

Roland H. Moore

Memorial Address*

Over the years, these Memorial sessions have been the setting for remembering outstanding photogrammetrists whose contributions to the field have varied widely in their nature. Some were inventors of new photogrammetric hardware; some developed new photogrammetric theory or procedures; some were makers of high-quality photogrammetric instruments; others made ingenious applications of existing principles and hardware to the production of maps and other photogrammetric products; still others were authors of technical literature that advanced the art of photogrammetry; and there were those who made important contributions to the life of the American Society of Photogrammetry itself.

Smokey Moore was none of the above. His given name was Roland M. Moore, but I will not say it again, because he was simply "Smokey" to everybody who knew him. Smokey was not an inventor, or a mathematical whiz, or a manufacturer, or a prolific author, or a big wheel in the Society. His strength lay in the way he got along with people engaged in major photogrammetric operations. He was a dynamic leader in the practical aspects of our field; in his low-key way, Smokey organized, trained, and obtained the fullest cooperation from large groups of workers. In short, Smokey's career provides a superlative example of "how to put photogrammetry to work."

Roland H. "Smokey" Moore was born in Surigo, Philippines, Feb. 27, 1908; died, Denver, Colorado Feb. 1, 1969. These statistics reveal nothing of the person who generated them except that his life span was relatively short.

Smokey attended schools in Los Angeles and Oakland, and the University of California, Berkeley where in 1930 he received a B.S. in Civil Engineering with a minor in Aeronautical Engineering.



Smokey Moore in the early thirties.

Upon graduation Smokey was appointed a Junior Topographic Engineer in the Pacific Division of the U.S. Geological Survey. At this time our topographic maps, both large and small scale, were compiled in the field by planetable surveys. Aerial photography had just been accepted as a tool for reconnaissance and identification. The thought of using aerial photographs for complete compilation was just being advanced by such pioneers in the field as T.P. Pendleton and Claude Birdseye. Smokey's first assignments were varied and carried him to such places as Mount Shasta, California, and Yakima,

Washington. In addition to these assignments, he participated in quadrangle mapping in California that assisted in the planning for the Central Valley Project. In late 1933, Smokey decided to try another facet of engineering and transferred to the U.S. Forest Service to work in structural designing. The call of the wild was too strong for him so he returned to the U.S.G.S. in the Pacific Division in 1936. He was



Roland "Smokey" Moore 1908-1969

assigned to projects in the Navajo Indian Reservation in Arizona in the vicinity of Chinle, Lukachukai, and in the Canyon de Chelly area. It is noteworthy that his Arizona assignments lasted more than a year. Smokey likes to expound on the joys of these assignments and the beauty of the canyon country as well as the privilege of living in a tent with his wife and young daughter. There was quite a language problem with the natives and you can see from a slide that I will show later that the elements were not totally cooperative and could be quite destructive on short notice.



USGS topographic survey party, Chinle, Arizona, c1935. Smokey is in the center along with his wife, Gloria, lower right.

At about this time the Tennessee Valley Authority in cooperation with the U.S.G.S. was completing a planimetric mapping program of the Valley. This work was under the direction of T.P. Pendleton and C.H. Davey, both of whom were pioneering the topographic map compilation procedures by photogrammetric methods. This was a new word on the block and a process not readily accepted by hard line field topographers. The cooperative mapping program with the TVA, Maps and Surveys Division,

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headed by Ned Sayford and George Whitmore was extended to include complete topographic mapping of a number of quadrangles by stereo-methods. The Survey had recently acquired a number of normal angle projectors for use in the multiplex system of compilation. This was exotic equipment at the time and about the largest collection of such in this country. This equipment was assembled in Chattanooga, Tennessee during the spring of 1936 and part of the cooperative agreement was that the Survey would supply the personnel to learn the operation of the equipment as well as field test the results.



Survey vehicle caught in Arizona cloud burst.

