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UNESCO EXPEDITION TO AFRICA (1953-1954)

Soon after retirement from the Soil Conservation Service in March 1952, I made a study of Krilium, a highly advertised soil conditioner manufactured by the Monsanto Chemical Company of St. Louis, Missouri. Krilium was described as the cure-all for soil problems. I began with a study of the manufacture of the powder at the factory, studied their demonstration farm in Ohio, and then spent nearly a year observing the effects of Krilium on the soil at many points in the Pacific Northwest. Krilium did not measure up to the claims made for it, and quickly passed out of the picture.

A highlight of 1952 was in August when Otis W. Freeman and I guided a group from the International Geographical Union from Spokane to central Washington, then up the Grand Coulee to Grand Coulee Dam (Fig. 71).

In March 1953 about one year after my retirement from the S.C.S. I received an offer to join a scientific expedition to explore the Sahara and the French Sudan from September 1953 to May 1954, to assess the dependability of the food supply in this region for providing needs in Western Europe. The offer had first been made to Walter Lowdermilk, who had recently retired as assistant chief of the Soil Conservation Service. Lowdermilk was unable to go, and asked me to take his place. I accepted in April, after several weeks study of the proposed expedition.

The expedition was to have been sponsored and financed by UNESCO, but in early May I learned from the leader that UNESCO's contribution would be small, and that each member of the expedition would need to furnish a substantial



Fig. 71. IGU Tour, Grand Coulee Dam, August 25, 1952. Bill Powers (front row, far R), Marian Marts (second row, far R), Lockton Park (second row, far L), Dick Logan (behind Park), L. Dudley Stamp (third row, second from L), Alfred Meyer (third row, third from L), W.A. Rockie (third row, far R), Stan Beaver (back row, third from L), Otis W. Freeman (back row, far R). (Photo by Bureau of Reclamation).

portion of the finances needed. I spent most of the month of May trying to get financial assistance (Rockefeller Foundation, Ford Foundation, and American Geographical Society), to no avail.

In the latter part of June, to complete an earlier commitment, I gave the presidential address at the annual Association of Pacific Coast Geographers meetings in Santa Barbara (Publication No. 57). A few days were spent with Dr. Homer Shantz, retired president of the University of Arizona and author of The Vegetation of Africa (published by the U.S. Department of Agriculture), getting his advice regarding my plans for spending the coming year in Africa.

I left the United States on July 12, 1953, on a Holland-American line freighter from San Francisco, through the Panama Canal, to Antwerp. The trip took 32 days, with stops at various ports in the Caribbean on the way.

In late August I met for a week in Merzig, Saarland, with several other members of the expedition, then spent the first part of September with my older son and his family near Frankfurt, Germany. The expedition members gathered in Merzig in late September for final preparations, and the International Sahara-Soudan Scientific Expedition of 1953-54 had taken form. It was apparent to me at the time that the organization and leadership of the expedition were quite lacking. I had already been alerted to the prospects of all not being as first represented -- e.g., the limited backing from UNESCO. Now I learned that the motor vehicles planned for the trip were clearly underpowered and inadequate for the trip.

The original group that gathered at Merzig included the following participants:

Franz Kollmannsperger

Zoologist -- Saarland

Gunther Niethammer

Ornithologist -- Germany

Father Mohr

Priest and Ethnologist -- Holland (left the expedition soon after reaching Algeria)

Johann Schulz-Hanke

Taxidermist -- Germany

Krarup Mogensen

Geographer -- Denmark

Julien Laenen

Ornithologist -- Belgium

Hubert Gillet

Botanist -- France

Fritz Buckner

Photographer -- Saarland

Walter Konrad

Ethnologist -- Germany

W. A. Rockie

Soils and Land Use Specialist -- United States

Our group left Saarbrücken on 3 October 1953 with a Volkswagen bus, a Volkswagen bug and a Renault truck, and sailed to Algiers on 7 October, where we met with some of the city fathers, to help publicize our expedition (Fig. 72).

