

THE STEREO-MOSAIC, A NEW MAPPING TECHNIQUE

A DISCUSSION

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MR. GORDON HEATH'S article, "The Stereo-Mosaic, A New Mapping Technique," in the March 1950 issue of PHOTOGRAMMETRIC ENGINEERING, offers hardly anything new in this field. The method described has been used for the past six or seven years, but strangely enough has found very few interested in it for practical purposes. Like Mr. Heath, I too thought I had discovered a novel type of map, and after a while found out that the Stereo-Mosaic map had been known for some time.

In order to overcome the limitations described by Mr. Heath, namely, the need of very large Stereoscopes, I used the anaglyph method of reproduction. I associated myself with the Brett Lithographing Company of Long Island City, N. Y. and with Mr. Harry Tubis of Harry Tubis, Inc., Newark, N. J., and made a sample stereo mosaic map of twelve consecutive pictures. The pictures used were purchased from the Department of Agriculture and they are rectified prints. First Mr. Tubis made a right hand and a left hand mosaic map. These two maps were photographed, and one print was dyed red and one blue. Then these negatives were superimposed on each other and their relative position to each other was established with the help of red and blue glasses. Each picture received reference marks, and then a lithoplate was made of each picture. These plates were then placed on a lithopress and one was printed in red and the other one in blue on top of it. The resulting map when viewed with red and blue glasses was surprisingly clear and three dimensioned. This map, together with descriptive literature was shown to innumerable Government and Military agencies as well as to many private firms, but up to now has not created more than passing surprise and curiosity.

As an additional experiment the red and blue films were glued on top of each other, placed between glass plates and used as diapositives on a projector which enlarged the picture from 8"×10" to approximately 6'×7'. The projected picture was still fairly clear and three dimensioned, when viewed with the red and blue glasses.

Since lithoprinting for small quantities is comparatively expensive, a photographic anaglyph was developed, which permits printing of red and blue maps at comparatively low cost when small quantities are involved. The following method was used and tested with the cooperation of Harry Tubis, Inc. and Agfa Anasco, New York.

A small negative of each map (the right hand and the left hand mosaic) was made in exactly the same scale. Then one was projected through an enlarger and through a filter on Agfa color paper, reproducing a red print; then the other picture was projected on to the same piece of color paper, however using a different filter, causing the image to appear in blue. Then the paper was developed and a perfect anaglyph of stereo-mosaic map appeared. The only difficulty in this process is the correct lining up of the two films when projecting them onto the same piece of color paper. Once one good color map is produced by this process it can readily be rephotographed on a color film and printed by contact printer from this film.

The method of using dyed negatives was also contemplated. It offers, however, little advantage since the process of producing the dyed negatives of rectifying the scale and lining them up is more time absorbing.

Lithoprints produced in volume are very inexpensive; red and blue glasses made of paper cost 1¢ to 2¢ a pair.

The anaglyph stereo-mosaic map has many fields of application, such as,—

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| 1. Civilian flying | 5. Advertising maps |
| 2. Airline flying | 6. City maps |
| 3. Road maps | 7. War activities |
| 4. Educational books | 8. Civilian government uses |

1.) Civilian fliers form a large and ready market for this map. As they often fly short distances and therefore at low altitudes, a map will necessarily have to show hills, mountains, valleys and, most important, flat fields for landing. Mass production permits the making of inexpensive maps which can contain all information necessary for this type of flying. These maps could be made up, from one airport to another, and could be in rolls for inserting in a box-shaped instrument for viewing either before leaving, for study of the terrain, or the instrument could be connected to the plane air-speed indicator to show the approximate position during the flight.

These three dimensional flight maps could either be supplied as a public service by oil and gasoline companies, or could be sold by clubs, or even by a separate organization.

2.) Flight strips for commercial airlines can be made and can be run manually off in a small viewing instrument attached near each seat, permitting the passenger in day or night flight to see exactly where he is and how the country below looks. Such strips could be made very cheaply and given away as advertising by certain lines, stressing the safety or beauty or other factors that the airlines or localities connected with the airlines want to bring to the attention of the passenger.

3.) The present day road map is a very good map to take you from one city to another but it lacks a lot that, by combination with the three dimensional map, could be added. For instance, the topography and real geography of the countryside. This map shows all elevations, rivers, bridges; shows all scenic features, houses and other landmarks and therefore permits a much better planning of a trip. It permits marking of service stations, hotels, restaurants, and shows connecting roads to out of the way locations.

4.) This map lends itself, like no other map, for educational purposes. It can be used to show the development of building, bridges, etc. A complete series of maps can be used to trace the development of a river, for instance. Beginning with a tiny stream or waterfall in the mountains and ending with the river running into the sea. Climate, vegetation and many other subjects can be used to make fascinating books for children. Of course, the development of mapping can be taught easily through this medium and map reading itself, as with no other method.

5.) At the present time, many advertising folders are used by hotels and resorts to demonstrate the superior advantages of their particular facilities, location, etc. These folders are done in primitive colors and give no real reproduction of conditions. This is particularly true of beach resorts and ski resorts. By using three dimensional maps, these folders could really bring out the qualities of the terrain and other necessary details. This is also advantageous for country clubs, golf courses and city hotels as well as mountain, lake and shore resorts.

6.) City road maps can be obtained of every large community. These, however, are line maps and do not show the various buildings, amusement areas, parks, etc. A three dimensional map of a city could be made to bring out buildings or other places of interest. Such a map has many advantages for the user who could find the way by recognizing landmarks and other features.

7 & 8.) Regarding the use of this map by the Government and by the Armed Forces, the same possibilities and many more apply, as mentioned in the above sections.