A brief report from North America

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By Paul B. Sears, Yale University

I am sure that I speak on behalf of my colleagues from North America in expressing gratitude to our European hosts for their efforts in arranging this conference, and to those organizations in the United States, in particular the National Science Foundation and the U. S. Geological Survey that have helped make possible our presence here.

May I also express our deep obligation to European scientists, not only for their early leadership in the study of vegetation and climate, but for their influence in developing ever more critical and intensive methods. The first work in our country began to appear about 1930 and was of necessity exploratory in character. No attention had been given to pollen morphology and taxonomy and much time was consumed in elementary work on this subject until after the appearance of Wodehouse's excellent studies.

North America is a vast and varied continent ranging from the Arctic to the tropics with respect to temperature, and from humid forest to arid desert so far as moisture is concerned. In addition to the complexities of climate, soil and topography, many more species of forest trees survived the Pleistocene in America than in Europe where mountain barriers to southward migration exist. While these circumstances add greatly to the interest of paleoecology they also add greatly to its difficulty.

The rapid expansion of educational facilities and technology in the United States makes heavy demands upon scientific personnel. Until very recently, few workers were available, as compared with Europe, for such activities as pollen analysis. Many of our most competent individuals are drawn into administrative work. Hansen's superb studies of the Pacific Northwest have been interrupted in this way; while Professor Potzger's untimely death was, I am sure, hastened by the burden of teaching and administration that he carried in addition to his strenuous field and laboratory work.

The needs of industry have drawn scientific talent away from fundamental research particularly since the utility of pollen analysis in petroleum geology has become known. At the present time a well-trained young pollen analyst can secure industrial employment whose beginning salary exceeds that of many mature teachers, while some older workers of distinguished ability have been lost to academic science in this way.

Several other circumstances have widened the contrast between the intensive European work in paleoecology and the more exploratory

work in the United States. I shall mention only one. It is my observation that the European biologist, whatever his field of special interest, is more likely than his American colleague to have a good background in natural history and to appreciate the importance of ecology.

I am happy to report, however, that many of the obstacles I have named are being overcome. The visits to the United States of Erdtman, Iversen, Sv. Andersen and Godwin have done much to stimulate interest and acquaint us with advances in critical methods. Increasing numbers of American workers are profiting by study in European laboratories. Well equipped and staffed laboratories for pollen and spore work now exist in a number of American centers.

In addition there have been notable advances by American workers in related fields — for example — Pleistocene geology, Carbon 14 dating and limnology. Ecologist, plant geographer, sedimentologist, archeologist and glacialogist are today collaborating to a remarkable and fruitful degree.

Work is now being done on the history of vegetation and climate in North America that will compare favorably in quality and thoroughness with that from older centers. The record of the past ten thousand years is known in its general outlines and the late glacial is being intensively explored. And finally, the methods which have proved so useful on these problems are being extended to the study of sediments far beyond the limits of glaciation, offering lively hope that the present record may be extended through the entire Pleistocene and beyond it into the challenging history of the Pliocene.

Once again let me acknowledge our debt for stimulus, example, and active assistance in these matters to our European colleagues.