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Gerald FitzGerald*

Memorial Address

Gerald FitzGerald
1891-1981

The American Society of Photogrammetry has sponsored a series of memorial addresses since 1971 when the first address was presented by past President Heinz Gruner. The purpose of the addresses has been to cite the contributions to our field of activity made by individuals no longer living, and to bring further recognition and honor to them.

When I was asked by past President A. O. Quinn if I would present a memorial address on Gerald FitzGerald, I accepted—for at least three reasons. First, Gerald FitzGerald, generally known and addressed as "Fitz," did indeed make extensive contributions to both procedures and production in the field of mapping and charting. Second, he assisted me in many ways during our long association, and I am pleased to have the opportunity to pay tribute to this extraordinary man. And third, and this I believe the most important, he had a tremendous capacity to enjoy working, and to enjoy living, and to be an effective manager and leader of people.

Rather than try to make this a complete biography of Gerald FitzGerald, what I hope to do is to paint a picture of this man as I knew him, and to suggest that his interest in people, his dedication to hard work, and his zest for living, form a pattern that others might well follow in their quest for a productive and happy life.

Gerald FitzGerald was born in Burns, Oregon, on 22 January 1898, the oldest son of Maurice and Elizabeth (Norton) FitzGerald. He was educated in public and private schools in Oregon and Washington, and first joined the U.S. Geological Survey as a field assistant in 1917. His work with USGS was interrupted briefly in 1918-19 while he attended Seattle College. The picture shown here (Frontispiece) was taken soon after he got out of uniform at the close of World War II. It shows him in a rather stern mood. He could be stern if appropriate to the occasion, but more often he was a happy and jovial person.

During his first 2 or 3 years with the Survey, Fitz was associated with C. P. McKinley, one of the senior topographers well known for his skill in reconnaissance mapping in the western States and Alaska. McKinley evidently was impressed with young FitzGerald's energy and ability for, in a letter he wrote in 1950 at the time of his own retirement, he said to Fitz (who by that time was Chief of the Topographic Division of USGS) "I always had a scrap on my hands each spring with Gaskill and Davis to keep you in my party . . . [you were] worth any two men they could dig up. . . . If I in any way helped you with the advice I gave you as a trainee, I feel that I can retire in peace."

Following his early association with McKinley, Fitz was attracted to a mapping assignment in the Dominican Republic. After the Spanish-American War, and the withdrawal of Spain from the West Indies, political unrest was rampant in the area. In 1916 the United States established a military government in Santo Domingo and organized programs for road building, harbor improvement, and the construction of public health facilities. In 1919 a topographic and geologic mapping program was launched for

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which Fitz and others from USGS volunteered. Horizontal and vertical control was established, and about 4,000 square miles had been mapped by 1921 when, by agreement between the two governments, the withdrawal of U.S. activity was begun.

I have little information on the work Fitz did while in the Dominican Republic—the maps and survey records were left with the Dominican government, and I have only a few photographs now yellow with age. On the back of one (Figure 1) I find a note that Fitz had written "Camp at Bain, R.D. Not so large as it was a few months ago. Had six tents." He did, however, tell an interesting story when being interviewed years later by a Washington newspaper reporter who was writing on, of all things, explorers and bandits. The reporter quoted Fitz as saying:

> ". . . It was while I was in Santo Domingo. The bandits were very bad at the time and the island was occupied by the U.S. Marines. It was Christmas time and the members of my party, which was stationed in the center of the island, were away for the holidays. I was alone in camp, sick with malaria. While musing over my condition one morning there came into the camp a detail of marines. They informed me that the bandits were on the move out of the hills toward the villages, plundering and killing as they came, and that I had better come to the marine camp with them for protection. I thanked them but thought it best not to leave, as I was not feeling very strong and there was considerable equipment around. I told them I would take a chance. The road ran by my camp. It was not long before the bandits showed up, ugly and villainous looking, with their heavy machetes and rifles. They spied my camp and came over. They looked it over and over. I could see they were puzzled and did not know exactly what to do. But they did nothing but scowl and march on. You see, in the meantime I had run up the Santo Domingo flag."

