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EMIL WALTER HAURY

1904—1992

A Biographical Memoir by
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CALEB VANCE HAYNES JR., AND
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Biographical Memoir

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AMERICAN ARCHAEOLOGY HAD difficulty overcoming its anti-Aquarian origins until the first decades of this century when Alfred Vincent Kidder (1885–1963, NAS 1936) shifted the emphasis in the southwestern region of the country from whole pots and cliff dwellings to potsherds and culture history. His *Introduction to the Study of Southwestern Archaeology*, published in 1924, was the first synthesis of the prehistory of any North American region based on professionally recovered empirical data. A handful of pioneering archaeologists in several regions of the country completed the transformation initiated by Kidder.

Emil Haury was preeminent among these regional archaeologists. Influenced and inspired by Kidder, Haury kept the Southwest in the forefront of these early paradigm shifts in American archaeology. He was responsible for accumulating much of the evidence that gives the Southwest the most complete culture history of any region of North America. The Southwest, with its spectacular landscapes, well-preserved ruins, and surviving Indian communities had long fascinated eastern and midwestern Americans, including young Emil Haury. He went to Arizona in 1925 to study with Byron Cummings (1860–1954), who had been exploring cliff dwellings in southern Utah and northern Arizona since before

the turn of the century. During the following four decades, Haury, building on the humanistic and antiquarian foundations laid by Cummings and others and following the scientific leads of Kidder, developed an understanding of southwestern prehistory that continues to be the basis of our perception of the region today. He devoted his long and productive career to development of field procedures for recovery of empirical data, establishment of chronological controls, setting of high performance standards, scientific training of students, creation of enduring educational and research institutions, and definition of a rational, evidence-based, environmentally sound, anthropological approach to the study of the past. He campaigned successfully for the formulation of a national policy for the protection of archaeological resources and for passage of laws to carry out that policy. He had a powerful influence on the shape and character of archaeology in American society. An internationally respected anthropologist and a member of the National Academy of Sciences since 1956, Haury died at home in Tucson, Arizona, on December 5, 1992.

PERSONAL HISTORY

Haury was born on May 2, 1904, in Newton, Kansas. His Mennonite grandparents had left Germany in the 1850s, seeking land, religious tolerance, and freedom from military service. His paternal grandparents left Bavaria and settled in Iowa, where Emil's father, Gustav Adolf Haury (1863–1926) was born. His mother, Clara Katharina Ruth (1865–1935) was born in Illinois, where her Bavarian parents had settled. Both the Haury and Ruth families moved to east-central Kansas, the main region of late nineteenth-century Mennonite settlement in this country. Gustav Haury and Clara Ruth were married on June 11, 1891, and raised a family of four sons: Irwin, Gustav, Alfred, and Emil. The

elder Gustav was one of the five founding faculty members of Bethel College in Newton, the nation's oldest Mennonite institution of higher learning. A professor of English and Latin, Emil's father was a highly respected faculty member who served Bethel College in many capacities for thirty-three years. Emil grew up in the modest, comfortable, and orderly family environment of the liberal Mennonite community of Newton, a small midwestern town that produced three professional archaeologists, all of whom studied at the University of Arizona: Haury, Waldo Rudolph Wedel (1908-96), and Roland Richert. Wedel, also the son of a Bethel founding faculty member and Emil's close boyhood friend, had a long and distinguished career at the Smithsonian Institution as an authority on Plains archaeology. Richert, whose father was a mathematics professor at Bethel College, served many years as an archaeological specialist in the southwest region of the National Park Service.

