Raymond Moore was the Chief Scientist of both United States Office of Education and the Archaeological Research Foundation (ARF).

Chapter 13

1964 Raymond Moore, Ph.D.

The Archaeological Research Foundation (ARF) 1964 Expedition (Operation 62/64) included the following people: Raymond Moore Ph.D., Mike Anguiti (Photographer, Mobile Oil), Wilbur Bishop, Roger Brown (Movie Photographer), Harry M. "Bud" Crawford, William Cromite (Geologist, World Book Encyclopedia), Bill S. Dougall, Lawrence Hewitt M.D., Norman Kendall M.D., Sevkit Kurtis, Gordon F. Mansell (England), Dennis R. Moore, V.L. Paul Nabors (Pilot), Sidney R. Phillips, Richard “Dick” F. E. Pownall (Everest climber), William Reed, George Silberberg (Physicist, China Lake), and George Jernigan. The Foundation gratefully acknowledges the time and effort of Siegfried H. Horn, Ph.D. Andrews University and Arthur J. Brandenberger, Ph.D. from the Geodetic Institute of Ohio State University who provided advice and assistance to the Expedition Chief Scientist.

The 1964 expedition arrived in Ankara, Turkey, in the latter part of June, after having received word that all clearances for expedition personnel had been obtained from the Turkish authorities. On arrival of the main body, it was found that because of tension in Cyprus, these clearances had to be revalidated. This delay, coupled with the death of Dr. H. J. Klooster, a former Scientific Chief of the Foundation, which had necessitate selection of a new Chief Scientific Staff and consequent delays, set the stage for many misunderstandings and time-consuming conferences in Turkey, which prevented the expedition’s arrival at Mt. Ararat in time to complete the scientific studies.

The aim of the Scientific Staff of the 1964 expedition was to do a valid Geological, Glaciological, Topographical and Botanical study of Mt. Ararat, and the Ahora Cut. Precise measurements were to be taken of ice movements, and complete weather stations equipment was to be set up for weather study. Mt. Ararat is located at the Iranian and Russian border in eastern Turkey. Little scientific information is available on the mountain and surrounding area. Relatively few expeditions have been made to this area. This is primarily due to the reluctance on the part of the Turkish Government to have three country nationalities in such close proximity to a military restricted zone, and of course the area is much wilder and relatively unimproved, as compare to other portions of Turkey. These two factors inhibit expeditions to this part of Turkey. Among those expeditions worthwhile mentioning is the expedition by the Swiss Cartography Professor, Imhoff, in the early fifties of this century, and those carried out by the Archaeological Research Foundation. Unofficially recorded temperatures in the lower Ahora Valley Plain rise to extremes during the summer, often reaching 112ºF to 120ºF. The area up to the 12,000-foot level abounds in swarms of mosquitoes and flies. These insects are persistent even to altitudes as high as 13,500 feet. Winds were up to 90-150 miles per hour.

At the altitudes above 13,500 feet, with the warm winds coming up from the valley and meeting the cold air from the glacier, cross winds and currents of terrific velocity can and do spring up without notice, making any work above the 13,000 foot level hazardous and uncomfortable. Cloud formations normally start to form at above the 14,000 feet level in mid-morning, often towering to 20,000 feet within a few moments after starting to form, and prohibiting work above the level of visibility. Small storms spring up at a moment’s notice, and often leave as high as six inches of new snow in an overnight period. Water from the snow and glacial area of the mountain during the summer months constantly forms freshets and rivers which flow rapidly down the side of the mountain, generally disappearing within the mountain itself, prior to reaching the base. Potable water may be obtained from isolated springs. Except for isolated trails made by nomadic Kurds in pasturing and grazing their sheep and goats, there are no improved highways beyond Dogubayazit. Paul Nabors flew all around the mountain and landed at 12,500 feet elevation twice at Kıp Göl, shuttling VIPs and equipment from Dogubayazit to Kıp Göl. Paul planned to land on the summit as he had skis on the plane but the Foundation climbers did not have the summit marked in order to do so. Landing a plane at Kıp Göl in 1964 was more difficult than on the summit according to Nabors. Paul Nabors also stated that there was no National Geographic expedition during the entire time ARF was on the mountain.

An unfavorable climate was created for the expedition by the tense situation between Turkey and Greece, with increasing suspicion of the U.S., particularly after the early Acheson recommendation (favoring Greece) and the many anti-U.S. demonstrations. These harassed Operation 62 to the end as it was the sole expedition on Ararat in 1964. At least five major 1964 expeditions were planned for Ararat. None succeeded except this Foundation. And it was invited to return in 1965. However, because of these issues and maneuvers announced for the Ararat region, all permissions were in effect cancelled. Subsequently appeal was made through the U.S. Military Mission for the Aid of Turkey (JUSMMAT), delegated to his Chief of Staff, and Turkish-United States Logistical Force (TUSLOG). JUSMMAT personnel basically secured permission for entrance to Ararat including the plane, and TUSLOG men provided indispensable help with Customers officers, transportation and countless other needs. The fact that U.S. personnel are already established logistically, politically and diplomatically carries an expedition over difficult-to-impossible hurdles when dealing with problems that faced the Expedition. Military personnel from privates to General and Admiral gave our men every

