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Introductory Remarks

J. S. Sawyer

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Introductory remarks

By J. S. Sawyer, F.R.S.
Meteorological Office, London Road, Bracknell, Berkshire

In the last year or two there has been a remarkable increase in the interest, both popular and scientific, in the subject of climatic change. This stems from a recognition that even a highly technological society is vulnerable to the effects of climatic fluctuations and indeed may become more so, as margins of surplus food production are reduced, and nations become more interdependent for their food supply. In this respect our concern is with quite small changes – a degree (Celsius) or less in temperature and 10 % or so in rainfall. Probably we may discount some of the more alarmist suggestions of an imminent and rapid change towards near glacial conditions as these are based on very sketchy evidence.

However, whatever the time-scale of climatic fluctuations with which we are concerned, we may hope to learn a great deal which is relevant to the factors which will control our future climate from the study of its more extreme vagaries in the past. Information relevant to the weather in such extreme periods is coming forward in increasing detail and volume from a wide range of disciplines. The variety of the evidence, its lack of precision as a strict measure of climate, and the number of different sources all make it difficult for an individual to build up a clear picture of past climates. However such a picture is needed, if explanations and interpretation are to be possible. Ideally one would need a synchronous picture of the climate of the whole world at selected epochs in the past. Various international programmes are directed to forming such pictures.

Today's meeting is another step towards this objective. It concentrates on a specific period, the last cold stage. Even if the extent of our discussion is not global, the welcome participation of our Irish colleagues will ensure that we have the geographical variation of the climate in mind over a region where there must have been strong contrasts of climate during extensions of the ice sheets.

In the end it will fall to the meteorologists to explain how past climates came about, and perhaps to say what the future holds. This may be why our societies have chosen to have a meteorologist as chairman for this session. If so, their choice is a little premature. Despite progress which is being made towards the calculation of the climate from the basic laws of physics, I doubt if we are yet near the stage when we can identify the causes of glacial periods with any certainty, or trace the physical and dynamical processes which determined the distribution of the ice. However, I hope that at the end of our two days of discussion we shall all have a clearer picture of the facts that need to be explained.