

national television, when George V. Denny, Jr., Vice-President of the People-to-People Foundation (and formerly of American Forum of the Air fame), introduced the technical papers with a talk on the promise that international television broadcasting holds for better understanding between nations. Both high-speed photography sessions were enthusiastically attended, with particular interest shown in the film about the Pegasus mobile mount for underwater cinematography and the sequences of a rattlesnake's strike.

Motion-Picture Shorts

With the help of Jack B. McCullough, and through the courtesy of the various

producing companies, a very fine group of motion-picture short subjects was assembled for showing at the beginning of sessions. The following titles were seen:

A Chairy Tale and *Carnival in Quebec*, National Film Board of Canada

Blue Danube and *Alpine Glory*, Warner Bros. Picture Corp.

How to Have an Accident at Home, Walt Disney Productions

Magoo's Masquerade and *Matador Magoo*, Columbia Pictures Corp.

Declaration of Independence, Teaching Film Custodians, Inc.

Photography and the IGY



Fillmore R. Park

At the Awards Session, which is reported in detail below, and after the formal presentation of awards had taken place, a most interesting talk was given by Fillmore R. Park, Senior Research Officer of the National Research Council of Canada, on the role of photography in the International Geophysical Year. By a remarkable coincidence, while Mr. Park had the minds of his audience firmly fixed in outer space, the first news reports were brought in of the successful launching of Sputnik, adding considerable piquancy to the occasion. Excerpts from Mr. Park's talk are given below (with *italics* supplied) and will undoubtedly serve to whet appetites for the full technical paper on this subject which we hope to print in a future issue of the *Journal*.

"The part which photography will play in this great scientific enterprise is two-fold. The first and most obvious use is to provide a pictorial history of events and to bring to the public a first-hand account of what scientists are doing in the various disciplines. I am quite certain that the members of this Society are fully aware of the opportunities and the problems involved in this work.

"The second application of photography and photographic techniques during the IGY is to provide a convenient medium for the recording of scientific data. In this application the film record is not the end result but only a means to the end. It is this application of photography with which I am most familiar and I would like to take some time to illustrate and describe a number of ways in which film and special photographic techniques are used to record data.

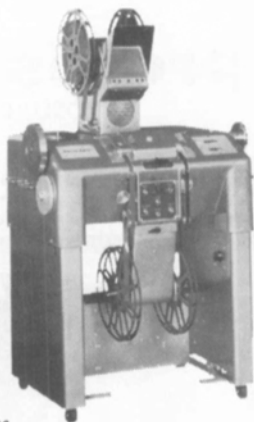
"Either of two basic schemes or principles is usually employed in obtaining a film record of instrumental or observational data. In the first, the information or data, which is generally derived as a time varying electrical signal, is converted to a light signal varying in intensity and/or position with respect to time. This is generally accomplished by using a cathode-ray tube. The varying light signal is focused on the film which moves past the lens at a constant rate, the motion of the film providing a time scale against which the signal is recorded. Since no shuttering action is necessary this scheme, in general, requires a camera of simple design, the complexity, if any, occurring in the electronic circuitry required to display