Fitz returned from the Dominican Republic early enough in 1921 to go to Alaska that year with McKinley, for he is credited, with McKinley, for the mapping done in the Iniskin area on the west side of Cook Inlet. After that, I find him in 1922 working on dam and irrigation surveys for the State of California along the eastern side of the San Joaquin Valley.

In 1923 Fitz embarked on a series of exploratory surveys into eastern and northern Alaska which covered several years. It is important to note that this was before the days of air travel. Steamships reached the cities around the coast and the railroad ran into the interior as far as Nenana, near Fairbanks; otherwise, travel was by dog team during the winter and by boat or canoe on the rivers during the summer. Great strength and endurance was required to move through the country, while skill and ingenuity was needed to develop reliable maps of large areas during the short season in which field work was feasible. Fitz kept rather detailed records of each day's work in the field, and I am inclined to think that these years were in many ways the most satisfying that he experienced during his career.

They were also years filled with dramatic experiences, one of the most exciting of which took place at the end of the 1923 field season. Fitz told a Washington Post reporter about that experience when he was being interviewed at the time of his retirement in 1957. The Post quoted him as saying:

> "I'll never forget the time we came out of Barrow, the six of us on a 60-foot sloop.
>
> "The wind blew out our mainsail and we tried to make it on a little engine we had. That conked out. We put out a sea anchor and drifted for 11 days, almost down to St. Lawrence Island.
>
> "We patched up the boat and it started to blow again and we were blown right back up to Kotzebue Bay, among other places, and it was another 16 days before we made land [at Gambell, an Eskimo village on the northwest coast of St. Lawrence Island]. I went in weighing 195 pounds and came out weighing 122. We lived the last 11 days on canned tomatoes heated with a blow-torch."

One of the primary targets of the Geological Survey in Alaska during the 1920's was an area of several thousand square miles along the Arctic Coast, believed to be of considerable promise as a source of petroleum (Figure 2). Exploration parties could reach this area by steamship through the Bering Strait to Point Barrow. But that passage was ice-free

FIG. 1. Camp in the Dominican Republic.

FIG. 2. Map of Alaska.

for only a short time each summer, and it was found that field parties would have to leave within a few weeks after they arrived to avoid being frozen in for the winter.

Consequently, an overland approach was planned. A Seattle newspaper reported on 19 January 1924 that the "Geological Survey will blaze a new trail into a virtually unexplored section of Alaska—In the party is Gerald FitzGerald, former Seattle resident. . . . The expedition, consisting of eight technical men, several white camp men, and a number of natives, will leave Nenana . . . about 15 February with sleds and dog teams and will 'mush' down the Tanana and Yukon Rivers to Fort Gibbon, from which point they will take the winter mail trail to Allakaket, a mission station and the last outpost of civilization. . . . From Allakaket they strike due north up the Alaina River to the . . . watershed of the Arctic Ocean."

Another Seattle newspaper reported on 18 February that "Four dog teams of 59 dogs left Nenana Friday carrying Dr. Philip S. Smith [USGS geologist] and Gerald FitzGerald with supplies . . . for a dash for the Colville Basin, 300 miles in the Arctic."

Some notes which Fitz kept during the first part of this trek provide a vivid picture of this trip. He wrote:

> "February 11. Left Tolovana and made 19 miles to Dugans Creek, 45° below and dogs feet sore. We were each carrying 600 pounds on heavy sleds. I was driving a team of 13 dogs (Figure 3). Stop overnight at Dugans. Treat dogs' feet."
>
> "February 12. Left Dugans—57° below. I take Pilka's [Indian] team—13 dogs hitched tandem. Good trail until we hit mountain. Very steep, about 3 miles to summit. Turn sled over going down mountain on glacier."
>
> "February 14. Arrive Tanana about noon—start packing supplies for freight outfit . . . 6 teams of 15 dogs each—two sleds to team with about 1,500 pounds."