The first few weeks were spent in agricultural areas in the immediate vicinity of the city of Algiers. This particular stretch of lowland next to the Mediterranean closely approximates our Los Angeles-San Diego area. The crops are very much the same except that they are not as intensively produced. The better valley lands are mostly owned by Europeans who have settled in northern Algeria since the coming of the French during the 19th century. During the several weeks we were in the Algiers area I spent my time alternately with other members of the expedition, making some studies of agricultural geography in the immediate vicinity, and with Benjamin E. Thomas and his family at their home in Algiers. Ben Thomas was a professor of geography at the University of California at Los Angeles, on leave of absence while making research studies in northern Africa for the Office of Naval Research.

We camped on the Mediterranean shore 20 miles east of Algiers for a week, then a week at a mine headquarters near the town of Palestro, about 30 miles southeast of Algiers, in the northernmost range of the Tell Atlas. Much of the hilly country in this area had little or no protection against erosion, with sheet and gully erosion prevalent nearly everywhere; the worst region in California looks like heaven compared to this.

We next set up camp at 5000 feet elevation in the Atlas Mountains and worked out of here for the next three weeks, each of us gathering information for our individual studies. On 14 November the group moved to Laghouat, on the southern edge of the Sahara Atlas, until 27 November. At Laghouat we picked up our military escort, a sergeant and his assistant, who accompanied us in their jeep for the next several weeks through the desert, and who, I guess, prevented our getting lost, and our getting into trouble. Just south of Laghouat we entered the Sahara proper (Fig. 73). There is practically no vegetation on the land, the surface being bare, with desert pavement in many places. The strong winds that characterize the Sahara are sufficient to blow away all of the fine material on or near the surface,



Fig. 72. Conference in Algiers, October 9, 1953. Rear (L to R): Niethammer, Mogensen, Mohr. Front (L to R): Rockie, Kollmansperger, Herr Schmitz-Epper (Prominent citizen of Algiers).

leaving only the coarse part of the surface soil. The result is that sometimes as much as two or three inches of pure gravel lies over any fine material on the desert. It is called desert pavement because you can drive on it with a car where there's no road, but if you ever spin your wheels you're through the desert pavement, down to the fine material, and in that case you're usually stuck (Fig. 74).

As we proceeded south from Laghouat toward Ghardaia the desert became extremely severe, with probably less than two inches of rainfall a year, some years without a drop, thus there was practically no vegetation. There were scattered plants with some vegetation appearing immediately after rain showers, but if the bands of sheep, cattle, goats, donkeys and camels have been over the area, they have nipped off anything that shows green. The result is that the Sahara shows up as a strictly

vegetationless landscape. The desert pavement gives the surface a predominantly dark appearance.

Our next major stop was for six days at the oasis of El Golea, about 1000 kilometers south of Algiers. Before the French came to El Golea, the Arabs lived in a strongly fortified and naturally protected village on top of a mesa 250 feet above the plain (Fig. 75). Their wells and their date and vegetable gardens were located on the plain below, as they are today, but to protect themselves against warring tribes, they had built their village on the precipitous mesa.

The advent of the French to the area in 1873 provided protection for the native Arabs against the neighboring tribes, so they were able to build homes near their gardens on the plain, and the mesa village was virtually abandoned as a residence area. It is said that there may have been as many as 2,000