I realize that I have digressed somewhat from Smokey the individual, but it is necessary to explain the background, however brief, of the status of topographic mapping at the time. The original "multiplex operators" assigned by the Survey were Emmett Coon, George Fischer, Robert O. Davis, Milton Harden, Paul Blake, and W.S. Higginson. All of these engineers were experienced in all phases of field topographic mapping. At this time Russell Bean came into the picture from Wright Field where he had been employed in experimental work with stereo-plotting equipment. Russell had formerly been associated with T.P. Pendleton in private industry and was not employed to train the personnel involved in the "multiplex" system of compilation. The work progressed so well that additional personnel was required and in late 1937 Smokey was one of those selected to learn the operation. I was fortunate enough to be on hand and meet Smokey, his lovely wife Gloria, and daughter Marleen. Our close friendship continued from that time on. The question has been raised as to how I happened to be there. I had been transferred from the U.S.G.S. to TVA to do work in field control and testing of the various experimental compilations. In fact I was one of three that ferried the first multiplex instruments into the valley.

You might say that Smokey was in on the ground floor of stereo mapping in this country. As the old adage goes "he took to it like a duck to water." Shortly after his arrival he received some "not so good news" in the form of notification from the U.S. Civil Service Commission that he should furnish proof of citizenship and date of birth or be removed forthwith from the payroll. I can appreciate how disturbing news of this type can be, because I received, at about the same time, the same ultimatum. Smokey's daughter Marleen supplied the following information: "The proving of citizenship was a hardship. I vaguely remember hearing Mother and Daddy discussing it and have all the documentation that Daddy was finally able to pull together for the government. Because he was born in the Philippines, he needed proof that his father was a citizen of the U.S., but during this time his father died. His mother had just recently come to the U.S. with many of her possessions in transit, but he was finally able to get a copy of his birth certificate and affidavits from other relatives that his father was indeed a citizen. His father had gone to the Philippines in 1902 when the U.S. had sent a large number of teachers to the islands. I believe the family lived there until about 1920."

Smokey's impact on the Chattanooga office was felt by all who knew him. "He could be characterized as a 'laid-back individual,' very knowledgeable, and highly perceptive of all that was happening. He worked hard and he played hard. His production record was seldom equalled. What a pleasant person to work with!"

Most all of us have hobbies of one kind or another and Smokey was no exception. One of his after work pleasures was quite different from the "usual hobbies." He and his friend Sid Smith, another Pacific Division Engineer and a contemporary of Smokey's, would visit auto dealers and engage salesmen in price negotiations for new cars. After an hour or more of talk, when the salesman was sure of his sale and commission, they invariably would thank the person for his time and indicate they would definitely be back the next afternoon to continue the discussion after thinking about the proposal. The next afternoon the same procedures would be followed but at a different dealership and with a different salesman. After several episodes at different locations they would return to the salesman at the first dealership and start pitting one against the other. When this occurred several times the salesmen became wary and angry. Smokey and Sid enjoyed their afternoon auto visits so much that they offered to pay \$50.00 to anyone in the office who was in the market for a car to allow them to purchase it, and in at least one instance their offer was \$100.00. It came to the point the salesmen were so upset when they saw Smokey and Sid coming, they would refuse to talk with them, and as a result their pastime came to an end.

The compilation procedures and techniques, utilized in Chattanooga, improved to the point that a number of new engineers were recruited in 1938 to learn the process and handle the work load. One of the 1938 recruits expresses his thoughts regarding Smokey as follows: "As far as I'm concerned, he was one of nature's noblemen. I always liked him from the time we met in Chattanooga nearly 50 years ago, until his last days. He went out of his way to be helpful to us greenhorns who reported en masse to the Survey that winter. He was never too busy to switch on his room lights, light up one of his hand-rolled cigarettes and listen to our woes or just shoot the breeze while we rested our eyes."

The field of photogrammetry expanded so rapidly that in 1941 the Survey organized within the Atlantic Division, in Clarendon, Virginia, the section of Photogrammetric Mapping under the direction of Russell Bean. Additional multiplex equipment was obtained and a cadre of trained operators was transferred from Chattanooga to train new personnel. At the outbreak of W.W. II the demand for new compilations and skilled employees reached a new high. Smokey was one of those in Chattanooga who was



Rocky Mountain Region top staff on a weekend holiday, 1949. From left, Tom Cummins, Smokey Moore, Paul Blake, Bob Davis.