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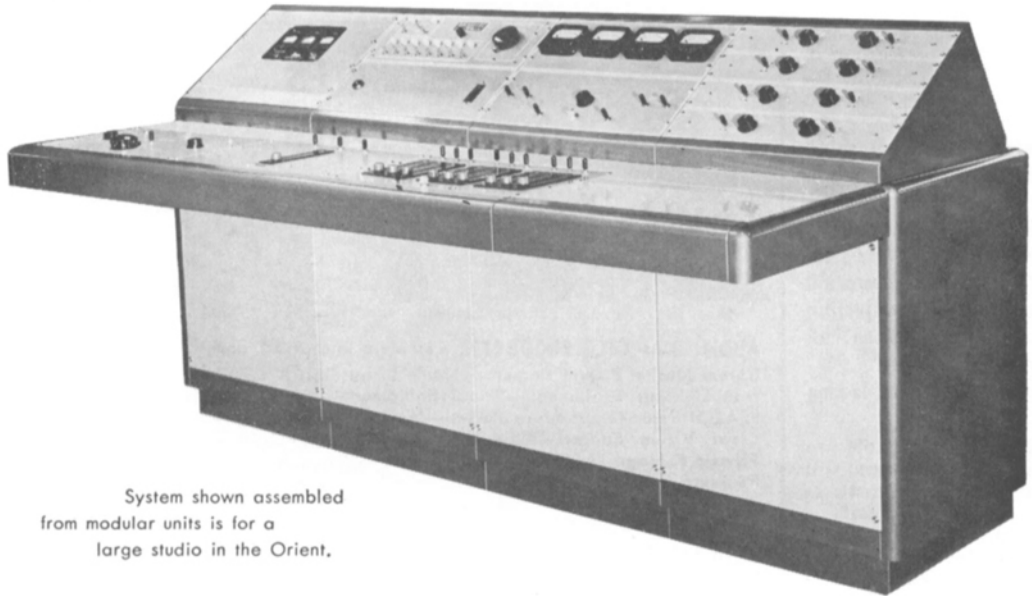
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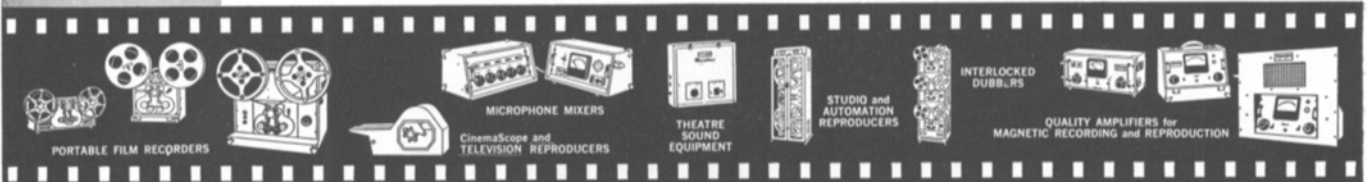
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the data appropriately on the cathode-ray tube.

"The second method employs time-lapse photography and is generally used in the direct recording of visible phenomena. In some cases the object may move during the exposure thereby providing a record of its motion or track. This is often the situation in astronomical photography. The camera and associated control equipment are more complex in time-lapse photography since there must be provision for accurate timing of a shutter and for film advancement between exposures. In many instances these functions must be performed automatically. . . .

"The auroral instrumental program involves the operation of four specially designed instruments; the Auroral Radar, the All-Sky Camera, the Scanning Spectrograph and the Auroral Intensity Recorder. The latter instrument uses punch tape and paper strip recordings but the other three use film as the recording medium.

"Auroral radar is operated on a continuous 24-hour basis at four Canadian stations strategically located on a north-south line across the auroral zone. These radars, which operate on a wavelength of 6 meters, were specially designed and built at the National Research Council for this program. By means of an automatic switching arrangement, the receiving antenna samples the north, west, south, and east quadrants of the sky in turn, thus providing information on the direction of the aurora. Two minutes are required for a complete sampling of the four quadrants. The auroral echoes are presented on a cathode-ray tube and photographed by a camera in which the film moves continuously at a rate of one ft/hr. The result is a continuous range-time record on which the signals from the four antenna quadrants are presented in turn. . . .

"The All-Sky Camera is an instrument designed to photograph the night sky from horizon to horizon at regular intervals for the purpose of recording visible aurora. When a number of such instruments are spaced less than 500 km apart, the location and distribution of auroral displays can be determined. The instrument consists, essentially, of an electrically operated, time-lapse camera, a spherical mirror and a timing and controlling unit to determine the exposure rate and duration and to provide the time, date and other identifying data that are recorded in each picture. Several such cameras have been built during the past few years by workers engaged in auroral research. In general, commercial 16mm movie cameras were modified for this purpose.

"The National Research Council has designed and built a number of 35mm All-Sky Cameras for use at selected IGY stations. The change from 16mm to 35mm film has been made possible by the recent availability of reliable, electrically operated, 35mm instrumentation cameras. The use of the larger picture has resulted in a considerable improvement in the quality of the photographic record. . . .