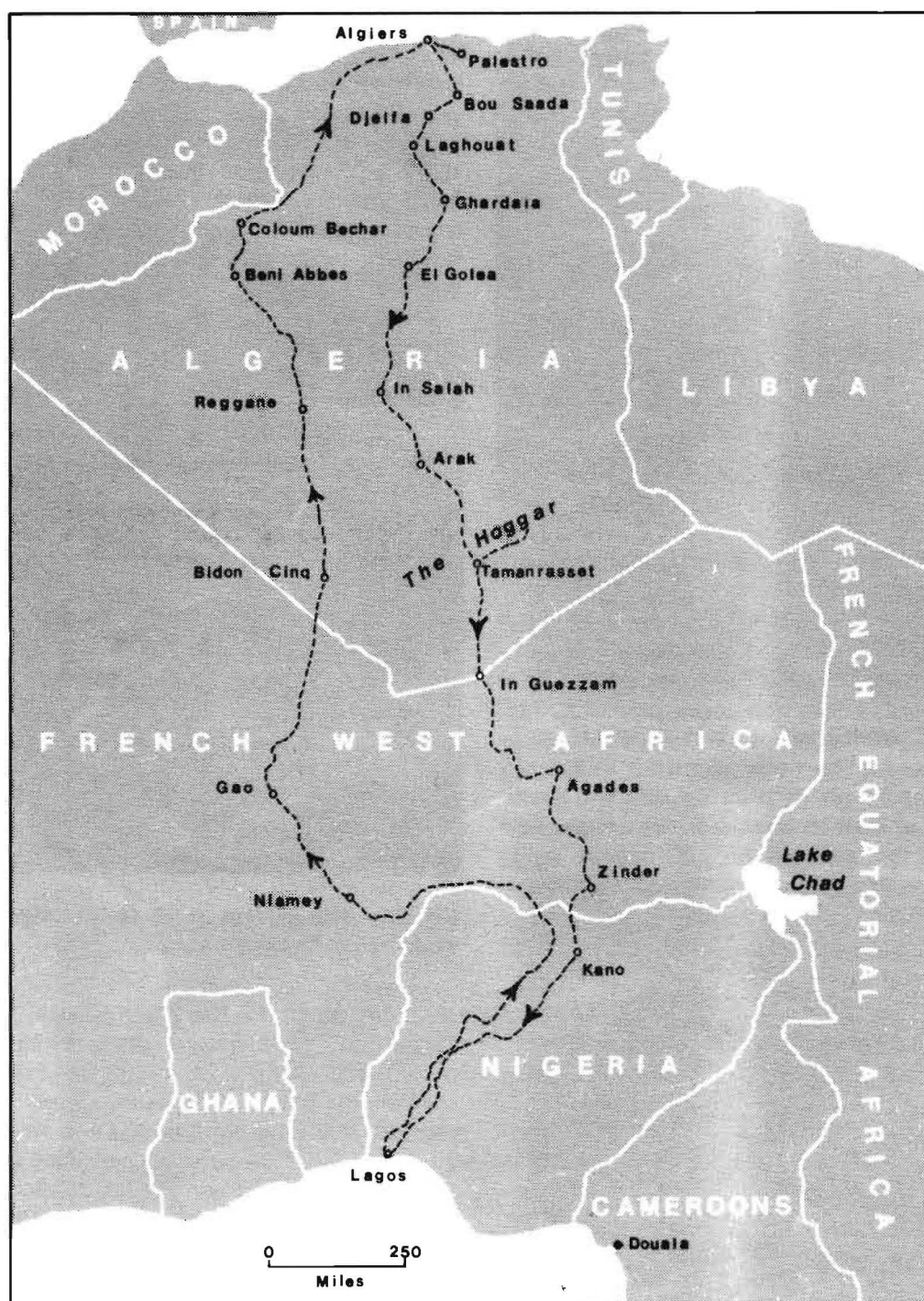


Fig. 73. Map of northwestern Africa showing Rockie's route across the Sahara south from Algiers to Lagos, Nigeria, via El Golea, Tamanrasset, Agades, Zinder and Kano; then back north to Algiers by a more westerly route through Gao, Beni Abbes and Coloum Bechar, 1953-54 (political names and boundaries are portrayed as they existed in 1953-54).

Arabian wells in this oasis at the time the French came. These were shallow wells, and not until a number of years later was the first artesian well developed by the French. When artesian water came into use the number of shallow surface wells began to decline. Simultaneously the El Golea oasis and town began to grow.



Fig. 74. Our Renault truck stuck in the sand.

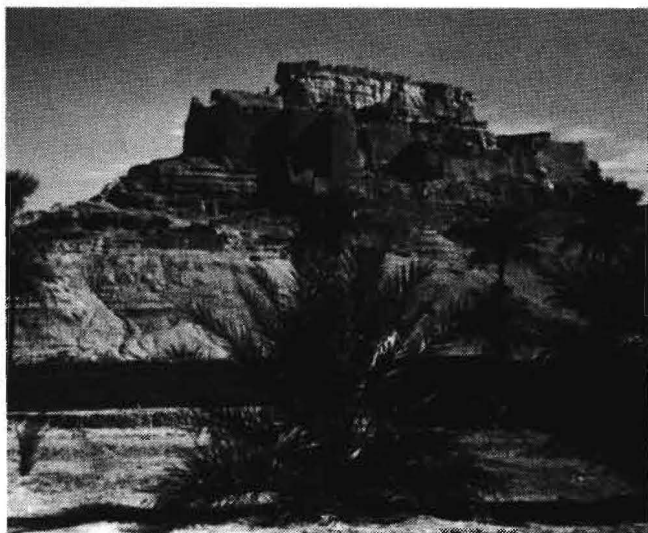


Fig. 75. Ruins of the former village on top of the mesa, El Golea, Algeria.

