

AFTERWORD C

Fruits of Their Labors

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William and Janice Street organized and led five different foreign expeditions for Field Museum of Natural History: two to Iran (1962–1963 and 1968), one to Afghanistan (1965), one to Peru (1975–76), and one to western Australia (1976–77). This book reviews just the first of these—each was a unique adventure of its own. The logistics of organizing an international scientific expedition are truly phenomenal. It takes special people with the right combination of patience, drive, political savvy, sensitivity, and intestinal fortitude to pull it off. For those special few who have led a successful expedition, there is probably no greater thrill. It remains a highlight of their lives. The inner satisfaction of successfully tackling formidable odds, accomplishing goals, and producing a valuable collection to be studied by generations of scientists is an indescribable feeling. Often the people who work together on such an expedition develop lifelong friendships far stronger than bonds developed under more normal circumstances.

Over two decades have passed since the Streets' first Iranian Expedition. It is appropriate to ask what was gained, what was learned, what was the long-term legacy of their effort. What happened to the specimens, the people? What were the products?

The most tangible products of an expedition are the specimens brought back for study. The Street expedition to Iran collected nearly thirty-five hundred specimens of mammals; several hundred specimens of birds, reptiles, amphibians, and fishes; and thousands of specimens of parasitic arthropods—the fleas, lice, ticks, and mites. To put this in world perspective, Field Museum's collections now house one of the finest collections of these groups in existence anywhere.

Preparation of specimens in the field requires a tremendous amount of work; however, it is just the beginning. Upon completion of the field work, all specimens must be carefully labeled, fumigated to prevent damage by insect pests, and packed for shipment home. Scientific specimens must be packed well enough to withstand the worst possible treatment at the hands of the shippers, and often that seems to be just what they receive! Once everything has arrived safely at the Museum, the pleasurable but extremely laborious process of sorting, labeling, and final preparation begins. Specimens that have been improperly labeled or prepared are worthless; thus these final steps are as critical as those that originally obtained the material. For the mammal specimens, skeletons of the smaller species such as shrews and bats are cleaned with the aid of dermestid beetles. Larger skeletons such as the wild sheep are cleaned in huge steam kettles. The result of both processes is beautiful white clean bone that will be resistant to decomposition when stored properly and will present scientists with material that is easy to study with accuracy. For the Iranian collections ten years were required for all specimens to be completely processed and finally incorporated into the research collections. They are now curated and actively being studied by a wide array of investigators.

The Street expeditions were especially valuable in that bright, young, enthusiastic, budding scientists were full participants. They were carefully chosen, then given full support both in direction by Museum staff and freedom to devote their energies totally to the project for several months. The Street expeditions were distinguished by the financial support provided to the young investigators afterward to prepare and study the collections in Chicago. This contributed significantly to the overall success of the enterprises. Training of future scientists, both in the United States and in the host countries, is one of the major roles of expeditions.

Doug Lay, the young mammalogist, went on to complete his Ph.D. studies, relying heavily on materials collected in Iran. He is now an active professional mammalogist, well respected as the world's foremost authority on the Mid-eastern gerbillinae rodents that he first met in Iran.

In addition, another Ph.D. dissertation study was based entirely on the Iranian collections. Anthony F. DeBlase's dissertation, a 424-page monograph entitled "The bats of Iran: Systematics, distribution, and ecology," was published in Field Museum's scientific series, *Fieldiana: Zoology*. It is considered the most authoritative work of its kind for all of Asia.

Fortuitously, Charles Reed, the Yale archaeologist, moved to Chicago and has utilized the Iran collections extensively in his studies to unravel the unknowns in how, when, and where man first domesticated animals such as goats, sheep, pigs, and dogs. With the aid of this material, techniques have been developed to distinguish bone fragments from archaeological sites that represent man's earliest domesticated animals. Additionally, age, sex, weight, and season of death can often be obtained now from mere fragments of bone,

thus providing insight into the lives of ancient peoples and how they utilized and modified their world—insights into how civilization developed.

Carolyn Renzulli, a doctoral candidate at the University of Chicago, currently is studying the wild sheep collected by the Streets. Her dissertation will be a study of the functional craniology of these sheep, and a test of a biomechanical model that she has developed for skull function in horned bovids. Her studies are possible only because of the depth and strength of Field Museum's collections. The current and future value of the specimens is greatly enhanced because of the care taken in the field to obtain the maximum data for each and to preserve each specimen properly.

We are frequently asked, "Do scientists really study all these things?" The answer is a resounding "Yes."

In addition to staff scientists at Field Museum, visiting mammalogists, anatomists, archaeologists, paleontologists, anthropologists, veterinarians, forensic scientists, and an array of government agencies interested in conservation, customs, and enforcement of wildlife laws utilize Field Museum's collection of over 127,000 mammals. During a recent twelve-month period scientists from twenty-eight states and eleven foreign countries spent some eight hundred visitor-days examining our mammal collections. In addition, we send out nearly a hundred loans of specimens each year to other institutions throughout the world. The loan and visitor use of Field Museum's scientific collections is one of the most extensive in the scientific world. And all of this goes on behind-the-scenes, outside of public view on the Museum's fourth and fifth floors.

The value of such an expedition is only partially realized when the specimens are safely tucked away in the Museum's collections. Their true value to science can only be measured over time, after the scientists study them. In recent years, an annual average of more than fifty technical papers and scholarly books have involved research in the mammal collections.

Tragically, Iran has been torn by war in recent years. The few reports we have concerning the current state of science and scientific collections in the country are disheartening. Apparently all scientific study collections, once a rich reflection of the region's history, are now destroyed and scattered. Additionally, many of the areas studied by the Street expedition have been ravaged by recent fighting. We must assume that the fighting and political turmoil in Iran has taken as significant a toll on wildlife and habitats necessary for wildlife as it has on human lives. Thus, the collections made by the Streets are truly irreplaceable.

Habitat destruction and the associated loss of wildlife is not a problem unique to Iran but is a global problem. It has been estimated that 60 percent of all species on the earth today will be extinct before scientists have a chance to study them. Time is running out. Will there be future people as farsighted as William and Janice Street assisting tomorrow's scientists?

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