

error during exposure is eliminated. At the end of the scanning process all movement stops and the projection light is extinguished.

The diapositive plate which is to be exposed is placed in the focal-plane of the secondary camera. This plane carries fiducial marks either on the sides or the corners which identify the new principal-point. The fact that the plate is printed under conditions exactly the same as those in which it will be used in the stereo plotter projector, eliminates any requirement for the diapositive to be flat. In fact, the plate can be seriously warped without any effect upon the ultimate formation of the stereo model. This, of course, is due to the fact that each point imaged on the diapositive plate in the secondary camera will be reprojected under exactly the same conditions, and the cone of rays exiting from the stereo plotter projector will be true, regardless of any warped plate.

The Telerecprinter, when in its basic condition in which the focal-planes of the primary and secondary cameras are parallel, operates simply as a transformer of distortion and principal distance of the photograph. In this case the principal-point of the transformed photographs, identified by the marks of the secondary camera, coincide with those of the original photographs and hence of the primary camera.

However, as previously stated, a tilt and tip can be induced to the primary camera with respect to the secondary. In such case the Telerecprinter operates also as rectifier, that is, it perspectively transforms the

original photograph by changing its exterior orientation. In such case the principal-point of the diapositive no longer coincides with that of the original photograph but with its nadir-point, within the approximation of the determination of the elements of tip and tilt. The introduction of the predetermined tip and tilt is either accomplished by means of precise double-graduated bubble levels or, if the Nistri gyroscopic camera is used, a special accessory device, known as the pricking unit, identifies the nadir-point as determined by the gyroscopes and these data can be preset into the printer.

The rigorous application of the Porro-Koppe principle, that is the condition of parallel rays (infinite focus) existing between the primary and secondary cameras, makes certain the complete matching of distortion characteristics of the aerial camera and the stereo plotting projectors.

The Telerecprinter can be used in full light, for the diapositives are loaded in special magazines in the dark room, but thereafter can be handled without any difficulty in a lighted room. The maximum format of photographs for the primary and secondary cameras is 23×23 cm. The secondary camera is normally supplied with a distortion free Omigon lens with a 152 mm. principal-distance and a maximum distortion of ± 0.006 mm. Actually both the primary and the secondary cameras can be prepared to accommodate almost any cartographic type aerial camera or stereoplotting system.

*The Student Status in the American Society of Photogrammetry**

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(Abstract is on following page)

PHOTOGAMMETRY! A word that arouses curiosity and questioning in the minds of the unformed student whenever this subject is mentioned, outside of the technical circles familiar with photogrammetry. The immediate reaction and question of these per-

sons will invariably be, "What is Photogrammetry, another name for a photographer?" Laugh as you will, the student should not be ridiculed, for in all sincerity he has not been very well informed or briefed on the subject of photogrammetry.

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However, the university or college student, especially of various technical fields for example: Civil Engineering, Forestry, Geography and Geology, just to mention a few, will in all probability have some knowledge or idea of photogrammetry from his exposure to classroom lectures and discussions pertaining to the use of photogrammetry as related to his area of study. This will, at least, equip him with a definition or basic understanding of the subject.

lege. The Engineering Open House attracts high school students throughout the state for two days of viewing and gathering information on the activities in which the engineering student is engaged while enrolled in an engineering curriculum.

The photogrammetry and surveying section of the Department of Civil Engineering takes full advantage of this open house to display various pieces of equipment associated with particular areas of photogrammetry

ABSTRACT: This paper reviews the present-day status of potential high school students and college students of photogrammetry and their relationship to the American Society of Photogrammetry. A discussion and outline is presented for stimulating interest and informing high school students as to the career and educational opportunities available to them in photogrammetry and related fields. The merits of establishing student chapters within the American Society of Photogrammetry are presented as an effective media for creating closer relationship among college students in the various fields of photogrammetry.

Most important, however, are the potential high school students of today and of the future. With the ever-expanding fields of technology and science in this "age," there exists an immediate need and demand for a greater number of persons with proper education and background to meet the demands of the "age." In photogrammetry, the American Society of Photogrammetry has realized the effects of this "age" by the reflected increase in membership and ever-expanding horizons of activity in technical proceedings and related fields.

Many of the dreams of our forefathers in photogrammetry have become realities with an increasingly greater number of developments and interests being acted upon today, especially in areas of education, training and technical development. This does not discount the immediate need for more publication and information related to Photogrammetry to be compiled and distributed for the purpose of informing the high school student of today.

The information on the expanding opportunities and developments in photogrammetry can be effectively conveyed to the prospective high school student by several media. Two proposals will be outlined and discussed, one of which has been successfully used here on the University of Illinois campus for attracting and informing the high school student in the areas of engineering and science.

