

*Fragile Patterns:  
The Archaeology of the  
Western Papaguería*

Edited by Jeffrey H. Altschul and Adri-  
anne G. Rankin. SRI Press, Tucson, 2008.

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“A lot of nothing!” To anyone who has driven by and perhaps even dared to stop and linger, the southwest corner of southern Arizona south of Interstate 8 between Casa Grande and Yuma appears as a vast, parched desert devoid of anything but sand, rocks, and sparse vegetation, with very hot summer days and freezing winter nights. Read *Fragile Patterns*, however, and your perceptions of this seemingly barren desert will be changed. If by some quirk you’ve found yourself intrigued by this vast expanse of sand and rock, and you know something about the area from your own research, either literary or in the field, *Fragile Patterns* will provide new perspectives and interpretations, as well as a better understanding of why and how people have lived here for centuries.

The stated purpose of the book (p. 8) is to assemble in one volume some six years of archaeological research sponsored by the U.S Air Force and focused on the Barry M. Goldwater Bombing Range in the Western Papaguería that would otherwise have been banished to what is known to researchers as the infamous black hole of “gray literature.” In that context, research papers are read by only those lucky enough to stumble

upon them. Thankfully, editors Jeffrey H. Altschul and Adrienne G. Rankin, who are, respectively, chairman of Statistical Research, Inc., a private cultural resource management firm, and an archaeologist with Luke Air Force base, have made this research available in a handsomely produced volume with something for everyone. For the professional archaeologist and the avid avocational archaeologist, there is a wealth of archaeological and ethnographic information on the Papaguería. For someone merely intrigued by the title or slightly familiar with the area, it offers very readable and generally understandable discussions of the current status of the archaeology, ethnology, and history of what is in fact a tremendously interesting, and in its own unique way, a beautiful part of Arizona.

*Fragile Patterns* consists of eight sections comprising 31 chapters. An introduction by the editors puts the main focus of the book, the Western Papaguería in a geographic and cultural perspective, setting the stage for a discussion of “the archaeology of the Western Papaguería in its broadest sense (p. 23).” The Western Papaguería is the most arid portion of the Sonoran Desert, stretching from the Gila River to the Gulf of California and from the Ajo Mountains to the Colorado River. It is the homeland of the Tohono O’odham peoples, once called the Papago, hence the Spanish name.

Part One, “The History of Western Papaguería Archaeology,” is one of my favorite sections. Here, five people are presented to the reader. Three are professional archaeologists — Malcolm Rogers (“Malcolm Rogers 1890–1960: Pioneer

Archaeologist," by Richard L. Carrico); Paul Ezell ("Paul Ezell in the Papaguería," by Bill Broyles), and Emil Haury ("History of the Papaguería Project, 1938–1942," by J. Jefferson Reid). Two are incredibly knowledgeable and talented nonprofessionals (their interest went far beyond that of most amateur or avocational archaeologists)—Julian Dodge Hayden ("Julian Dodge Hayden and the Sierra Pinacate: Pioneering Archaeology of the Western Papaguería," by Michael P. Heilen) and Norton Allen ("Norton Allen, Ernest Allen, and Ethel Allen in Southwestern Arizona and Southern California," by Alan Ferg and Richard A. Schwartzlose). Each left his own mark on the archaeology of the Western Papaguería, and their individual and collective contributions to the archaeology and ethnology of the area are the building blocks upon which later generations of archaeological research has been and continues to be done.