FIG. 3. Typical Dog-sled team.

The party reached the North Slope by May, by which time the ice in the north-flowing streams had started to break up, permitting subsequent travel by the portable canoes which had been brought along on the sleds. The canoes were native-made, consisting of a cedar frame with moose-hide covering. They needed to be durable but light, because portage from one watershed to the next was frequently necessary. The mapping (Figure 4) progressed northward to the coast by the end of the season, with the men exiting the Arctic by boat from Point Barrow before the ice closed in again for the winter.

In 1925 Fitz again extended the mapping of the North Slope, but that year he approached it by a different route to work an area further west. Under the caption "Travel Beyond Pale of White Frontier," the Washington Post of 11 October 1925, reported in a long article:

> "FitzGerald, Smith, and Delzene arrived at Nenana, the terminus of the Alaska Railroad, March 10. Blankenship [a dog sled driver] was awaiting them with the dogs. Blankenship had lost a finger enroute to Nenana while unfastening the dogs.
>
> "Leaving Nenana March 12 with two dog sleds and about 800 pounds of camp equipment and instruments, the party bore for the head of the Colville River, more than a thousand miles away. Kotzebue, 700 miles distant was reached 26 days later. "To do this it plied through storm after storm, during one of which the snowfall was so heavy that it encrusted the dogs eyes and members of the party had to [precede the dogs along] the trail on snowshoes.
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> "At Kotzebue the party procured supplies for the summer and engaged more dog teams to freight the provisions and canoes up the Noatak River and across the . . . Brooks Range to the Arctic slope. Only Eskimos inhabited Kotzebue, and in accompanying the surveying party they refused to go farther than the head of the Utukok River on the arctic slope, for fear that the snow would thaw before they could return. But the white men drove on to the Colville. . . . The tributaries of the Colville were surveyed and at the end the survey was connected with the one previously made . . . The party returned to Kotzebue, thence to Nome and Seattle, at which place they arrived September 15."

The journal which Fitz kept describing their trek into this area is especially interesting. Parts of it are:

FIG. 4. FitzGerald with Eskimos near Point Barrow.

"March 9. . . . Arrive Curry 8:15 p.m. Write letters and call up Blankenship who says he has torn one of his fingers off and the doctor will take it off tomorrow. Drove 18 dogs alone with his hand mangled from Fish Camp."

"March 10. . . . met Blank who looks game and says he wants to go. Talk with Dr. Roney who says Blanks's finger will be OK in a week. Decide to take him. Go over outfit and pack instruments. . . ."

"March 11. . . . bought several new dogs . . ."

"March 12. Leave Nenana with two teams."

"March 14. Leave Tolovana at 7:45 [temperature] about 0. Trail a little better; dogs all working fine . . ."

"March 17 . . . St. Patricks Day. Tanana to Kallands 34 miles. Cold all day. 35° below this morning."

"March 27. Leave Kaltag at 9:30. Day clear and cold. Trail fair."

"March 29. . . . arrive Unalakleet 5:00 . . ."

"March 30. Very hard wind blowing this morning; not very cold. . . . timber trail for 2 miles then on the ocean ice. Very rough with hard off-shore wind makes going difficult. We make Foot Hill at 4:00. Native place and a very good place to stop."

"April 7 . . . arrive Kotzebue at 4:30. Distance [today] 45 miles. This is the end of the first leg of our trip. Proud of our dogs. Have made a very good trip in good time [and] all are in good shape."

At Kotzebue new supplies were bought and native men and dog teams were hired to help get the party up the Noatak River and into the mountains of the Brooks Range, where the mapping would be started and continued north into the Colville River basin.

As the mapping got under way, the journal kept by Fitz turned from traveling to the daily work of surveying. Two typical days were:

"June 7. . . . Fine day. In camp all day to make latitude and azimuth observations. Clean up camp and cook pot roast [of deer meat]."