Young Emil, fascinated by American Indians, read many adventure stories about Indians and developed an interest in archaeology. His desire to become an archaeologist was fueled by a black-on-white potsherd that his parents picked up at the Walnut Canyon cliff dwellings near Flagstaff on a trip to Arizona in 1908. Emil pondered over that sherd and about Arizona Indians and years later remembered the sherd well enough to identify it in the taxonomic system for pre-historic southwestern pottery. He learned something about Arizona Indians as a youngster when his parents provided lodging for a young Hopi woman, Polingaysi Qoyawayma (Elizabeth Q. White, 1892-1990), who had been sent to Bethel College by Mennonite missionaries to the Hopi. A school teacher and a potter, she was an effective culture broker in a period when the Hopi people suffered many indignities while being forced to adapt to American ways. Emil and she

maintained contact with one another throughout her lifetime.

Haury attended public elementary school in Newton from 1910 to 1919 and high school at the Bethel Academy from 1919 to 1923. He went on to Bethel College for two years and might have become a high school teacher, as did many Bethel students, had Byron Cummings not visited Newton in 1924 to lecture on archaeology. Cummings had been persuaded by his friend Emil Richert Riesen (1884-1956), a former Bethel faculty member teaching philosophy at the University of Arizona, to stop in Newton on a trip east to seek funding for his excavations at Cuiculco in the Valley of Mexico. Haury met Cummings at that lecture and asked to be included in the exploration of ruins in northern Arizona. This contact resulted a year later in an invitation from Cummings to participate in the third season at Cuiculco, after which Emil accompanied Cummings to Tucson to complete his undergraduate education at the University of Arizona. He also studied with geomorphologist William Morris Davis (1850-1934) and paleontologist Alexander Stoyanow (1879-1974). He and two fellow students, Clara Lee (Fraps) Tanner and Florence May (Hawley) Ellis (1906-91), earned bachelor's degrees in archaeology in 1927.

Cummings was a warm and generous man who took a deep interest in his students. Haury continued that tradition with his own students, as those of us who have benefited from the warmth and support of the Haury family can attest. Emil's relation with Cummings went beyond the role of student; he was research assistant, right-hand man, and chauffeur for Cummings, especially in 1927 when Cummings was the ninth president of the University of Arizona. Cummings invited his three new graduates to attend the nation's first regional archaeological conference that

Kidder held in August 1927 at his excavation in Pecos, New Mexico. Florence Hawley was unable to go because her mother did not think that the group had an adequate chaperon, but Emil and Clara Lee benefited greatly from the opportunity to be student observers as the leading southwesternists debated the issues identified by Kidder. Haury twice hosted the Pecos Conference (in 1948 and 1951) at his excavations at Point of Pines in east-central Arizona and strongly supported it as an important forum for the exchange of field research results.

Cummings encouraged the three new graduates to continue their studies and they became the first recipients of master's degrees in archaeology at the University of Arizona. Cummings made them instructors for the 1928–29 academic year, thus launching them on their lengthy teaching careers, Emil and Clara Lee at the University of Arizona and Florence at the University of New Mexico. Employment made it possible for Emil to get married. He and Hulda Esther Penner (1904-87) were married in Newton on June 7, 1928, by her father Heinrich Daniel Penner (1862-1933), a distinguished minister and also one of the five founding faculty members of Bethel College. Hulda, the second youngest in a family of twelve, was born on February 27, 1904, in Hillsboro, Kansas. Her oldest sister, Rachel Rebecca Penner (1884-1956), was the wife of Professor Riesen on the faculty at Arizona. After graduating from Newton High School in 1921 and completing two years at Bethel College, Hulda taught elementary school in Brewster and Newton. She completed a bachelor's degree in music and German at the University of Arizona in 1961. Emil and Hulda had two sons: Allan Gene, an engineer born in 1934, and Loren Richard, a biological oceanographer born in 1939. Hulda died February 20, 1987.

Emil and Hulda came from a liberal Mennonite world

that placed high value on both education and progress, he from a German, she from a Russian homeland. Heinrich Penner and his wife, Katharina Dalke (1864-1944), were born in the large Molotschna colony established in southern Russia when in 1786 Catherine the Great exempted Prussian Mennonites from military service if they would settle on undeveloped land near the Black Sea. When the policy on military service changed, large numbers of Mennonites migrated in 1874 to Kansas, where they improved the growing of wheat, as well as flour milling and bread making, by introducing hard rust-resistant winter wheat.