USGS Photogrammetry Conference, Denver, 1952. Seated: Smokey Moore, A.C. McCutchen, Russ Bean, Bob Davis, Harold McMillen, Paul Blake, Morris Thompson. Standing: Marvin Scher, John Groninger, Bob Manson, Geo. Fisher, Tom Hopkins, John SMith, Bill Harman, Bill Radlinski, Dave Landen, Art. Biever, Jim Lewis, Floyd Marsden, Bob Altenhofen, Chess CcCaw.

selected to move to Clarendon in 1942 and work in the new office as a supervisor and later as Chief of Photogrammetry for the Atlantic Region. Here his ingenuity and foresight were valuable assets as the Survey endeavored to provide maps for the military and convert from partial to complete photogrammetric mapping techniques. His ability to lead became apparent in this situation. It is amazing how much work in short periods of time was produced under Smokey's leadership.

Smokey and his family, which now included another daughter Linda, had never owned a home because of frequency of moving to new assignments. It appeared as though they had settled down in Virginia so they bought a home, and sure enough, shortly after completing the purchase he was transferred to the newly organized regional office of the Survey in Denver, as Chief of the



Smokey at his desk in Washington, as Chief of the Office of Research and Technical Standards, 1959.

Branch of Field Surveys. This was in 1948. Under his leadership, methods and procedures were modified to increase production and the quality of mapping, and helicopters were used to transport control parties to remote areas.

In 1953 Smokey was transferred to the Pacific Region to become Chief of Photogrammetry. He maintained this position until 1956 when he was selected to be Assistant Chief Topographic Engineer for Research and Technical Standards. In this position his experience and abilities in dealing with people were felt on a national and international level. The Survey was involved in the development of the elevation meter, electromagnetic distance-measuring devices, the Orthophotoscope, the Airborne Control System. On May 5, 1959, during the convention of the American Society of Civil Engineers, Cleveland, Ohio, Smokey presented a paper regarding recent developments in Photogrammetric and Electronic Surveying Instruments. Excerpts from this paper indicate the progress mapping had made to that time and demonstrate something of Smokey's great sense of humor.

"Recently I read an article about a farmer in Indiana who had so completely mechanized his farm that in 10 minutes, by literally pushing buttons, he could feed 400 head of cattle and 500 head of hogs with several different kinds and proportions of feed, a job that with the old pitchfork and bucket would have taken 5 men half a day to accomplish."

"This reminded me how far the surveying and mapping profession has progressed in the past 25 years. Today I still have vivid recollections of running traverse by the "hoot-and-holler" method. For the benefit of the really young members of the audience let me say that a "hoot-and-holler" traverse (as I experienced it in the California redwood country in the thirties) went something like this: The instrumentman set up his planetable on the last established point of the traverse. The chainman, dragging one end of a 500-foot greased rope, disappeared into the woods in the general direction of Mexico, Canada, Pacific Street or Harold's Club, depending on which way the traverse was headed. When the instrumentman saw that the rope was almost all paid out, (or when he thought the chainman had been gone long enough) he hooted—whereupon the chainman hollered. The instrumentman, listening intently for the holler, pointed his sight alidade in the direction whence the sound came. If he was not quite sure, he hooted again and the chainman hollered again. When at last he was sure, he plotted the direction and laid off 500-feet minus an engineering-judgment allowance for temperature, humidity, sag, slope, bends around trees, knots, snarls, and attempts by woodchucks to use the rope for nesting

material. Elevations were determined at each instrument station with the altimeter, which was checked once a day, maybe. That was the "hoot-and-holler" survey as I knew it 25 years ago."

"Like the farmer in Indiana, we now have more efficient tools and techniques for accomplishing our work. The new equipment and methods entail the application of scientific disciplines such as photogrammetry and electronics, which are now taught in engineering schools but for which many of us were born 30 years too soon, from the standpoint of college curricula. This poses a challenge that must be met if we wish to maintain a high level of professional standards in the field of surveying; we must master the new disciplines and apply modern instruments and techniques in a knowledgeable fashion."

At the Ninth International Congress on Photogrammetry, London, England, September 1960, Smokey presented a paper on the Orthophotoscope and discussed its development with scientists from around the world.

Shortly after returning from London, Smokey was selected as the Rocky Mountain Region Engineer with offices in Denver. At this time he administered topographic mapping in Alaska, Montana, Wyoming, Colorado, New Mexico, and Texas. He was highly respected by his contemporaries in state and federal agencies as well as private industry. He had the enviable ability to participate in meetings and discussions, sometimes disagreeing with statements proposed without incurring rancor. He was not one to engage in idle conversation unless it was during a period of relaxation. Smokey never lost his interest in the work or people even when he realized that his illness was terminal.