"June 30 . . . move camp 5 miles down river. . . . One of the best camps yet . . . lots of wood, and snowbank just above us to keep our fresh meat in. Make a station [planetable survey station] below camp. Looks like rain. Lots of flowers on tundra—new ones every day."

For me the most amazing thing about this season is the lengths to which Fitz and his party had to go to reach the area to be mapped, and get there early enough to have a field season a few months long rather than a few weeks. This year they started at Nenana on the railroad near Fairbanks as they had in 1924, but in order to reach the North Slope west of the area visited the year before, they took the dog sled route further down the Yukon River to Kaltag, then west across the mountain to Unalakleet, an Eskimo village in Norton Sound on the Bering Sea, then north along the coast and across the Seward Peninsula to Kotzebue. They traveled about 700 miles in 26 days, making an average of 27 miles per day.

In 1927 Fitz carried on the same kind of work but in a different area. Here again he left from the Fairbanks area with dog teams but this time, on 13 March, headed to the northeast for the Chandalar and Sheenjek River basins. The scattered native population in this area is Indian, while the natives in northwestern Alaska where Fitz worked previously are Eskimos. Again Fitz frequently stopped at native villages where he would buy food for the sled dogs (usually frozen or dried fish) and hire the natives with their dog sleds or boats to help move his camp and supplies about in the area being mapped. I judge from the notes that Fitz kept that his party had no difficulty catching enough fish and shooting enough caribou or moose to live well so far as food was concerned. In his journal, Fitz wrote for 23 July:

"Raining this morning . . . a fine nights sleep. Fred [camp helper and cook] leaves after breakfast to hunt. I work on sheet [the sheet of heavy paper on which the map is being drawn as the surveying progresses] and . . . then start for [survey] station #23. See on the bar a mile below camp over 500 caribou working up stream, and just below us a bull moose, very fat. Windy on top . . . finish work on station in 2 hours. . . . Fred returns with the dogs loaded with caribou meat [the sled dogs were often used as pack animals, each dog carrying 25 to 30 pounds] . . . killed two. Have caribou loin and blueberry shortcake for supper. . . ."

This season's work was finished in early September, about the time for the cold weather to return. Fitz and his party got back to Fort Yukon on 14 September, then on to Fairbanks, Seattle, and Washington. The practice was to spend as much time in the field as would be productive, then return to headquarters in Washington to prepare the maps for publication, and to make plans for the next field season.

By 1928 the use of light aircraft (usually equipped with pontoons for water landing) was becoming a rapidly expanding and very welcome means of transportation in Alaska. This year Fitz flew, with limited supplies, into the area west of Mt. Spurr and southwest of Mt. McKinley to start mapping, while a pack train of about 13 horses and three camp assistants, with the bulk of the season's supplies and equipment, traveled overland, taking 20 days to make the trip. The USGS annual report for 1928 gives "The party . . . mapped a tract of 1,000 square miles that has hitherto remained a blank on all authoritative maps of the Territory."

Although a considerable area was mapped, this season seemed to have been beset with bad weather. Fitz showed his mounting impatience as he reported more than once in his journal "Rain and fog all day. Nothing accomplished." He evidently made a practice of taking some reading material on these trips, as his journals frequently note ". . . read awhile and then to bed." For 18 July, he reported "Rain

and storm all day . . . eat, shave, and wash clothes. Nothing to read now except Shakespeare."

Possibly the most important thing that Fitz did during 1928 was to get married. His bride was Geraldine Sager of Herndon, Virginia.

Fitz continued to map in southwest Alaska, north of Bristol Bay, during the 1929–32 field seasons. I note from his journals that he began to use outboard motors on their small boats during this period. Although not nearly so reliable as they became later, I am sure these small motors relieved much of the hard work of moving the boats with oars or paddles, or by "lining"—pulling with long lines while walking along the bank of the stream. More important, I expect was that Fitz began to take extensive photographs from his survey stations. He used portable development equipment, and though he complained in his journal about the quality of his pictures, I am sure that they facilitated his mapping work greatly.