Although the liberal Kansas Mennonites had no religious restrictions on transportation, electricity, and style of clothing, they shared many of the stern attitudes toward social behavior and biblical interpretation that characterized most Protestant groups in this country in the early years of this century. Hulda's father presented liberal ideas about the Bible for which he was both criticized and admired. Although Emil and Hulda abandoned many Mennonite doctrines, they never lost the traditional Mennonite values of hard work and industry, honesty and integrity, cleanliness, simplicity of living, personal loyalty, cooperation, and help for others.

DENDROCHRONOLOGY

In 1929 Haury became a research assistant to Andrew Ellicott Douglass (1867-1962), who instilled an appreciation in him for the power of the scientific method. As a result of his association with Douglass, Haury became a key figure in the development of tree-ring dating. An astronomer, Douglass had come to Arizona in 1894 to locate a site for the observatory Percival Lowell (1855-1916) would use in his study of Mars and its so-called canals. Douglass criticized Lowell's methods and interpretations, lost his posi-

tion in 1901, and five years later joined the faculty of the University of Arizona. Douglass was interested in long-term climatic change and hoped to find evidence of past sun spot activity in the growth record of coniferous trees. The primary product of that research was the development of dendrochronology or tree-ring dating, the most accurate method of dating archaeological events in the absence of a written historical record. Douglass had assembled a chronology extending from the present back to about A.D. 1260 using wood from living trees, historic buildings, Hopi pueblos, and prehistoric sites. He also had an earlier "floating" chronology of 585 years based on the cross-dating of archaeological timbers. He employed Haury and Lyndon Lane Hargrave (1896-1978), also a student of Cummings, to search for archaeological tree-ring specimens in sites with styles of pottery characteristic of the time gap between the two chronologies. On June 22, 1929, they found a charred beam fragment at the Show Low ruin that enabled Douglass to close the gap and date most of the well-known sites in the Southwest. Emil often spoke of that discovery as the most memorable experience of his career.

Haury, the first person to learn the Douglass method of dating, spent the following year processing the huge backlog of specimens Douglass had accumulated. In the spring of 1930 he also assisted Douglass in teaching the first course on tree-ring dating at the University of Arizona. Haury played a critical role in the subsequent development of dendrochronology. He set up a tree-ring laboratory at Gila Pueblo and in his landmark excavation of the Canyon Creek ruin provided the first significant contribution to the theory of archaeological tree-ring dating theory, demonstrated the importance of sampling beams from all parts of a site, and pointed out the value of beams as artifacts for inferring past behavior. In 1937 Douglass, astronomer Edwin Francis

Carpenter (1898-1963), and Haury were co-founders of the Laboratory of Tree-Ring Research at the University of Arizona, with Douglass as its first director. Haury trained and mentored three of the directors who guided the laboratory through the postwar years of growth and stabilization. Although Douglass is the father of tree-ring dating, it was Haury who provided the critical long-term, moral, intellectual, and administrative support. The Laboratory of Tree-Ring Research has expanded beyond the dating of archaeological sites to become an international center of biological, hydrological, and climatic research that is addressing the very problems that stimulated Douglass to begin his studies of tree growth almost a hundred years ago.