legitimate courtesy and hearts full of encouragement. At least four parties for our personnel or similar occasions were arranged by various military individuals or agencies at the operation's end. The aid of the military saved Operation 62 many thousands of dollars. Food, lodging, transport of equipment, APO, Exchange privileges and general services. This statement is an over-simplification of tremendously complex problems interwoven with scores of government offices and agencies, civilian and military. Previous to developing a friendship with the Kurds, the Kurds (or Russian agents) had burglarized our camp of equipment, much of it personal, totaling more than $1,000. And planes from Russia flew into Turkey, around and over the Mountain at high altitudes. As many as 55 Kurds, men, women, and children, waited at a time for physical diagnosis or treatment, with totals going as high as 110 in a single day. Many amulets and charms are designed to ward off certain evils; to this end, a firm believe in the evil eye exists in the minds of most of the Nomadic peoples of Eastern Turkey. All new babies wear, someplace on their clothing, a replica, in bead form, of the human eye to ward off the evil eye. An example of superstitions and taboo was a twenty-five year old girl, who had been blind since the age of five years, and was brought to base camp by friends, for treatment. Her parents had refused her medical help for twenty years because of superstitions and a taboo. She had been kept in isolation. She was suffering from a trachoma-like condition of both eyes. A combination of allergy and infection had, through the years, produced an overgrowth of tissue that had resulted in complete blindness. She was treated with steroid therapy and Neo-aristocrat ophthalmic ointment (Lederie) every two hours. At the end of two weeks, the overgrowth of tissue had almost disappeared, the infectious process abated, and she was able to see quite clearly. The results obtained form American medical therapy spread with great rapidity throughout the whole area, and seemed to confirm in their own minds they believe in the superiority of the American physician over all others. This and other cases won the favor of the Kurd tribes of people. Whereas they had been stealing, they began to bring gifts of their meager means; a few eggs, a watermelon, a chicken, a donkey to ride on, an embrace of affection. Again and again, they pled for the expedition to return.

From the chief of the Turkish Staff, General Sunay, and the Ministers of virtually all government departments, down through their operating team (particularly such as Lt. General Tulga, Admiral Eyiceoglu, Colonel Kurdakul, and the Chief of the 3rd Army staff) to such civilians as Dr. Hikmet Belbez, Dr. Husamedain Guz and the men of the Middle East Technical University went out of their way to help us. One the Mountain, Colonel Kurdakul demonstrated clearly to us why he is the commandant of the Turkish Mountain Troop School. His balance at all times, his willingness to meet problems forthrightly, his trustworthy men, and his thorough acquaintance with mountain and camp problems made him of incalculable value to our expedition. Added to the many rounds of permission negotiations and repeated bad breaks were other problems: 1) Some records were not complete (e.g. Phillip's photos were not on his papers, etc.) 2) There had been a recent American death in the Ararat area (typhoid) 3) Another American had killed a Turk with his car, and lay in jail for months at Doğubayazit 4) There had been problems with Kurd bandits nearby 5) Some officials were suspicious of our plans and complex scientific gear 6) Admiral Eyiceoglu told JUSMMAT that the expedition appeared to some officials as "entirely too well organized, compared with other expeditions" 7) The very fine local governor (Agri) was taking no chances. Finally, JUSMMAT and the Turkish staff communicated directly with Lt. General Tulga, Turkey's Third Army Commander. General Tulga took things strongly in hand, and with the cooperation of the governor, cleared the way completely. After TUSLOG and the American Embassy cooperated to help clear the scientific equipment that had to be counted, the customs men decided the food should be taxed. There was "too much food to eat in one month." Tax was to be 80% to 100%. So we had to go through the routine again. This happened a total of five times. Meanwhile, the men at the Mountain could not clearly understand the Customers or permissions problems, and were becoming impatient. This was easy to understand, considering the mosquitoes and the sun, without adequate water and food, and because of poor communications facilities. George Silberberg and Sevket Kurtis were sent to the mountain to help out but then after 10 more days, they became impatient as well. Cromie and Dougall were always enthusiastic and anxious to move ahead, but time closed in on them, and they returned to the U.S. At this point, emergency personnel arrangements were made by utilizing sons of two TUSLOG colonels.

Ararat seldom makes itself "available" for more than a few weeks around August. Before and after that period, the chill weather freezes the snow and ice so that there is little or no drinking water and temperature are prohibitive. Second, the winds and clouds are genuinely dangerous; the area is so vast and without adequate landmarks, that a team can quickly lose its way when weather closes in. Third, the almost constant avalanches or falling rock constitute an ever-present hazard. Fourth, the crevasses with their sharp stalagmite and stalactite icicles this time of the year form potential chambers of horror or death. Near the expedition's end, in obscure weather, one climbing team experienced twenty "fall-ins" in one day, one as far as fifty feet. And one of the scientists left the Mountain with snow-blindness from failing to wear snow goggles for a period of ninety minutes while on the summit.