It was also during this period that his two children were born; first Betty, now Mrs. Clarence Kettler of Bethesda, Maryland, and then Pat, now Mrs. George Aubin of Gaithersburg, Maryland.

In 1933 Fitz spent most of the season doing reconnaissance mapping in the Aleutian Islands in connection with the U.S. Navy, which was exploring the development of naval facilities in the vicinity of Adak Island west of the established base at Dutch Harbor. He worked mostly from a Navy ship, using small boats to get around the coast, and was also involved with Navy personnel in planning and flying aerial photography of the area under survey.

After his work with the Navy in 1933, Fitz worked in the eastern part of the Alaska Range in 1934, 35, and 36, covering the headwaters of the Copper and Tanana Rivers. In 1937 he returned to southwestern Alaska, in the area north of Goodnews Bay.

In 1938 Fitz became involved in the acquisition of aerial photography for mapping. For this a photographic technician was loaned to the Survey by the Navy. Together they set up a temporary photographic laboratory in Fairbanks and installed a trilens camera in a light plane. With that they took low altitude photographs of the Tanana River valley from Fairbanks east to the Canadian border. The photographs were to be used to develop planimetric maps suitable for 1:250,000-scale publication.

During the period from 1939 to the beginning of World War II, Fitz continued to be involved in reconnaissance mapping, principally in the Porcupine River area in the northeastern part of Alaska. During the 1940–41 period he set up the first commercial USGS contract for aerial photography for mapping in Alaska. That contract was with an organization known as the Pacific Aerial Surveys and covered the headwaters of the Kuskokwim River. In trying to find out more about that project, I came upon a story which I found entertaining, although it may be apocryphal. It seems that a representative of PAS told Fitz they would need a map of the area to be photographed, so they could plan the flight lines, etc. To which Fitz replied, "Hell if we had a map of the area we wouldn't need your photographs."

Throughout the many years of his field work, Fitz seemed to greatly enjoy knowing and visiting with the people in Alaska. When I finished the first draft of this paper, I sent copies to several people who knew Fitz well and invited them to make comments and suggestions. R. O. Davis wrote ". . . how he enjoyed his friends . . . was brought out dramatically during the trip Fitz and I made to Alaska together along about 1949. It was a most interesting experience to be with him as he continually ran into old friends on that trip . . . from the Governor, Earnest Gruening, to the old gentleman who ran the general store in Chitina."

I know from my own limited work in Alaska during the latter part of that period that it was standard practice with nearly everyone there to keep in touch with their fellow Alaskans because, with the very meager facilities for communication and travel, they recognized the importance of being able to rely on each other for assistance if needed. But I am sure that the relationship that Fitz maintained with those people went beyond that. He held jointly with them a strong interest in the future of Alaska, and relished sharing experiences with them as each made his own way in that challenging area.

In 1941, when the United States was preparing for what seemed the inevitable involvement in World War II, Major Minton Kaye (later Colonel Kaye and the 9th President of ASP) of the Air Force Combat Command, proposed that the Geological Survey develop a plan "for the compilation of cartographic data from aerial photographs to be used in the preparation and revision of the Alaskan Aeronautical Charts published by the Coast and Geodetic Survey." This proposal was based on the experience that Fitz and others in the Geological Survey had had in the "utilizing of oblique aerial photography in mapping." The plan was approved and the work soon undertaken with Fitz in charge.

The photography involved was taken with three cameras, equipped with 6-inch metrogon lenses and mounted in the trimetrogon assembly, which provided right and left views from horizon to horizon with sufficient overlap with the vertical view to permit radial line assembly of the photographs. The system provided rapid coverage of great areas, and the facility with which planimetric detail could be compiled was such that it was soon extended to many parts of the world having military significance.