GILA PUEBLO

In 1930 Haury became assistant director of the Gila Pueblo Archaeological Foundation that Harold Sterling Gladwin (1883-1983) had established two years earlier in Globe, Arizona. Gladwin sold his seat on the New York Stock Exchange in 1922 and moved to Santa Barbara, California, where he met two people who changed his life. Fellow New Yorker Winifred Jones MacCurdy (1889-1965) helped found Gila Pueblo and in 1933 became Mrs. Gladwin. William North Duane (1869-1944) arranged a camping trip to northern Arizona with his cousin A. V. Kidder. Gladwin was enchanted both by the region and its prehistory and spent several seasons (1925-27) with Kidder at Pecos. Kidder became a member of the Gila Pueblo board and provided encouragement and advice to Gladwin for many years. Gladwin became totally fascinated by the archaeology of the Southwest and devoted his wealth and intellect to an almost feverish effort to survey the entire region, formulate new problems, challenge established positions, excavate key sites, and publish results in a timely manner. He was well into the first

phase of this herculean effort in 1930 and needed a professionally trained archaeologist to help him carry it out. Haury was a likely candidate not only because of his extensive field experience but also because of his knowledge of dendrochronology, for Gladwin, who had already begun to challenge Douglass, wanted to have his own tree-ring laboratory.

Haury's move to Gila Pueblo was perhaps his most important career decision, for it provided him with an unparalleled opportunity to do field research without the distractions of the academic and museum worlds. He chose Gila Pueblo rather than continuing with Douglass, teaching at the University of Arizona, or accepting a position at the U.S. National Museum. Gladwin's intellectual charisma and the prospect of extensive field work with prompt publication were important considerations. Another was Gladwin's willingness to provide half pay for two years of doctoral study if Emil would work for three years without a salary increase after earning the degree. Emil spent the 1931-32 and 1932-33 academic years at the Department of Anthropology at Harvard University, where he studied with archaeologist Alfred Marston Tozzer (1877-1954, NAS 1942), ethnographer Roland Burrage Dixon (1875-1934), and physical anthropologist Earnest Albert Hooton (1887-1954, NAS 1935). He had hoped to write a dissertation on the application of tree-ring dating in Egypt, but took Tozzer's advice and analyzed a large collection from southern Arizona excavated by Frank Hamilton Cushing (1857-1900) and the Hemenway Expedition in 1887-88. The resulting dissertation on the classic period of the Hohokam culture, written under Dixon's supervision, earned Haury a Ph.D. in anthropology in 1934. Published in 1945, his dissertation remains a basic reference for late Hohokam prehistory.

The years at Gila Pueblo gave Haury a breadth and depth

of field experience throughout the Southwest that is unique in the history of southwestern archaeology. He carried out extensive archaeological surveys in the Grand Canyon, the Sierra Ancha, the White Mountains, the Mimbres region, and southeastern Arizona. The Haurys accompanied the Gladwins on a wide-ranging survey to identify the western limits of the distribution of red-on-buff pottery. Emil excavated key sites in the plateau and canyon country of northern Arizona, the mountains of central Arizona and west-central New Mexico, and the southern Arizona deserts. Emil's stature, strength, and health enabled him to endure the rigors of travel and work in the sparsely populated, largely unmapped, and mostly roadless Depression-era Southwest. Because Gladwin insisted on prompt publication, Haury had many opportunities to present his conception of southwestern prehistory. He defined the Mogollon culture of the mountain zone of the Southwest and gave substance to Gladwin's Hohokam culture of the southern Arizona desert in the pages of the *Medallion Papers* published by Gila Pueblo.

By 1936 difficulties began to develop in the Haury-Gladwin relationship. Gladwin's tremendous creative energy, his insatiable desire to solve all the problems in southwestern prehistory simultaneously, his persistent challenge of established views, and his propensity (even though often tongue in cheek) to espouse unconventional, even outlandish ideas meant that though life at Gila Pueblo was stimulating, it was also tense. A. E. Douglass, who had his own problems working with a creative and wealthy employer (Percival Lowell), had warned Emil that it was often difficult in small, private organizations to deal with differences in an impersonal and objective manner. It was fortuitous, therefore, that Cummings came to Globe in the fall of 1936 to announce the start of his retirement at the end of that academic year and to ask if Emil would be interested in be-

coming head of the Department of Archaeology at the University of Arizona. Although the Gladwins at first approved of the proposed move, misunderstandings over the offer from Arizona added stress to the Haury-Gladwin relationship. Haury, enriched by seven years of intensive research in all regions of the Southwest, left Gila Pueblo and began his long and productive career at the University of Arizona in July 1937 as assistant professor and head of the Department of Archaeology at age thirty-three. After the full retirement of Cummings the following year, Haury was promoted to professor and appointed director of the Arizona State Museum.

