

foundation, it is not unfair to regard the two facts as being, in some measure, cause and effect.

The scheme which led to the scientific basis was announced in 1909 by the then Prime Minister, and was the result of advice from scientific and technical men, of whom it is sufficient to mention the late Lord Rayleigh as leader. Throughout the vicissitudes of air developments—separate naval and military Forces, Air Board, and Air Ministry—the Advisory Committee for Aeronautics maintained a steady course and steady output of fundamental data. It was, unfortunately, not responsible for the conduct of full-scale research at the Royal Aircraft Factory, and the lack of any definite policy on the part of those in control has led to the reduction of the full-scale experimental side to relative insignificance.

During the war large developments in aviation were called for, and scientific and technical men devoted their efforts to make the best of a very difficult situation. The Technical Department was not attached in an advisory capacity to the Royal Air Force, but was subordinated to the Department of Aircraft Production. As a consequence of this it would appear that the responsible advisers of the Secretary of State too frequently found themselves in the position of children crying for the moon. The effect during the war was minimised by the absence of rigid organisation, and has been fundamentally modified by the recent absorption of the Department of Supply and Research by the Air Ministry, whereby the technical side is directly represented on the Air Council. It can now be pointed out at their inception that certain policies are technically unsound.

The result of relegating the Technical Department to a position of inferiority during the war has been little short of a disaster. Within a few weeks of the armistice both the Controller and Deputy Controller had left; they were followed by the three Assistant Controllers and the great majority of the senior members of the staff. It is true that many had only entered aeronautics in view of the war emergency, but the rapidity with which the offices became vacant was, I think, an indication that the atmosphere was one in which scientific and technical ability could not exist.

The process of attrition is not ended, and the best British business firms are attracting the picked men. Aeronautics, from the business point of view, has been a testing-ground of a man's capacity and adaptability, and as the science and practice of the subject are still young it appears to be better for the individual to abandon his special knowledge and to return to general engineering rather than to remain in a profession which has no openings or prospects for those in it. It is no exaggeration to say that the policy adopted by the State towards scientific and technical knowledge in aeronautics has brought this side of the profession to a condition in which its continued existence is doubtful.

The man of science and the technician, particularly the former, is in large measure himself responsible for this state of affairs. He has been content to recognise the importance of the work he has been doing as justification for acceptance, in spite of a non-commercial salary. The conditions now prevailing have brought home to him the fact that he cannot maintain himself in a reasonable standard of life on this basis. In an age when the value of a man's work is estimated in terms of the money he earns, it is not wise to neglect the criterion applied, although all should help in the search for the sounder basis towards which the industrial world is groping its way. As a scientific man I regret that we are not taking the lead, but are considerable laggards in the search for a just method of payment by results.

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Museums and the State.

IN the recent correspondence on this subject the opinion has been expressed that a lack of co-operation between the various national museums has diminished their efficiency. In this connection it may be useful to recall the report of a Committee upon the Science Museum and the Museum of Geology in Jermyn Street of which the first part was issued in 1911 and the second in 1912; the former was discussed in NATURE at the time (May 4, 1911). This Committee, on which science was strongly represented, was appointed by the President of the Board of Education, and consisted of Sir Hugh Bell, Sir James Dobbie, Sir Archibald Geikie, Sir Richard Glazebrook, Mr. Andrew Laing, the Hon. Sir Schomberg McDonnell, Sir William Ramsay, Prof. W. Ripper, and Sir W. H. White. They were asked to advise as to the educational and other purposes which the collections could best serve in the national interests, the lines on which the collections should be arranged and developed, and as to the new buildings to be erected in order to house and exhibit them suitably.

The report therefore deals with the work and functions of the museums, and does not discuss the form of control most suitable for their administration. Here the Committee makes definite recommendations on many sections of the collections, and wherever these connect with other national institutions it insists upon the importance of co-operation, besides commenting upon any cases where overlapping may possibly occur. Thus there already exists a definite scheme governing the relation of these museums to the Natural History Museum, the Museum at Kew, the Imperial Institute, and the map collection of the Royal Geographical Society; and, but for the war, its results would doubtless by now have been apparent.

In concluding its report the Committee notes with satisfaction the arrangement for providing accommodation for the Museum of Practical Geology at South Kensington contiguous to the Natural History Museum and the Science Museum as contributing materially to that co-operation which it had recommended.

The whole report well repays careful study by all interested in museum organisation. F.R.S.

The Magnetic Storm of March 22-23 and Associated Phenomena.

A VIOLENT magnetic storm occurred on March 22-23. It had an S.C. ("sudden commencement") about 9h. 10m. on March 22. This was not outstanding, except that the initial increase in H was immediately followed by a reverse movement, bringing the element below its normal value for the next two hours. The normal value was sensibly exceeded from 12½h. to 14h., and again most of the time from 16½h. to 19h. The maximum occurred just after 17h. In the course of twenty-five minutes, from about 16h. 50m. to 17h. 15m., H rose 280γ and fell 360γ. The trace was off the sheet on the negative side for about six minutes near 1h., eight minutes near 1h. 30m., and thirteen minutes shortly after 4h. It was rising rapidly after each reappearance, so that the range shown on the trace, 810γ, was probably considerably exceeded. The largest movements were from 16½h. to 10h. on March 22, and from 0h. to 6h. on March 23. There was a comparatively quiet interlude from 19½h. to 23h. on March 22. The times of greatest disturbance in declination synchronised fairly with those in H. The extreme westerly position was recorded about 17h. 8m. on March 22, and the extreme easterly position near 1h. 40m. on March 23, when the trace was off the sheet for twelve minutes. There were several exceptionally large rapid move-