

## EINFÜHRUNG IN DIE LUFT— UND ERDBILDMESSUNG.

(INTRODUCTION TO AERIAL AND TERRESTRIAL PHOTOGRAMMETRY).

by

K. SCHWIDEFSKY

Leipzig and Berlin — B.G. TEUBNER — 1936.

A new book has just appeared on the use of photography for cartographic surveys. It is written by the scientific collaborator of the firm of Carl ZEISS, Jena, which has produced so many fine optical instruments.

In a small volume of 106 pages, the author has succeeded in precisising the present status of a science whose very rapid progress during the past twenty years has now put us in possession of improved means enabling us greatly to extend its employment. Its object is to facilitate a rapid and at the same time scientific initiation into this new science for those who desire to keep abreast of its most recent developments. In this he appears to have succeeded. After a short historical sketch in which nothing of importance has been omitted, the theory is expounded in a few clearly written pages, stereo-photogrammetry is made apparent by a curious diagram showing the curves of equal parallax produced by two pencils of rays and by a magnificent anaglyph which shows the advantages to be derived from this type of printing so that the various forms of the terrain may be completely apprehended.

The author describes in a few pages the taking of photographs from the ground and their utilization by means of the Pulfrich stereocomparator, then the more recent improvements of the apparatus for exposures from the air (for which there is a panoramic chamber with nine objectives). He explains the various methods of utilizing these photographs graphically, the use of the stereoscope and the restitution apparatus; then the simultaneous utilization of two photographs, the instruments for double projection, the multiplex aeropjector, the Hegershoff aerocartograph, the stereophotograph of Poivilliers, the Wild autograph, the Bauersfeld stereoplanigraph, and finally the principal sources of error in the instruments, or those made by the operator. The last few pages are devoted to a study of the principles for piecing together the photographs obtained by radial or polygonal triangulation and the limits of accuracy of these methods.

P. V.

## PROBLÈMES DE NAVIGATION ASTRONOMIQUE PARTICULIERS A LA NAVIGATION AÉRIENNE

(THE PROBLEMS OF ASTRONOMICAL NAVIGATION PECULIAR  
TO AERIAL NAVIGATION).

(From an article by M. LOUIS DAVIOT in Bulletin N° 40 of the *Association Technique, Maritime et Aéronautique*, Paris, 1936, pp. 471-508).

(Translated from the French).

In this article M. Louis DAVIOT summarizes first the special problems of aerial navigation with regard to fixing the position. Thereafter he studies the repercussions of these particular requirements on the various operations which are essential to a determination of the position and enumerates the different devices now in existence which allow these various operations to be performed in aerial navigation. From this the author deduces general conclusions with regard to the degree of accuracy and the suitability of the devices at present available to aerial navigators. He ends by outlining a programme for the immediate realisation of devices for astronomical aerial navigation which will increase the accuracy and convenience in fixing the position of an airplane in flight.

In the chapter on *Chronometric instruments*, the author points out the practical convenience of using navigational watches which can be set exactly to the time, that is, in which the second hand can be stopped at any place on the dial.