UNIVERSITY OF ARIZONA

When Emil assumed the leadership role at Arizona, the university was a small land-grant institution, the state was a cattle-raising and mining frontier, and the nation was in the grip of the Great Depression. The legislature had drastically reduced the university budget and the faculty had been forced to take a series of salary cuts. The regents, governor, legislators, and various newspaper editors were busy trying to manage the affairs of the university, and the strong president, who had guided the institution through the early years of the Depression, had resigned in 1936. Cummings urged Haury not to make changes during this critical period, but his brother-in-law, Professor Riesen, now dean of the College of Liberal Arts, advised him not to waste the advantage of being a newcomer. Emil took his brother-in-law's advice and began a vigorous campaign to increase the budget, size of the faculty, library holdings, and student support. He changed the name of the Department of Archaeology to Department of Anthropology at the beginning of the 1937-38 academic year, recognizing

and continuing the four-field anthropological breadth in the curriculum that Cummings had been developing since 1915.

One of Haury's most important goals at the University of Arizona was the creation of a nationally competitive doctoral program. He mentioned this goal in his very first annual report, but recognized the need to expand the faculty, curriculum, and library holdings before proposing a new degree program. He continued to press for a doctoral program and his persistence was rewarded in 1948 when the University of Arizona was authorized by the Board of Regents to offer a Ph.D. in anthropology. The first graduates, Charles Corradino Di Peso (1920-82) and Joe Ben Wheat received their degrees in 1953. By the time of Emil's retirement in 1980, the Arizona Department of Anthropology had awarded 175 doctoral degrees, thirty of them under his direction. Although many other universities developed doctoral programs in subsequent years, only Arizona and UCLA (which also began its program soon after World War II) have entered the ranks of the top ten graduate programs in anthropology. That Emil achieved his goal of creating a nationally competitive program is symbolized by the fact that Arizona has ranked fifth in the last two rankings of graduate programs in anthropology by the National Research Council of the National Academy of Sciences.

The close relationship between experience in the field and learning in the classroom was at the very core of Emil's educational philosophy. He was a consummate field archaeologist. His many years of varied field experience coupled with his superb observational skills gave him a unique ability to extract fascinating bits of information from the most recalcitrant of archaeological contexts. He had a legendary reputation for identification and interpretation of small and unprepossessing potsherds. He believed that there should

be ongoing opportunities for student field experience, but found it difficult to create such opportunities during the academic year. He had great success in the development of a summer archaeological field school, an approach Cummings had begun in 1919 with "A Summer Course Among the Cliff Dwellers" and was continuing at Kinishba on the Fort Apache Indian Reservation at the time of his retirement. Haury built on the Cummings tradition with a field school at Forestdale, also on White Mountain Apache land in east-central Arizona (1939-41), and later at Point of Pines to the south on the reservation of the San Carlos Apache (1946-60). He believed that a field school had to offer students more than just the thrill of digging. The experience gained from the physical participation in excavation had to be supplemented by experience in field laboratory procedures and by lectures and discussions, even though such educational activities slowed down the research itself. The standards for field school training that he set at Point of Pines at the beginning of the postwar period have served field training programs throughout the country.