Smokey was a registered professional engineer in Colorado and Kansas. He held offices in both the Rocky Mountain and the Northern California sections of the American Society of Photogrammetry and the American Congress on Surveying and Mapping. He was chairman of the Committee on Research and Development for the Surveying and Mapping Division of the American Society of Civil Engineers from 1958 to 1964. He prepared a number of papers for technical journals and represented the Geological Survey at the London Conference of the International Society of Photogrammetry in 1960. In July 1965 he received the Interior Department's Distinguished Service Award for his accomplishments and his ability to lead and administer and to obtain the fullest cooperation from his associates and employees. His citation for the Departmental award reads as follows and we believe "says it all."

"Since joining the Geological Survey in 1930, Mr. Moore has advanced rapidly to progressively more responsible positions, in which he has served with distinction. He has long been recognized as an outstanding and exceptional leader and an enthusias-



USGS representatives at 9th International Congress on Photogrammetry, London, England, September 1960. Smokey is third from the right.



Rocky Mountain Region Engineer Smokey Moore presents a gift to Paul Blake who departs for service in Pakistan. September 1961

tic promoter of improved mapping technology. As Assistant Chief Topographic Engineer for Research and Technical Standards, he was responsible for directing all research activities of the Topographic Division toward improvement in mapping techniques and efficiency. Since 1960, he has served as Rocky Mountain Region Engineer, responsible for the technical and administrative direction of the national topographic mapping program in the Rocky Mountain Area of the Topographic Division. During the short span of 4 years, the productivity of this Area was increased considerably because of Mr. Moore's dynamic leadership and ability to organize, train, and obtain the fullest cooperation from some 450 employees, whom he has developed into a highly efficient working force, dedicated to sustained, coordinated effort. Mr. Moore's excellent relationships with the community and educational institutions have reflected greatly upon the Geological Survey, the Department, and the Federal service. He is active in professional societies and has published documents in several technical publications. In recognition of his valuable con-



From Left: Smokey Moore, Gloria Moore, George Whitmore, Helen Fennell, and Earl Fennell at a Topographic Division Staff Conference, 1967



USGS Topographic Division Staff Conference, 1962. S.Mokey is on the far right.

tributions in the fields of topographic mapping and administration, the Department of the Interior grants to Mr. Moore its highest honor, the Distinguished Service Award."

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—Henry M. Townsend

Sabbatical Leave Teaching/Research Opportunity

The Natural Resources Program of the Asian Institute of Technology has teaching/research positions opening in May and September 1990, and January, May, and September 1991. AIT, located 42 km. north of Bangkok, operates on trimesters, providing advanced education in civil engineering, natural resources development, information technology, human settlements planning, and management technology. Students represent countries across Asia and the Pacific region. Room, board, recreational, and health care facilities for short-term faculty are provided on campus.

The program's Remote Sensing Laboratory include a digital analysis facility with two workstations for the IBM 3083 mainframe using DIMAPS software, two workstations for a microVax II mini using Pericolor/ geode software, and two NEC APC IV workstations for ERDAS (version 7.3 software). All systems have image processing/GIS capability. Outputs are to screen ink-jet plotters, Versatek printers, and other hard copy devices, as well as to an Optronics Colorwrite. The digital analysis facility includes a visual analysis facility and a photographic processing facility. These facilities are available to short-term faculty.

The faculty member will be expected to devote between 3-5 contact hours per week to teaching duties and advising trainees on their term projects. Instructional areas of interest include: remote sensing, GIS, RS/GIS applications, environmental impact assessment, regional planning, and resource economics.

An honorarium of US \$3,000 will be provided to help defray costs. Interested persons should submit a C.V., the research they wish to pursue, and their period of availability. For further information, contact: **Program Officer, INRDMP Program, Asian Institute of Technology, G.P.O. Box 2754, Bangkok 10501, THAILAND** Tel. Bangkok 529-0100 13, ext. 2751; telex 84276 TH; cable AIT-Bangkok; fax (66-2) 529-0374