The success with which Fitz promoted this system and directed the production of aeronautical charts from it led to his being appointed as a major in the Army Air Forces in 1942. Later during the war he became director of the Aeronautical Chart and In-

formation Center in St. Louis, now the Aerospace Center of the Defense Mapping Agency. The following is quoted from the "Orienter," a publication of ACIC at the time of FitzGerald's retirement from the USGS in 1971:

> "He entered military service when he was appointed as a major in the U.S. Army on June 2, 1942. He was assigned to the Office of the Director of Photography, Headquarters Army Air Forces, as Chief of the Map-Chart Division. The office was subsequently known as the Aeronautical Chart Division, Aeronautical Chart Service.
>
> "Colonel FitzGerald planned and supervised the development of the Trimetrogon method of aerial photographic compilation which has been universally recognized as the outstanding contribution to reconnaissance mapping and charting during World War II. . . ."

In 1944 the American Society of Photogrammetry made Fitz the first recipient of the Photogrammetric Award, generally known as the Fairchild Award. Time magazine (issue of 7 February 1944) reported extensively on the ASP convention of the year and said, in part, that "The most important new invention" was trimetrogon photography, and went on to explain it, then said ". . . its inventor, Col. Gerald FitzGerald, a balding, twinkling Irishman, was awarded the Sherman Fairchild plaque for his achievement." The award presentation address was prepared by General H. H. (Hap) Arnold, commanding general of the Army Air Forces, and was in part:

> "Although not a photogrammetrist, I have been able to appreciate your problems because of similar work I once did. Years ago, I conducted ground surveys with theodolites, transits, levels and plane-table in the Philippines. Later, I commanded one of the first aerial photographic expeditions into the interior of Alaska. The differences between the two methods were like those between an ox-cart and a modern airplane.
>
> "It is the clearly defined responsibility of the Army Air Forces to provide the necessary aeronautical charts for military operations. Early in 1941, it became apparent that existing map information was entirely inadequate to compile charts covering the principal transport airlanes of the Western Hemisphere. This, you will remember, was a year and a half after Germany attacked Poland. Expansion of the air arm was necessary but we were suddenly brought face to face with the fact that our own country, as well as our neighbors to the north and south, did not have map coverage suitable for pilotage charts at a scale of one inch to 16 miles.
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> "The Air Forces' first move was to plan the charting of Alaska and this assignment was handed to the First Photographic Squadron. However, Colonel Fitz-Gerald and members of the Geological Survey had already conducted some experimental work in this area. It was natural for them to join hands with Colonel Kaye who was Commanding Officer of the First Photographic Squadron.
>
> "Their problem was one of method and equipment. Tremendous areas had to be mapped in very short order—but how? Under such pressure, they developed, by the early spring of 1941, a suitable camera installation and photographic compilation method. It was the start of the trimetrogon system. By the time the Japs struck at Pearl Harbor, more than 500,000 square miles had been photographed and charts were being prepared from these photographs by the trimetrogon method.
>
> "Actual entry into war created the same urgent needs in this field as in all others, the task of providing the air arm with aeronautical charts increased one-hundred-fold. Less than one fifth of the land area of the world was mapped in sufficient detail to make the small-scale charts that we required if we were to avoid unnecessary loss of our military aircraft.
>
> "Under the impetus of war, photographic aviation swung into action. Under the direction of Colonel FitzGerald, and with Colonels Kaye and Cullen, trimetrogon compilation units were enlarged, trained and equipped, and sent on their assignments . . ."

Fitz was also awarded the Legion of Merit by the U.S. Army for his work in photogrammetry during World War II. The presentation was made by General Arnold (Figure 5), and the citation reads, in part:

> "Colonel Gerald FitzGerald—due to his professional training, exceptional initiative, and sound judgment, successfully planned and supervised the development of the Trimetrogon method of aerial photogrammetric compilation which has been universally recognized. . . . Through these exceptionally outstanding services Colonel FitzGerald has reflected great credit upon himself and the United States Army Air Forces."

Although Fitz returned to the Geological Survey at the end of World War II, closing his active military service, he remained in the Air Force Reserves until 1957.