"In addition to the 35mm All-Sky Cameras built by N.R.C. there are a large number of 16mm cameras distributed across the country at IGY stations. Some of these are being operated for special purposes in conjunction with other scien-

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tific work such as the rocket firing program at Fort Churchill. The Russian scientists have built forty 35mm all-sky cameras for use during the IGY. A total of over 100 all-sky cameras will be in use across the whole world. . . .

"The Scanning or Patrol Spectrograph was specifically designed for auroral research during the IGY. This instrument is entirely automatic in operation and is designed to photograph spectra of aurora occurring along a given magnetic meridian of the sky from horizon to horizon.

"Radiation from the aurora passes through the slot in the dome at the top of the instrument and through the fish-eye which focuses the radiation on a narrow slit. This lens combination has the property of focusing the light from the whole 180° field (from horizon to horizon) on the slit. After collimation the light is dispersed by a 600-line/mm grating into a spectrum. The spectrum is brought to focus by an optically high-speed Schmidt camera and is recorded on 16mm spectrographic film. The length of the exposure is determined by a photometer which integrates the amount of radiation falling on the sky lens. Data relating to the exposure, date, station, etc., are brought to focus on the film from behind the Schmidt mirror and together with a calibration step wedge are recorded on the film automatically, at the end of a sky exposure and the beginning of a data cycle. A moonlight eliminator shuts the instrument off if the moonlight becomes too bright. . . .

"An attempt has been made to discuss, very briefly, those IGY programs which employ film and special photographic techniques to record scientific data. The amount of film involved for recording purposes alone, though probably not large in the eyes of the motion-picture industry, is likely to exceed a half million feet for Canada alone. The problem of analyzing all these data is indeed a gigantic task and will take many years to complete."

Arrangements and Entertainment

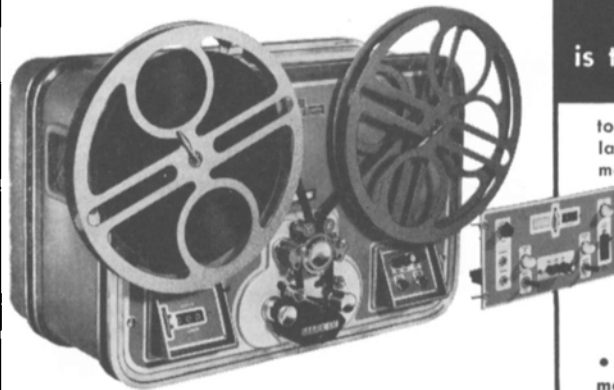
Early attention by Convention Vice-President Carleton Hunt and considerable careful planning and administration by the Local Arrangements Chairman, A. J. Platt, contributed to an extremely smooth-running and well-organized convention. Jack Platt, who not only had overall responsibility but arranged the details of many of the social events as well, was on the job day and night. His efficient band of helpers included H. L. Ewing, for liaison with the hotel; Joe G. Mullen, who was responsible for both Get-Together Luncheon and Banquet arrangements, and who in addition found time to take care of multifarious emergencies; Edward Stanko, E. T. Griffiths and L. W. Leidy, who kept the registration operation on an even keel; and Herbert Mattelson and George E. Dutch, the auditors, who spent many hours keeping the accounts straight.

Projection matters were most capably managed by Ralph H. Heacock, and Everett Miller, Jack Leahy, Jack Greenfield and James F. Cornell took good care of the public address system and recording. Bill Koch, down from New York, gave the membership desk the best coverage it

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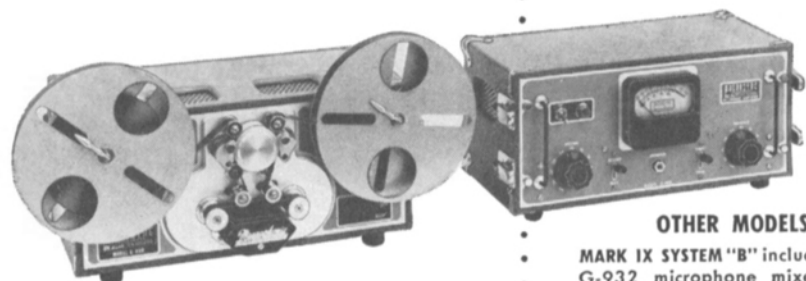
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has had in a long time and besides handing out much information and many applications, netted 20 new members on the spot.

