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Panel Discussion on "Stereocompilation"

Introduction

IF YOU LOOK THROUGH your recent issues of PHOTOGRAMMETRIC ENGINEERING or through the programs of previous ASP conventions, you will find that there is a great deal of material about exotic electronic instruments, analytical aerotriangulation, photogrammetric space exploration, and other subjects of a like nature on the frontiers of the science of photogrammetry. On the other hand, you will find very little on the subject of stereocompilation, which we define as the plotting by stereoscopic procedures of data derived from photographs. This is indeed an odd circumstance, inasmuch as a large proportion of the equipment used in photogrammetry is stereocompilation equipment, and a large proportion of the people engaged in the field of photogrammetry consists of stereocompilers whose efforts make a map or other photogrammetric product what it is—a legible, graphic compendium of information.

There appears to be a widespread tendency to dismiss stereocompilation as a nonglamorous and uninteresting aspect of the field of photogrammetry, involving operations that are learned by rote and made routine by repetition. On the contrary, stereocompilation is, in my opinion, the most fascinating of all photogrammetric operations. It is the activity that puts the meat on the bones, the bricks on the foundation, the picture in the frame. The stereocompiler applies the features that make a map interesting, readable, and useful to the map user. It is unlikely that you will ever see anyone planning his vacation, laying out an engineering project, or studying the topography, on a deck of computer cards representing control points, no matter how sophisticated an application of analytical aerotriangulation was used in

their production. The real interest and the real usefulness of maps and other photogrammetric products lie in the detail that people want to know about and that can be shown in the various attractive cartographic renditions that are available today.

Stereocompilation loses its glamour for some of the people who do it because they become accustomed to it and do not realize how much they have had to learn in order to become good at it. If we took stock of what a stereocompiler has to know and what he has to be able to do, we would come up with something like this:

* He has to understand basic photogrammetric principles.
* He has to understand the optical and mechanical characteristics of the equipment he works with.
* He has to understand the procedures of interior, relative, and absolute orientation.
* He has to have good vision and a knack for interpreting what he sees.
* He has to understand about the features that have to be compiled on the map and how to depict them—the highways, the railroads, the

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ABSTRACT: *There is a widespread tendency to dismiss stereocompilation as a nonglamorous aspect of photogrammetry. Actually it is the phase that produces the detailed data which is of the greatest interest to users of photogrammetric products. Stereocompilers need to know a great deal about many disciplines to be good at their job. There is a need to generate proper appreciation of the challenge and importance of the stereocompilation operation. The six panelists on this program will discuss problems and developments in the art of stereocompilation.*

streams, the woods, the hills, the valleys, the works of nature, the works of man—in an endless variety.

Summing it up, to be a complete stereocompiler, one needs to know quite a bit about physics, chemistry, engineering, geology, forestry, topography, hydrology, and a host of other disciplines that are reflected on the map. Anyone who has the responsibility for managing a photogrammetric operation which involves stereocompilation cannot help but realize the tremendous value of a really good, experienced stereocompiler. It is entirely appropriate, therefore, that we give serious attention to the subject at this time. We have with us a panel of six well-qualified specialists who are knowledgeable in the field of stereocompilation. We are going to call on them to expound on some of the problems, and perhaps they can suggest some answers.

Our procedure will be to have each panelist give a leadoff presentation of 10 minutes or so on his respective topic as listed on the program. We will have rebuttal, debate, and discussion among the panel members, and then we will open the meeting to discussion and questions from the floor.

The members of the panel and their subjects are as follows:

Glenn C. Welden, of the Army Map Service, who will discuss "Highlights of Current Stereocompilation Practice."

Carl Alster, of Alster & Associates, who will discuss "Efficiency in Stereocompilation."

B. Thomas Hopkins, of the U. S. Geological Survey, who will discuss "Human Problems in Stereocompilation."

Heinz Gruner, consultant to Bausch & Lomb, who will discuss "Stereocompila-

tion Equipment Trends in America."

Charles Theurer, U. S. Coast & Geodetic Survey, who will discuss "Stereocompilation Equipment Trends Overseas."

Sidney Bertram, The Bunker-Ramo Corporation, who will discuss "Automation of Stereocompilation."

Notice to Authors

1. Manuscripts should be typed, double-spaced on $8\frac{1}{2} \times 11$ or $8 \times 10\frac{1}{2}$ white bond, on *one* side only. References, footnotes, captions—everything should be double-spaced. Margins should be $1\frac{1}{2}$ inches.

2. *Two* copies (the original and first carbon) of the complete manuscript and two sets of illustrations should be submitted. The second set of illustrations need not be prime quality.

3. Each article should include an abstract, which is a *digest* of the article. An abstract should be 100 to 150 words in length.

4. Tables should be designed to fit into a width no more than five inches.

5. Illustrations should not be more than twice the final print size: *glossy* prints of photos should be submitted. Lettering should be neat, and designed for the reduction anticipated. Please include a separate list of captions.

6. Formulas should be expressed as simply as possible, keeping in mind the difficulties and limitations encountered in setting type.