THE ARIZONA STATE MUSEUM

As director of the Arizona State Museum, Haury faced a different set of challenges. Cummings had been progressive in his conception of anthropology as a teaching department, but with respect to his concept of a museum, he was very much a product of the turn of the century. He was an indefatigable but indiscriminate collector who believed that everything possible should be exhibited. His exhibits were a kind of antiquarian hodgepodge with little interpretation and he paid only limited attention to basic museum concerns such as record keeping, storage, and conservation. In all fairness, however, Cummings had no staff and practically no budget. Haury was faced with the same problems

and although he changed policies, it took years to build the staff and resources to implement them. In 1944 Haury was able to invite an old Gila Pueblo colleague, Edwin Booth (Ted) Sayles (1892-1977) to be curator. When Emil retired from administration in 1964 after twenty-six years as director, he had increased the staff to thirteen and the budget from less than \$7,000 to almost \$110,000. Emil's policies brought order and professional standards to the museum. He reduced the clutter in the exhibit hall, produced explanatory labels, developed collection guidelines, introduced a modern catalogue system, and generated a concern for conservation.

Haury also gave a great deal of attention to the statewide responsibilities of the state museum for the protection of archaeological resources. In 1938 he established the Arizona State Museum site survey by expanding the system the Gladwins had established for the Gila Pueblo surveys. In 1950 he negotiated an agreement with the state land commissioner requiring a museum permit for archaeological work on state land and in 1959 convinced the Arizona Highway Department to establish the Arizona Highway Salvage Program. In 1960 he orchestrated the passage of a new Arizona Antiquities Act that corrected flaws in the law Cummings had obtained in 1927. He played an influential role in the creation of the Arizona Parks Board in 1957 and the subsequent designation of the state parks director as liaison officer (now state historic preservation officer) for the preservation programs of the National Park Service.

Two important gifts greatly increased the museum's holdings during Emil's directorship. Gladwin gradually lost interest in maintaining Gila Pueblo as an active research institution and in 1950 gave its collections and assets to the Arizona State Museum, more than doubling the museum's holdings of prehistoric southwestern ceramics. This gift guar-

anteed that the materials accumulated as a result of Gladwin's massive and seminal impact on southwestern archaeology would continue to play an important role in research on the prehistory of the region. In 1957 the Museum received as a bequest from Victor Rose Stoner (1893-1957), a Catholic priest in the Diocese of Tucson who had earned an M.A. under Cummings, a large library of rare and valuable materials on southwestern archaeology and ethnohistory. This bequest enabled Haury to establish the Arizona State Museum Library, which has benefited from many other gifts to become one of the nation's best anthropological research libraries.

REGIONAL AND NATIONAL INFLUENCE

Haury's institution-building activities at the University of Arizona were not limited to the Department of Anthropology and the Arizona State Museum. In addition to playing a key role in the development of the Laboratory of Tree-Ring Research, he helped establish the Geochronology Laboratories and the Office of Arid Land Studies, the Radiocarbon Age Determination Laboratory (now part of the Laboratory of Isotope Geochemistry), the Bureau of Ethnic Research (now the Bureau of Applied Research in Anthropology), and the University of Arizona Press. It was quite a shock for Haury to move from Gila Pueblo where Gladwin required publication as soon as possible after field work to the University of Arizona where there were very limited opportunities for scholarly publication. The University of Arizona Press was founded in 1959, along with the *Anthropological Papers*, as a direct result of Emil's persistence.

Haury was also active in professional affairs both regionally and nationally. In 1938 he and Frederic Huntington Douglas (1897-1956) of the Denver Art Museum, founded the Clearinghouse for Southwestern Museums, today the

Western Museums Association. He served on the boards of most of the anthropological organizations in the Southwest: Southwest Parks and Monuments Association, which established an annual award in his name (1938-83); Laboratory of Anthropology in Santa Fe (1938-60); Museum of Northern Arizona in Flagstaff (1938-82); Heard Museum in Phoenix (1940-54); and Amerind Foundation in Dragoon (1982-92). He played an important role in the development of the social sciences within the National Science Foundation; promoted federal action on threatened archaeological sites as the representative of the American Anthropological Association to the Committee for the Recovery of Archaeological Remains; provided leadership in the early sixties for many of the activities of the National Academy of Sciences; influenced federal conservation policy as a member of Interior Secretary Stuart Udall's National Park Service Advisory Board; and served on the National Council on the Humanities. He was an active president of the American Anthropological Association in 1955, although his presidency of the Society for American Archaeology in 1943-44 was just the opposite because of the second World War.