In 1953 El Golea and the nearby associated oases were said to have a population of about 15,000 people. The entire El Golea development had a total length of between 10 and 15 kilometers, and a maximum width of two kilometers. The gardens at El Golea had the best three layered agriculture we encountered, with the date palms up at 60 to 70 feet high; beneath the date palms they had apricot, peach, pomegranate, and other fruit trees, including figs, and on the ground between the fruit trees were ground crops such as wheat and potatoes (Fig. 76).



Fig. 76. The gardens at El Golea, Algeria, as viewed from the mesa.

We proceeded south to In Salah, famous for its system of getting water for irrigating their date palms (Fig. 77) -- from foggara (underground conduits for water distribution). While here I had the misfortune of breaking a tooth in my partial plate, and faced the prospect of having no chewing teeth until the expedition reached Zinder -- and the nearest dentist -- six weeks hence. This posed a serious morale problem for me, exacerbated by the proximity of Christmas -- a classic case of the holiday blues! This was the first Christmas I had ever spent without some of my family present with me, which included all of my 63 Christmases. Evening was the least pleasant time because most of the time we had no light.

From In Salah we were beginning to approach the Hoggar, a large basaltic mountain area reaching elevations of around 3,000 meters. Southeast of In



Fig. 77. Date palms at In Salah, Algeria.

Salah about 250 kilometers was a place called Arak. It had been a military station at some time in the past, but all that was left were four masonry walls without a roof. We found an actual outcropping of the water table -- one of two places where we found surface water and an occupied stream course. On top of the cliffs bordering Arak the Danish geographer, Mogensen, and I found the remains of a prehistoric village. There were upwards of a



Fig. 79. A ground view of Tamanrasset, Algeria.

hundred mounds that appeared to be the remnants of former habitations, and thousands of arrowheads scattered everywhere.

Our next major stop was at Tamanrasset, our headquarters for over a month. We arrived there just before Christmas, and made preparations for a camel trip through parts of the Hoggar. I noted with interest the abundance of trees in Tamanrasset (Figs. 78 and 79). John Gunther had been at



Fig. 78. An aerial view of a part of Tamanrasset, Algeria, showing an abundance of trees.

Tamanrasset some months before, and I had read his article in the June 1953 Reader's Digest, under the title, "Inside Nowhere." Gunther had described Tamanrasset as a bleak lunar landscape, except for the only tree, a "spiky gnarled willow." I found Tamanrasset to be a veritable horticultural paradise. I made a census of the trees in just one part of the town, and found dozens of different kinds, and many thousands of trees in all. Judging from my sample census, I am sure there are more than 10,000 planted trees in the Tamanrasset oasis, in addition to several thousand native acacia trees within an hour's walk of the town.

Trees of Tamanrasset:

Tamarisk	897
Apricot	270
Peach	256
Fig	180
Orange	168
Date Palms	162
Lombardy Poplar	98
Acacia	55
Mulberry	31
Cypress	26
Pomegranate	25
Pear	23
Quince	20
Apple	18
Eucalyptus	15
Ziziphus	15
Parkansonia	9
Plum	5
Grapefruit	5
Tangerine	5
Johannesbrot	3
Citrus, with enormous lemon-like fruit	2
Olive	2
Lemon	2
Avocado	1
Unknown Tree	<u>1</u>

2,294

I seriously considered leaving the expedition at Tamanrasset in order to return to Algiers to have a dentist treat an abscessed tooth; however by the time we reached Tamanrasset the inflammation had subsided somewhat. Since it was better, I decided to continue with the group on a camel trip (for the experience) before making my decision about leaving the expedition permanently. The group had chosen



Fig. 80. Camel trip into the Hoggar.

camels for transportation, but many of us found that walking interspersed with camel riding was the best answer (Fig. 80). The camel train included three Tuareg guides, the two man French Foreign Legion military escort, and the nine members of the expedition. We left Tamanrasset December 24 and returned January 6, 1954.