The nomadic people almost constantly lingered near the camp. Finally a "luncheon" was held for the "hajis" (leaders) of the main camps, to acquaint them with our purposes and to learn of them. Dozens of their camps with up to 50 or 75 persons (and uncounted sheep, goats, cows and horses) to a camp, were within a five mile radius of the Base camp. They come to the higher areas each year in May from the rock, mud and dung villages at the foot of the Mountain, and return in August. The ability of the Mercedes-Benz Unimog to operate in extremes of climate with a minimum of maintenance and carrying extreme loads over the rated capability of the vehicle was phenomenal. The high and heavy rocks proved a hard obstacle for the little Honda motorcycles. The Nikon cameras were in constant use and demand. The Head skis were greatly appreciated, the Turks, Olympic Skiers, taking special delight. An airfield was prepared at the

12,800-foot level where the Pilatus Porter plane (Swiss) was housed. The plane was used for reconnaissance flights around and over the mountain and for surveillance of the mountain crews operating on the ice cap.

Health problems of the expedition found at high altitudes included: 1) pulmonary Edema of high altitude 2) Snow blindness 3) Sun and window burns 4) Gastro-enteritis 5) Infections of the feet. One of the principal problems found at base camp, located at the 11,500 feet level, was that of flies, although not nearly as serious as below the 8,000 feet level. Although temperatures dropped to zero degrees Fahrenheit, this did not seem to destroy them or lessen their numbers.

Time on this expedition was insufficient to make a comprehensive or detailed botanical study. The flora found in the Mt. Ararat area is most unusual in a number of respects. Especially remarkable is its size, considering the altitude, its variety and freedom from disease. For example, the common thistle often grows to a height of over six feet, and the leaves of Plantago Virginica attain a length in excess of eighteen inches. The wide variety of wild plants include: 1) Alfalfa 2) Sugar Beet 3) Sweet Clover 4) White Clover 5) Watercress 6) Poppy 7) Peppermint 8) Cay (used in tea making). It is interesting to note that the hollyhock, so difficult to grow in some parts of the world, grows in profusion here. Edible plants include Iskin and Tusi. There are a number of plants, the leaves of which serve as seasoning for foods including: 1) Kekik 2) Nane 3) Asotu.

For geology, Mt. Ararat is a typical volcanic cone of composite structure. Samples of both basaltic and rhyelitic rocks were found. Ferruh Demirmen, Turkish geologist, and officials of the Geological Division of the Turkish M. T. A. have asked more further samples before making a full report. Samples brought to the U.S. have been examined by geologists of the Alabama Geological Survey, who is expected to recommend disposition for petrological and mineralogical studies and further sampling.

Our purpose of the 1964 field study was to investigate craters on Ararat's flanks, which have been assumed by some observers to be meteoritic in origin. No evidence was found to bear this out. All craters are undoubtedly associated with satellite cones and fissures on the flanks of the main cone. However, a large shallow depression near the base of Ararat, on the north side of the Doğubayazit road close to the Iranian border, should be investigated further. The large, steep cliff on the north side of Ararat, which heretofore was believed to have originated in a "tremendous explosion" during the last century, is actually the scar from an extensive landslide or series of landslides. Samples of rock were taken from outcrops in the area surrounding Ararat while field parties awaited clearance. Dip and strike of exposed strata were measured by Brunton compass. This geological data was plotted upon topographic maps prepared by the Turkish Army. A 1-inch:1,000-feet topographic map of the area above Lake Kip that was explored has been prepared. The map was made using plane table, telescopic alidade and rod. It has been tied to two Turkish Army benchmarks on Ararat. The Ice covering Ararat's summit consists of a slow-moving ice cap with only one major glacier located on the north side. Four lines of movement stakes were installed in two movement nets. It is intended to re-survey the positions of the stakes in 1965 and subsequent years to determine the dynamics of ice flow on Ararat. No artifacts of archaeological significance were found. The fact that the mountain ice is an ice pack, rather than a shifting ice formation (glacier) tolerates the possibility of the containment of an ancient artifact there, provide if the mountain is not totally volcanic.

On the basis of 1964 Ararat experience, the following suggestions are made to the Archaeological Research Foundation Directors:

Establish careful, solid relationships with both government and civilian agencies, and allow ample time for these negotiations.

Insure simplest equipment that will do the job. Avoid experimentation with any equipment. For example, to have attempted to land a De Havilland Caribou plane on Ararat would have been a disaster.

Allow six months or more for permissions.

Have all equipment, gear, and goods on hand and thru customs before sending personnel.

Assign a qualified cook and insure that he contracts to do the job.

Have a careful accounting plan. Suggest each man be given a per diem or so much spending money. Otherwise, receipting in several currencies and languages makes accounting almost impossible. Company should pay only lodging and transportation while not in camp above and beyond per diem.

Have one man responsible for major spending and giving of gifts, gratuities, etc.

Use indigenous and on-site personnel wherever possible.

Utilize more fully the services of such agencies as the Geological Division of the MTAO, Ankara, and Turkish universities.

Insure off-mountain rest periods at 10-day to 14-day intervals.

Be independent, though careful, in dealing with the Press.