Haury was widely recognized for his achievements: Viking Medal for Archaeology in 1950; National Academy of Sciences in 1956, the first member of the Arizona faculty to be so honored; honorary LL.D. from the University of New Mexico in 1959; American Academy of Arts and Sciences in 1960; Salgo-Noren Foundation Award for Excellence in Teaching in 1967; American Philosophical Society in 1969; Fred A. Riecker Distinguished Professor of Anthropology in 1970, the first holder of the University of Arizona's first endowed chair; Conservation Service Award of the Department of the Interior in 1976; and the Alfred Vincent Kidder Award for Eminence in the Field of American Archaeology in 1977. Two funds in the Department of Anthropology at the Uni-

versity of Arizona, the Education (now Haury) Fund for Archaeology (1980) and the Emil W. Haury Graduate Fellowships (1990) honor Emil's long-standing desire to provide greater support to students.

RESEARCH ACCOMPLISHMENTS

One of the preeminent archaeologists of the twentieth century, Emil Haury was a perceptive researcher and a master teacher, a skilled administrator, and a dedicated institution builder. The uniqueness of his contributions, however, derives primarily from the breadth and depth of his archaeological research in the greater Southwest. He surveyed more of that territory, excavated more sites in it, observed more details of its prehistory, and gained a more sensitive perspective of its problems than any of his contemporaries. He possessed an enormous store of regional knowledge, witnessed first hand, that enabled him to identify key problems, select analytically appropriate sites for investigation, and make interpretations of lasting value because they were consistent with the quality and character of empirically recovered data. When Haury entered the field, little was known of the earliest periods of the occupation of the New World. The Anasazi culture found in the cliff dwellings and pueblos of the northern periphery of the region was thought to be characteristic of the entire region, possibly diluted or elaborated in varying degrees. Kidder recognized the inadequacy of this situation and recommended more research in the less known parts of the region. Haury was a key player in carrying out that recommendation, first under Gladwin's energetic and creative aegis and later on his own.

Emil first became interested in Paleoindians, the earliest inhabitants of the New World, during his senior year in college when he assisted Cummings in the excavation of a nearly complete mammoth skull overlying artifacts of the

Cochise or Archaic culture at Double Adobe in southeastern Arizona. He subsequently excavated two mammoth kill sites in the same region. The Naco site was the first occurrence of Clovis fluted points west of the continental divide. The Lehner site was the first site to yield secure dating by the radiocarbon method and the first Clovis site with elements of extinct fauna other than mammoth. His excavations at Ventana Cave southwest of Tucson revealed a 12,000-year stratigraphic sequence from Paleoindian times to the present, confirming a relative sequence of cultures in southern Arizona that had been pieced together from many sites with only limited stratigraphic information. To this day, Ventana Cave contains the most complete stratified Archaic sequence in the Southwest.

Haury collaborated with Sayles and geologist Ernst Valdemar Antevs (1888-1974) in the definition of the Cochise culture, the first evidence for the Archaic cultures that followed the Paleoindian big game hunters. His excavation of the Cienega Creek site at Point of Pines demonstrated the presence of Archaic peoples in the mountain zones possibly somewhat later than in the desert valleys. The site produced the earliest cremations and earliest evidence of tobacco smoking in the Southwest. He was deeply interested in the transition from the hunting and gathering cultures of the Archaic to the pottery-making farmers of later times. His work at the Matty Canyon sites suggested that late Archaic people had a maize farming economy derived from Mexico for as much as a thousand years before the introduction of pottery. Recent work by Bruce Benjamin Huckell, one of Haury's last students, and others has fully demonstrated the existence of large prepottery Archaic farming villages. At the other end of the time scale, Haury had a keen interest in the historic period, especially the trail of Francisco Vásquez de Coronado's futile search for the Seven

Cities of Cíbola. Haury believed that Coronado must have had a major base camp somewhere in southeastern Arizona, probably in the San Pedro valley. His interest included research on the Spanish presidio of Santa Cruz de Terrenate and the search for Quiburi by one of his first Ph.D. students, Charles Di Peso.

