, at any English station is  $19.0^{\circ}$ , at Leeds. In Scotland the minimum varied between  $5.0^{\circ}$  at Perth, and  $19.2^{\circ}$ at Aberdeen. The average was slightly higher in Scotland than in England. For the first fourteen days of the frost, the temperature scarcely rose above the freezing-point night or day, a very unusual circumstance in this country.

From Nature, p. 193, January 5, 1871.