

Photogrammetric Engineering

Volume XXI

MARCH, 1955

Number 1

CONTENTS

| | |
|--|----|
| List of Sustaining Members | 9 |
| Board of Direction and Committee Chairmen | 13 |
| Information and Order Form for MANUAL OF PHOTOGRAMMETRY | 18 |
| Photo and Biography of <i>President W. Sidney Park</i> | 25 |
| SYMPOSIUM—NON-TOPOGRAPHIC PHOTOGRAMMETRIC INSTRUMENTS | |
| Introduction | |
| <i>David Landen</i> , Chairman | 27 |
| Industrial Photogrammetry | |
| <i>Thomas Edwards</i> | 28 |
| Photogeologic Instruments Used by U. S. Geological Survey | |
| <i>W. A. Fischer</i> | 32 |
| New Aspects of Mono-Photogrammetry | |
| <i>Heinz Gruner</i> | 39 |
| Some Aspects of "Non-Topographic Photogrammetry" | |
| <i>Gomer T. McNeil</i> | 49 |
| The MM 100 Optical Comparator | |
| <i>Everett L. Merritt</i> | 56 |
| Discussion of Mr. Fischer's Paper | |
| <i>Dr. Bertil Hallert</i> | 60 |
| SYMPOSIUM—NON-TOPOGRAPHIC PHOTOGRAMMETRY* | |
| Introduction | |
| <i>Dr. Bertil Hallert</i> , Chairman | 69 |
| An Application of Photogrammetry in Structural Research | |
| <i>Prof. K. B. Jackson</i> | 71 |
| Photogrammetric Measurement of Spectrograms | |
| <i>Frederick J. Doyle</i> | 76 |
| Determination of the Accuracy of Terrestrial Stereophotogrammetric Pro- cedures | |
| <i>Dr. Bertil Hallert</i> | 84 |

(Continued on page 5)

* A paper by Dr. C. B. Watts of U. S. Naval Observatory was not available for publication. It is entitled Application of Photogrammetry to Astronomy.

Entered as second-class matter at the Post Office at Menasha, Wisconsin, under the Act of August 24, 1912. Additional entry as second-class matter at the Post Office at Washington, D.C. Acceptance for mailing at the special rate of postage provided for in section 34.40, paragraph d, P.L.&R.

Published five times a year, during the months of March, April, June, September and December, by the American Society of Photogrammetry. Publication Office 450-458 Ahnaip St., Menasha, Wis. and at Society's Address—1000 Eleventh St., N.W., Washington, D. C.

Copyright 1955 by the American Society of Photogrammetry. Reproduction of this issue, or any part thereof, may be made only after obtaining the specific approval of the Society's Chairman of the Publications Committee.

The Society is not responsible for any statements made or opinions expressed in its publications.

Subscription Rates—No charge to Society members in good standing; \$6 annually for subscribers in United States and its possessions; and \$6.50 annually, elsewhere. Society pays the postage. Price of individual back numbers—in U. S. and its possessions, \$1.75 per copy for single purchase of 3 or less and \$1.65 per copy, for 4 or more; elsewhere \$1.85 per copy for single purchase of 3 or less and \$1.75 per copy, for 4 or more. Orders for subscriptions or for individual copies should be sent to the Society's address.

Printed in the United States of America

CONTENTS (continued from page 3)

| | |
|--|--------------------|
| Aerial Stereo-photography and Ocean Waves <i>Wilbur Marks and F. Claude Ronne</i> | 107 |
| Exceptional Meander Scars and Their Significance in Determining the Direction of Stream Flow <i>William A. Kelly and Donald J. McGuire</i> | 110 |
| Photo Interpretation in Flood Control Appraisal <i>Henry W. Dill, Jr.</i> | 112 |
| Determination of Spatial Position and Attitude of a Bombing Aircraft by an Air- borne Photogrammetric Camera <i>Dr. Hellmut Schmid.</i> | 115 |
| The Grid Effect in Aerial Photography <i>C. W. Kendall</i> | 120 |
| An Analytical Method for the Calibration of a Variable Ratio Pantograph <i>Albert S. Knight, Jr.</i> | 124 |
| Explanation of a Rack-and-Pinion Inversor <i>Wright K. Gannett</i> | 127 |
| A Practical Procedure to Carry Out Spatial Sterotriangulation <i>Ing. Umberto Nistri</i> | 132 |
| Supplement to "Photogrammetric Volume Determination of Huge Pulpwood Piles" <i>Harold E. Young</i> | 146 |
| A Survey of Current Periodicals of Possible Interest to Readers <i>S. Jack Friedman</i> | 147 |
| Review of Books, Publications and Papers. | 148 |
| Reports of Technical Committees of the Society | 150 |
| News of the Sections | 152 |
| News Notes | 145, 149, 151, 153 |
| News of Photogrammetrists | 156 |
| Resolving Power | 157 |
| Application for Corporate Membership. | 159 |
| Index to Advertisers | 7 |

**THE KELSH INSTRUMENT CO.
INC.**

Phone: Broadway 6-6924

112 S. Eden St.
Baltimore, Md., U.S.A.

Cable Address KELSHCO

manufacturers of
the
KELSH PLOTTER

Agents for Kelsh Plotters in Japan
and the Orient

Pacific Aero Survey Co., Ltd.
Tokyo, Japan

Established 1910

JAMES W. SEWALL COMPANY
OLD TOWN, MAINE

FOREST ENGINEERING
TOPOGRAPHIC MAPPING
AERIAL SURVEYS

BRANCH: James W. Sewall Co. (Canada) Ltd.
Fredericton, New Brunswick