SOME PHYTOGEOGRAPHICAL ASPECTS OF WISCONSINAN VEGETATION IN WEST-CENTRAL ILLINOIS

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ABSTRACT

Prairie grass has played an important role in the natural vegetation of west-central Illinois since the retreat of the last major ice sheet, but what was the vegetation like before the ice sheet retreated? This study focused on the nature of the vegetation in west-central Illinois during the most recent full-glacial stage--the Wisconsinan. Throughout the Wisconsinan extensive beds of loess were deposited over west-central Illinois. A record of the vegetation which grew during this period of loess deposition remains in the form of opal phytoliths.

Opal phytoliths are small mineral bodies deposited in a plant's cell structure during growth. These opaline bodies are then left in the soil after the death and decay of the plant. Earlier studies have shown phytoliths to be of some value as an indicator of past vegetation. In this study, the loess was sampled at various depths, and the phytoliths were extracted from each sample by heavy liquid separation. The phytoliths were then counted and the results graphed and analyzed.

Analysis indicated variation in the phytolith content of the loess with depth, which may be interpreted as an increase in prairie influence from the early Wisconsinan (≈75,000 years B.P.) until the time of the maximum Wood-

fordian advance (≈19,000 years B.P.). This was followed by a sudden decrease in the west-central Illinois prairie until postglacial time, during which the prairie once again established its dominance on the uplands.

Any interpretation based on the results of this study must be regarded as incomplete at best. Opal phytolith analysis, a relatively new paleogeographic tool, still has a long way to go before becoming a reliable research tool. Many uncontrolled variables occurred which may have affected results to an unknown degree. It was concluded that opal phytoliths hold potential for research but not until more is known about them.