

The main disadvantages mentioned by field officers were :

1. The mounted sheets give a smaller area and, consequently, fewer available control stations on the sheet. This is inconvenient when working near the edges of the sheet.
2. The hard surface paper causes a slight increase in glare in bright, clear, weather.

"COMPARISON BETWEEN SCALED TOPOGRAPHIC POSITIONS  
AND COMPUTED TRIANGULATION POSITIONS".

	<i>Scaled.</i>	<i>Computed.</i>
Cape Fear to Smith .....	3570 Meters.	3570.1 Meters.
"    to BHS R.R. ....	5675 "	5674.3 "
"    to GG Tower.....	2338.5 "	2337.6 "
Bald Head to Smith.....	4207 "	4207.5 "
"    to GG Tower .....	2340 "	2338.4 "
"    to BHS F.R. ....	1164 "	1163.5 "
"    to BHS R.R. ....	3007 "	3011.4 (*) "

(\*) *This station fell on the flattened edge on the topo sheet and I feel that part of the error was due to this.*

In the summer of 1934, Lieutenant R. A. GILMORE, U. S. Coast and Geodetic Survey while working in the Aleutian Islands, lost one of these sheets overboard in 8 ½ fathoms of water. He recovered the sheet by securing nails to the lower end of a 30-pound sounding lead and by piercing the sheet with this improvised rig contrived to raise it to the surface. In all, four holes were made in the sheet before he recovered it. Almost all the work proposed for the sheet had been completed prior to the accident. It was in the water about forty-five minutes. After recovery it was dried carefully between cloths and newspapers (available in his camp) over a period of six hours. To-day (two years later) this sheet is in the archives of the U. S. Coast and Geodetic Survey and shows no stains nor any sign of disintegration. The distortion was measured immediately after the sheet had been dried by Lieutenant GILMORE and showed practically no distortion in length and about 0.1 mm. to 0.2 mm. contraction in 49.50 cm. of width. Practically no change has occurred in this sheet although it has been in the atmosphere of Washington, D. C. over a year, which is considerably different from that of the Aleutian Islands, where the sheet was laid out and the projection made. Such a test, inadvertent as it was, has further proved the permanence of properly constructed sheets.

The aluminium mounted sheets have given highly satisfactory results and every engineer who has used them has expressed pleasure and satisfaction with them. To be able to take a three-point fix with certainty and without the tedious process of adjusting the position for distortion is most gratifying to a plane-table topographer. When on occasion one looks through an alidade from a triangulation station and sees the vertical wire cut the center of a signal, which one has located previously by topographic methods, it (in the words of William LEYBOURN) "will give you no small satisfaction in the prosecution of your work".

### A NEW MATERIAL FOR GEOGRAPHERS

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A new material has been put on the market under the name Correctostat. A process has been devised whereby a fine-grade paper adheres to each side of a sheet of aluminium foil, the total thickness of the metal and the two layers of paper being

about  $1/40$  mm. Although primarily manufactured as a photographic material for use when making the prints used in photographic surveys, the material is of value in the drawing office or in the field, on account of its quality of keeping scale. Some tests were recently made in the Society's House to discover its behaviour under extreme physical and chemical conditions. It was found that when once bent the paper could not be straightened again; but it remained unharmed when made into a roll of about 7 cm. diameter, and could therefore be carried in the ordinary traveller's chart cylinder. A measured length was raised to about  $140^{\circ}$  F. and measured again at that temperature; any change in length was less than  $1/10$  mm. in a length of 60 cm. Usually a moist, salt-water laden atmosphere causes corrosion in aluminium, so a test was made in boiling brine. A piece was frayed, with difficulty, at the edges so as to expose the bare metal and then left to boil for twenty-four hours. The adhesion of the paper to the metal remained constant during the test and after drying no change was noticeable.

The paper used for the non-sensitized Correctostat is a first-quality machine-surfaced paper on which the Society's draughtsmen have reported very favourably. The paper takes pencil and ink well and is not impaired by the use of indiarubber or knife-eraser. It seems to be a material that may turn out to be very useful both on a plane-table in the field and for the preparation of plans in the drawing office. At present it is manufactured only by the German firm AGFA at the high price of 12s. 10d. per square metre. It is to be hoped that a British firm will some day provide geographers with such a very useful material at a more moderate price.