When Fitz returned to the Geological Survey in November of 1945, it was an organization that had seen much of its mapping personnel move into mil-

FIG. 5. Legion of Merit being presented by General H. H. Arnold.

itary service during the war while most of the remaining staff was involved in mapping important to the military operations. Thus, with the return of the Survey's Topographic Division to peace-time operations, there was a clear need to re-organize, revitalize, and reorient the mapping effort. Fitz, with characteristic vigor and enthusiasm, played a leading role in reshaping the organization and the program. Among the first things done was the establishment of two staff branches within the Topographic Division. One covered research and technical standards and the other covered program planning, with Fitz in charge of the latter. A year later he was put in charge of the Topographic Division with the title "Chief Topographic Engineer."

The application of photogrammetric methods to topographic mapping had moved out of experimental stages and into practical operation during the 1930's in the mapping of the Tennessee River Valley, a joint operation of the Geological Survey and the Tennessee Valley Authority. Further advances in photogrammetry during the war set the stage for the application of photogrammetric procedures to topographic mapping throughout the Geological Survey's mapping program. Photogrammetric equipment was acquired and appropriate facilities set up for topographic mapping by these new procedures in each of the Survey's mapping centers. In addition to the three long-established centers covering operations in the eastern, central, and western States, a fourth was created covering the Rocky Mountain region and Alaska.

The planning and management of photogrammetric operation in these four mapping centers was greatly facilitated by experience gained either from the Tennessee Valley program or in connection with military mapping operations during World War II. Under FitzGerald's direction, cost record systems were installed to determine which of the various types of photogrammetric equipment then emerging would be most effective, and production control was extended to shorten the time required to produce the topographic maps. Accuracy standards and testing procedures were installed to assure uniform horizontal and vertical accuracy in the topographic maps. Helicopters were used for the first time to move field men and instruments about in different areas, particularly in Alaska where Fitz knew so well the time and effort required to carry on mapping operations by traditional methods.

During the 10 years that Fitz headed the Topographic Division there was a substantial increase in funding and in personnel, and working agreements were signed with other Federal agencies involved in similar or related activities to better coordinate the mapping program with the work of those agencies. In all, it was a very productive period for the Topographic Division. Members of the division were devoted to their organization and viewed their work with pride. This may have been in part due to the general attitude that prevailed in the United States after the second World War. I believe, however, that in this case much of it was due to the interest and enthusiasm that Fitz had for the people and program of the Topographic Division and the rare talent for leadership that he had which made others enjoy working with or for him.

During this 10-year period, Fitz was active in matters somewhat outside of the management of the Topographic Division, but nevertheless related to the mapping program. In 1948 the American Association of Petroleum Geologists scheduled a series of meetings throughout the country, at which Fitz addressed their members or university groups to explain the national mapping program. He also served as head or member of U.S. delegations to international meetings organized by the British Commonwealth Survey Officers in London and Cambridge, and by the Commission on Cartography of the Pan American Institute of Geography and History in Rio de Janeiro and Ciudad Trujillo. In 1949 he received the Interior Department's gold medal for Distinguished Service. He was the 12th president of the American Society of Photogrammetry in 1946, and later an honorary member. In 1951 he was president of the American Congress on Surveying and Mapping, and later an honorary member of that organization also. When he retired in 1957, USGS Director Tom Nolan said in a letter to him "Explorer, pioneer, map-maker extraordinary . . . you have received all the honors we can bestow!"

His first wife, Geraldine, died in 1947. In 1948 he married Elizabeth Moyle of Salt Lake City, and it was to Salt Lake City that they would move when he retired.

There was still another honor awaiting Fitz. In 1960 the University of Alaska awarded him an honorary degree of Doctor of Science for the contribution he had made to Alaska through his early exploratory mapping and the later systematic mapping of Alaska for which he was responsible after he became Chief of the Topographic Division.

His wife Elizabeth died in 1961. Fitz later married Gwen Doerr, who lived for only a short time after he died in 1981.