The University of Illinois College of Engineering sponsors an annual Engineering Open House which is planned and conducted by students enrolled in the Engineering Col-

and surveying. In addition, student work is presented in individual notebook form containing the notes and problems of a particular credit course in the aforementioned areas. The steps in compiling a topographic map by photogrammetric methods is pictorially represented with direct correlation to numerous pieces of photogrammetric equipment. This display has resulted in many inquiries on the part of high school students as to the opportunities available to them in photogrammetry and allied fields. It is the feeling of the staff and students participating in this Open House, that it provides an excellent media by which first-hand information and observation of photogrammetry and some of its many applications can be obtained by the prospective high school student. I am sure the age-old adage "seeing is believing" is valid here.

Within recent years, many individual high schools have sponsored and conducted career conference days. These sessions are arranged in cooperation with industry and individuals of various professional occupations. A special day is scheduled for the participants from industry and professional fields to go to the high school and to provide information on the scope and nature of their particular occupation. These sessions are attended by all students who cite an interest in a particular area for which he would desire information regarding that occupation. This type of conference is capable of reaching a very large cross-section of the potential high school students. It is my belief that this is the most opportune time for stimulating thought and planning for an occupation of tomorrow by

the potential high school student of today.

The various media afore discussed and outlined have been presented in the hope that they may be more widely adapted and effectively used as a mode of conveying information regarding opportunities, education, and activities available to the high school student, for further investigation in the fields of photogrammetry. It is felt that this type of information and cooperation with high schools could be very well coordinated in content and distribution by the Publication Committee of the American Society of Photogrammetry. I am sure that the Society would realize a reflected increase of activity within the organization in both present and future years of development.

As a sidelight, I would like to mention a unique undergraduate research participation program inaugurated for the first time this year, here at the University of Illinois by the Civil Engineering Department, and under the sponsorship of the National Science Foundation. Included in this program was a research study in photogrammetry which we are proud to state won recognition from the American Society of Photogrammetry by awarding the 1959 Bausch and Lomb Photogrammetric Award to a participant in the project. The award was based on a paper presenting the findings of the first part of the project, and it is sincerely felt that such a participation program has definite merits in stimulating basic thinking and research for undergraduates in fields of photogrammetry.

When the American Society of Photogrammetry was incorporated in 1934, the founders provided the Society with a statement of Aims which has not been outmoded even in this day of tremendous scientific accomplishment. As a part of the objectives of the Society, the following statement is noted "to stimulate student interest in the field of Photogrammetry by advocating a strengthening of College curricula."

The college curricula of today reflects the phenomenal growth of photogrammetry as a powerful tool in marked achievements in such fields as surveying and mapping, geology, forestry, astronomy, geography, agriculture and highway engineering, just to mention a few. This is the training ground for the students enrolled in the aforementioned fields which provide the continued flow of new blood in these various professional fields. It is the very source of student activity and membership in the corporate body of the American Society of Photogrammetry.

Therefore, with the wide variations of student interest in photogrammetry, it seems

most logical that organization of Student Chapters of the American Society of Photogrammetry would provide an additional stimulus to encourage student interest and participation in the activities associated with the corporate body of the American Society of Photogrammetry.

The establishment of Student Chapters of the A.S.P. would help students enrolled in photogrammetry and related fields, to enrich their college courses by beginning those professional contacts and associations which, continued through life, are so valuable to the practicing professional man. The student scarcely needs to be told to master the principles and certain techniques of his particular curricula, for he knows he must pass these courses in order to graduate. There are other important subjects, however, not so capable of being expressed in formulas, that generally are called professional matters. They may or may not be covered in class work. Certain phases of these professional subjects are admirably adapted to programs of students chapters.

The Student Chapter is a good medium for exercising principles of personal and public relations. For example, chapter members would have the opportunity to prepare, present, and discuss papers, make appraisals of men from their writings, conduct chapter activities, hold office, secure outside speakers and extend hospitality while they are on campus, visit organizations where photogrammetry is employed, make reports to the Society, and read the publications of the Society. All of these and many other activities under chapter auspices give contribution to mental development and the forming of judgements. Activities of this type also stimulate early professional consciousness while the student is still preoccupied with techniques.

The purpose of the student chapters then, would be to help the student prepare himself for entry in his professional field and the corporate body of the Society.

The objective of this paper will be achieved by sheer expulsion of force and energy on behalf of those persons who recognize that now is the moment to inform and stimulate continued interest in the fields of photogrammetry by directing the efforts of publication and information to the prospective high school student, and that the atmosphere of thought is also ripe for the organizing of student chapters of the American Society of Photogrammetry within the colleges and universities that have recognized curricula in the fields of photogrammetry.