Pressroom activities, under the professional guidance of Hal Rusten, RCA, went ahead swimmingly, especially since the Society was lucky enough at the last minute to enlist the additional help of Len Bidwell. One innovation tried this time was a press conference held at the opening of the convention, at which the President, Executive Vice-President, Engineering Vice-President and Program Chairman met with representatives of the trade and daily press and discussed the details of the papers program.

Social events, in addition to the regular luncheon and banquet, which were held in the hotel, consisted of an informal dinner at what is generally considered to be Philadelphia's finest eating place, Old Bookbinders, and an evening at the Cherry

Hill Inn, across the river in Camden, for cocktails and dinner in friendly and comfortable style. Bad weather on Sunday unfortunately curtailed some of the sight-seeing tours that had been planned.

The ladies found a full and absorbing program of activities, in addition to the general social events, arranged for them by the Ladies Committee under the joint chairmanship of Mrs. A. J. Platt, Mrs. Everett Miller and Mrs. H. L. Ewing. A fashion show and tea at Strawbridge & Clothier, famous Philadelphia department store, was arranged for one day; a whole day's trip to the antique shops and Pennsylvania Dutch atmosphere of picturesque Bucks County, a day at the fabulous Winterthur Museum, card parties, shopping expeditions and visits to local theatres gave everyone plenty to do, with something to suit all tastes.—D.C.

Society Awards

The Awards Session, one of the traditional features of the Fall Convention, when the Society honors individual members who have made outstanding contributions to the progress of the industry, took place on Friday evening, October 4. One award, the David Sarnoff Gold Medal, was presented separately at a special ceremony during the Get-Together Luncheon earlier the same day.

Honorary Members

Dr. C. J. Staud, Vice-President and Director of Research, Eastman Kodak Co., accepted the award of honorary membership in the Society on behalf of Dr. C. E. Kenneth Mees. The following citation, prepared by the Honorary Membership Committee under the chairmanship of Deane R. White, was read by Norwood L. Simmons, Executive Vice-President:

The contributions of Dr. C. E. Kenneth Mees to the arts and sciences of photography in general and to motion-picture photography are so many that one cannot single out any particular contribution as being outstanding above the many others.

His interest in science dates back to early boyhood. At the age of ten he was greatly impressed by a chemical experiment demonstrated by one of his teachers, and from that time on his greatest interest was in science. His formal schooling, however, emphasized the classics until, just prior to entering the University of London, he attended a technical school for senior boys. There he met S. E. Sheppard, and the two entered University College together. This was the beginning of a lifelong friendship and association. At the College they were drawn together by development of a mutual curiosity about the photographic process. At first they could not find published any satisfactory explanation, but then Sheppard turned up a paper of Hurter and Driffield which laid down the basic principles of photographic exposure and development. This work, however, had been published in 1890, and the two young students soon saw that with the advances which had been made in physical chemistry during the intervening ten years, it would be rewarding to repeat and extend these investigations. Permission was obtained from the University and they undertook the task together. The work which they did was accepted in 1903 as thesis for the B.Sc. degree by research — the first and the last time that such a degree was granted by the University of London.

In their following years at the University Mees and Sheppard continued investigations on the photographic process, and published eleven papers between 1904 and 1907. They were awarded Doctor of Science degrees in 1906 on the basis of these investigations, which were also published as a book, *Investigations on the Theory of the Photographic Process*.

When Dr. Mees had completed his work at the University he joined the small photographic firm of Wratten and Wainwright Ltd. as a partner and joint managing director with his friend, S. H. Wratten. During the six years that he spent with

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