In addition to ASP and ACSM, the two organizations in which Fitz was most active, he was also a member of the board of governors of the Arctic Institute of North America, a fellow of the American Association for the Advancement of Science, and held membership in the American Geophysical Union, the Explorers Club, the Washington Society of Engineers, the Canadian Institute of Surveying and Photogrammetry, and the Cosmos Club.

It would be appropriate here to take note of some of the activities of ASP during the year Fitz was president (1946). It was undoubtedly a period of great activity and soul-searching due to the fact that the war was over and most members were making the

transition from military interests in photogrammetry to the continuing application of their talents to peace-time operations. It was clear that the society could play a major role in such things as the exchange of technical information and the promotion of the right kind of education. In his inaugural address in 1946, Fitz outlined some problems and plans that were critical at that time. In his outgoing address in 1947 he was able to point out that 12 new committees had been formed and that changes had been made in the Constitution and By-Laws that would facilitate the formation of local sections and thus further extend the services and benefits of the society to the membership.

This review of the activities and interests of Gerald FitzGerald would be incomplete without some mention of his abilities as an amateur photographer and artist. Until the last year or two of his life he rarely moved about without a camera. He usually had the latest equipment, and I am sure must have taken several thousand pictures during his life. I recall that back when color photography was new he had some very exciting pictures of Alaska, and I know that with projector and screen he entertained visitors on countless occasions.

In searching the USGS files, I am reminded that Fitz had considerable ability as a cartoonist (Figure 6). If he grew restless at a tedious meeting he might draw a cartoon of someone else at the conference table. I think he might also have been successful as an amateur painter had he not been so busy with other things. He did do a little painting, and a younger brother, Edmond J. FitzGerald, is a successful professional painter and teacher in New York and Cincinnati. In 1970 Fitz gave to the University of Alaska a collection of Alaska paintings, some by his brother and others by E. P. Zeigler, an artist with whom Fitz frequently visited in Seattle and whose work usually pertained to Alaska, either landscapes or natives.

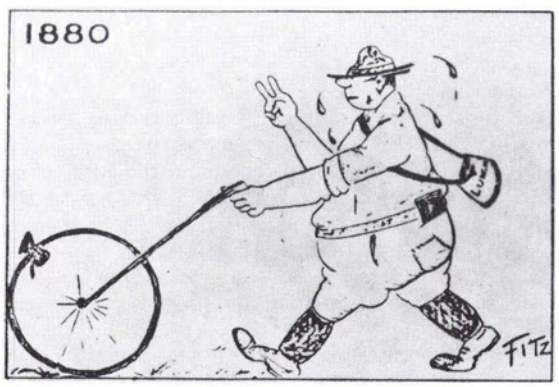

FIG. 6. Cartoon of an early topographer measuring distances by counting turns of a wheel.

FIG. 7. Returning from Southhampton with Elizabeth after British Commonwealth Survey Officers Conference, 1955.

I should also mention the interest Fitz had in poetry. He read it, remembered it, and delighted in quoting it. The following story was given to me by A. A. Baker, for many years the Associate Director of USGS. It seems that Fitz was in a small settlement in Alaska where, as usual, he knew nearly everyone, including the local priest who asked him one Sunday to speak to the congregation. Fitz was not a particularly reverent man at that time in his

FIG. 8. Enjoying a cruise with Gwen after retirement, 1963.

life, so one would think such a request would give him a problem. He took care of the situation, however, by reciting William Cullen Bryant's beautiful poem "Thanatopsis," which, as many will remember, has to do with being prepared for death.

Gerald FitzGerald returned from Salt Lake City to the Washington area in 1979. He died in 1981 after a very brief illness, and was buried in Herndon, Virginia.

I have tried to paint here a picture of this man as I knew him. He was a person who demanded much of himself, and was pleased when good work was accomplished; he liked people, and enjoyed exchanging useful or entertaining information with them; and he was able to stimulate those with whom he worked and inspire them to put forth their best effort and at the same time enjoy doing it. He was indeed a very remarkable man.