Gladwin, following Kidder's advice, focused his attention first on the archaeology of the southern Arizona desert. He proposed that a desert Hohokam culture be distinguished from the Anasazi culture of the northern plateau region. Haury joined Gila Pueblo just as these ideas were being converted into research problems. He became the chief field worker for the research on the Hohokam and ultimately coauthored with Gladwin the definition of this now basic culture in southwestern prehistory. Haury excavated a key Hohokam site, Roosevelt 9:6, which had been exposed by the receding water of Lake Roosevelt, making it one of the nation's first "salvage" archaeology projects. Haury's detailed comparative analysis of the Roosevelt 9:6 material paved the way for the much larger effort Gladwin initiated at the site of Snaketown on the Gila River Indian Reservation in 1934-35. The resulting landmark monograph defined and documented the Hohokam as a distinct culture that was widely accepted by the archaeological community. The dating of the early horizons was questioned and many scholars, including Gladwin, offered revisions of the Snaketown chronology. Haury returned to Snaketown in 1964-65 in an effort to clarify such problems, but was unable to resolve those relating to the chronology of the earlier periods, despite pioneering work in archaeomagnetism.

Although there was general acceptance for the Gladwin-Haury idea of a separate Hohokam culture, Haury's proposal of a Mogollon culture for the mountainous subregion between the desert and the plateau was met with consider-

able hostility. Haury planned his research at Forestdale and Point of Pines to generate new empirical data that would help legitimize the Mogollon concept. By promoting the Hohokam and Mogollon as cultures separate from the Anasazi, Haury emphasized the diversity of the prehistoric Southwest. By discussing these separate cultures in the context of the entire region he highlighted the underlying unity of the cultures in the Southwest. Emil's work in the Anasazi region was more limited, but by clearly defining Hohokam and Mogollon, he forced his critics, mostly Anasazi specialists, to clarify their conception of Anasazi. It is interesting to note that although Emil contributed little to the protohistoric period of southwestern prehistory, two of his projects were designed to provide evidence for that period. Papago (now Tohono O'odham) objections stopped the excavation of Batki, a site visited by Jesuit missionary Eusebio Kino, so Emil shifted attention to the excavation of Ventana Cave with its evidence for the earliest inhabitants of the Southwest. Similarly, the Bluff site was selected as a possible protohistoric Apache site, but it provided evidence that the Mogollon culture was not only distinct from Anasazi but in part predated it.

Haury's retirement years were active and productive. In 1989 the University of Arizona Press published his history of the Point of Pines Archaeological Field School. On July 6, 1990, he married Agnese Nelms Lindley, an old friend from Snaketown days. They traveled together throughout the Southwest, thoroughly enjoying visits to many of the sites he excavated. In August 1992, a few months before his death, they attended his last Pecos Conference held at Pecos National Monument on the sixty-fifth anniversary of his attendance as a student at the first Pecos Conference in 1927, symbolically closing the circle on his long and distinguished career.

Emil Haury's enduring contribution to the understanding of the prehistory of the Southwest derives neither from his pioneering Paleoindian research nor from his seminal definition of the Hohokam and Mogollon cultures, but rather from his clear delineation of a framework for the objective, rational, and creative study of the archaeology of an entire region. He presented a vision of archaeology and a definition of the Southwest as a whole that continue to stimulate new and exciting ways of recreating a more complete image of life in the ancient Southwest.

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