After many long discussions the expedition leader finally authorized the use of expedition funds to pay my air fare to Algiers and return, for the necessary dental work. I left Tamanrasset on January 14 for Algiers, had the abscessed tooth pulled and a new partial plate made, and returned to join the group at Tamanrasset on January 20.

Before leaving Tamanrasset I met a Miss Daisy Wakefield, a 74 year old English missionary who had lived there for 18 years. In discussing my work in soils and agricultural geography, she said that from her observations since she came in 1935, eight inches of soil had been blown from this land. In answer to her questions about what could be done to help the situation, I told her that the land could not be helped as long as there were people, goats, sheep, donkeys, camels, and native fauna eating up most of the plants just after the seeds germinated.

We headed south from Tamanrasset on January 23. Our military escort left us at In Guezzam, as we crossed the border from Algeria into French West Africa (now Niger). The next town of any consequence was Agades, in the

savannah country. We spent 10 days in this drab dusty place, with little green vegetation (Fig. 81). I made detailed studies of the garden products, the water supply problems, and the people, including several visits to a nearby Tuareg camp.



Fig. 81. Drab, dusty Agades, Niger, with hardly a trace of green.

The expedition continued south through Zinder and arrived in Kano, Nigeria, on February 16 (Fig. 73). Kano was the center of the peanut industry in this part of the world. They had many huge pyramids of bagged peanuts (each bag contained about five bushels) and these huge pyramids marked the town (Fig. 82). There were three factories in the town where peanut oil was extracted and all the solid residue of the peanuts was hauled off to the edge of Kano to a dump.

The rest of our group decided that they were going farther east, over to the Lake Chad area, and then down through Cameroon to Douala. I discussed with the leader an alternate plan and had it approved, for me to continue south to Lagos, and then return to Europe on my own. I proceeded to Lagos by train. While there investigating my various options for travel to Europe, I met a young man named McCulloch who had just received his doctor's degree in chemistry from the University of Johannesburg. McCulloch was driving to Algiers, and asked me to join him for the trip, and I accepted.

We left Lagos on February 25 in McCulloch's Austin A-40 (Fig. 83), following a route several



Fig. 82. Pyramids of bagged peanuts in Kano, Nigeria.

hundred miles west of the southbound route of the expedition (Fig. 73). Two weeks later, after innumerable tire repairs and several broken spring repairs, we limped into Beni Abbes in western Algeria, and the Austin would go no further without extensive repairs. McCulloch stayed with the car to await replacement parts, and I hitched a ride to Coloum Bechar with a carload of Belgians. I caught a train to Algiers on March 15, left Algiers by air on the 16th, and arrived at my son's home near Frankfurt on March 17, 1954, my 64th birthday!

My wife met me at Frankfurt and we visited our son and his family for several weeks, then spent the next two months traveling by car through Germany, Austria, Italy, the British Isles, Belgium, Holland, France, Switzerland and Denmark. We sailed for New York on the New Amsterdam in early June, and took delivery of a new car in New York. We spent a month visiting many people and places as we drove across country, and reached home in Portland in mid-July, just a year after I had left for my Africa trip.

(Note: Regarding Rockie's choice of transportation north from Lagos to Algiers: Certainly one consideration stemmed from his basic Scottish frugality, but a major factor had to be his perennial adventuresome spirit, always eager to face new challenges, as well as to see new country.

An interesting comment on Rockie's



Fig. 83. McCulloch refueling his Austin A-40 at Madaoua, Nigeria.

communication problems during the Africa trip, best described in Rockie's words, in his notes written on February 5, 1954 in Agades:

I have found my inability to talk any of the used languages fluently to be a serious handicap in keeping track of our group's plans, but on the other hand it has been a convenient cloak by which to get privacy when I wished it. I can usually understand barely enough of the conversation, either in French or German, to know whether it is of special interest to me or not. If I think it is, I ask for a detailed translation, but if I think it is not, I just act ignorant. It gets awfully dull sometimes when during an entire day of steady flow of conversation -- for with eight contributors there is a steady flow -- I hear not a word of English except the yes or no answers to my specific questions. If I ask no questions, there is usually absolutely no English spoken. I am the outlander, and they naturally speak their native tongues.

it was the highlight of his day).

It is apparent from Rockie's notes that he relished meetings with people who spoke English; e.g., at In Ekkar in southern Algeria, he spent an evening with a French geologist and two Norwegian journalists, all of whom spoke excellent English, and