the topographic relief was low with respect to the regional deformation but, in some cases, may reveal the structural movements only over broad areas. The relation of the sequence to underlying and overlying formations is important in evaluating the structural significance of the isopachs. Isopachous maps that include formations whose thickness was affected by conflicting patterns of folding express a composite of both movements and reveal neither.

11. GRAYDON L. MEHOLIN, Sinclair Oil and Gas Company, Amarillo, Texas. Report on the New West-East Cross Section Prepared by the Panhandle Geological Society

This paper consists of a discussion of the stratigraphy of the Texas Panhandle district as revealed by a west-east cross section prepared by the Stratigraphic Committee of the Panhandle Geological Society. The cross section includes seventeen wells and extends from Union County, New Mexico, to Ellis County, Oklahoma, crossing their previously constructed north-south cross section at the Sinclair No. 1 Lips in Roberts County, Texas.

12. FRANK A. MELTON, Consulting Geologist, Norman, Oklahoma. The Use of Aerial Photographs for Geological Exploration and Detailed Mapping in Regions of Low Dip

"Linears" (linear arrangements of drainage lines) many miles in length are common in the plains and low-strata-bench-lands, and are frequently aligned with deep-seated faults, flexures, and synclines. They may be useful in locating buried anticlines of regional size that are not otherwise visible. They may assist the geomorphologist and aero-geologist in the proper interpretation of geomorphic features, such as hogbacks, cuestas, consequent streams, angular or trellis drainage, etc., by means of the stereoscopic study of aerial photos. They themselves, however, are hardly to be classed with such features. They, no doubt, represent the effects of erosion and repeated slight movements along pre-Cambrian faults, and are more regional in scope than ordinary geomorphic features.

Aerial photographs may be studied stereoscopically for a number of reasons which may or may not include associated field work. They have justified their use for many purposes. Their most rewarding use in the flat-lands is for discovery of hitherto unknown structures. Though it is difficult, if not impossible, in the continental United States to find large structures not hitherto known to someone, many structures of smaller size have been discovered by use of aerial photos.

Prismatic and magnifying spectacles are preferred for geological study in the plains regions, the prismatic correction varying from 2 to 5 diopters, base out. The smaller prism is useful for strike and dip determinations and makes it possible to recognize dips as low as one-third of one degree. The larger prism is better for tracing resistant beds. The magnification found most useful by the writer is ½ of one diameter.

In plains regions the problem of securing aerial photographs that are good enough for use by geologists is one that requires special knowledge and experience. The 7-inch by 9-inch vertical photos with which most of the United States was photographed 10–15 years ago by the U. S. Department of Agriculture are better for geological purposes than the 9-inch by 9-inch photos now being made. The lens focal-length of 8¼ inches is barely long enough; a 10- or 12-inch focal-length would be much better for dip determinations. Photos made with a 4-inch focal-length are practically worthless. The flight photo-scale of 3.1 inches per mile, being used by the Department of Agriculture, is much to be preferred to scales of less than 2 inches per mile, which are usually employed by the U. S. Geological Survey and some private aerial photographers. The Geological Survey, being, no doubt, aware of the needs of geologists, will presumably one day take the lead in the choice of suitable flight-scale, focal-length, and size of aerial photographs. Aerial photographers who try to sell geologists vertical photos where a square mile is approximately the size of a 3-cent postage stamp are, in effect, presuming that drainage is much more significant than it really is in the discovery of geological structure anomalies. Photo-enlargements made from these small-scale negatives are seldom very useful either, because of the lack of sufficiently sharp definition in the outcropping beds.

13. D. F. MOORE, Stanolind Oil and Gas Company, Oklahoma City. Occurrence of the Permian Salt—Western Kansas

As generally known, large Permian salt deposits occur in parts of western Kansas. The distribution and thickness of these deposits are of primary importance to the exploration geologist and seismologist as well as the petroleum engineer. Specifically, major salt bodies at shallow depths lend themselves well to the storage of L.P.G. petroleum products, providing there exist effective seals above and below the salt. The Wellington, Cimarron-Stone Corral, and Blaine salt sections may all be used for storage purposes; however, their geographic localities differ somewhat. Salt, varying in thickness and purity, is present in each of the latter groups. Subsequently, this paper will discuss and outline the general thickness and distribution of the Permian salt in each group.

14. G. H. LANCASTER, Stanolind Oil and Gas Co., Ellinwood, Kansas. Formation of Salt Cavities for Storage of LP-Gas Products

Underground storage of LP-Gas in salt cavities has developed rapidly during the past 2 or 3