"Environment and Culture," Part Two of the book, consists of four chapters that discuss the regional landscape and environment ("Environmental Change in the Western Papaguería," by Manuel R. Palacios-Fest and Adrienne G. Rankin); geomorphology, landscape, and human occupation ("Geomorphology and Geoarchaeology of Northern Growler Valley," by Philip A. Pearthree, Andrea K. Freeman, and Jeanne E. Godaire); the paleoenvironmental history of a prehistoric reservoir ("Paleoecology of an Earthen Reservoir in Organ Pipe Cactus National Monument," by Manuel R. Palacios-Fest, James M. Bayman, Lisa W. Huckell, and Suzanne K. Fish); and prehistoric subsistence strategies ("Nonrivative Native-Plant Exploitation in the So-

noran Desert," by Rein Vanderpot, Jeffrey H. Altschul, Michael K. Lerch, and Michael P. Heilen). The specialists writing the chapters delve deeper into how and why the Hohokam exploited the available resources and developed a sophisticated knowledge of how to survive in the region. It will come as no shock that water is key to living in the Western Papaguería, and the analysis of a prehistoric reservoir in Organ Pipe Cactus National Monument provides not only evidence for year-round occupation but also explores implications for prehistoric trade and the long-held model of a two-village system, in which people moved between summer villages and winter villages to take advantage of seasonal resources. By focusing on certain kinds of features from roasting pits to village sites, prehistoric subsistence practices in the Sonoran Desert are analyzed and discussed.

Section Three, "Regional Archaeology," uses five case studies to examine the archaeology of specific areas in the Western Papaguería. It begins with "The Moberk and Rainy Day Sites: Two Thousand Years of Repeated, Episodic Occupation on the Northern Margin of the Western Papaguería," by J. Simon Bruder and Matthew E. Hill, Jr., that discusses two small sites representing Hohokam and Patayan occupations. Looking at these sites in terms of site function, chronology, cultural affiliation, subsistence strategies, exchange, and settlement patterns, the authors evaluate their data against ethnographic models for the Western Papaguería. They conclude that the models do not fully explain the two sites, and prehistoric occupation of the Western Papaguería is more complex and elusive than previous researchers anticipated.

David E. Doyel's "Edge Work: The Late Prehistory of the Gila Bend Frontier" explores the Gila Bend site (a.k.a. the Gatlin site) located at the far western edge of the Hohokam region and its relationship with the inhabitants of the Western Papaguería. Doyel makes extensive use of the collections and notes of Norton Allen, whose contributions were reviewed in Part One. The next chapter, "The Archaeology and Prehistoric Culture of the Sand Tank and Vekol Valleys," is by Jeffrey H. Altschul, Christopher J. Doolittle, and Jeffrey H. Homburg. After an insightful discussion of what is "culture," they address the "cultures" that called these valleys home and conclude with a short discussion revealing that how and what archaeologists write about a culture can affect others, particularly Native Americans. In "Toward Modeling Demographics in the Western Papaguería: Using Data from Milling-Implement Quarry and Production Sites in the Lower Colorado—Lower Gila River Region," Joan S. Schneider uses data from sites such as Antelope Hill along the lower Gila River and the Palo Verde Mountains Quarry District in the lower Colorado river valley to model demographics. The final chapter, "Environmental and Cultural Dynamics on the Southern Papaguería," by John Philip Carpenter, Maria Elisa Villapando, and Guadalupe Sánchez Miranda is important because it looks southward into northern Mexico. Their work spans a sequence from Paleoindian Clovis people through the Archaic hunter-gatherers to the Formative period Trincheras culture, synthesizing new and important data on the southern, less known, half of the Western Papaguería.

"Ideology" is the theme of Section

Four and is addressed in three chapters. "The Rock Art at Tinajas Altas: Cultural and Temporal Affinity," by Gayle Harrison Hartmann, Jane Kobler, and Mary Charlotte Thurtle, assesses the cultural and temporal affinity of rock art (petroglyphs and pictographs) at Tinajas Altas. After describing the rock art, comparing it with other southern Arizona rock art styles, and reviewing the archaeological and documentary evidence, the authors conclude that the occupants and artists "were late prehistoric or historical-period Piman speakers with close Patayan/Yuman ties (p.328)." Rick and Sandy Martynec's "Charlie Bell Canyon: Petroglyphs and the Archaic Presence" reviews the rock art found in a natural east-west passage through the Growler Mountains from Daniels Valley to the Growler Valley that was an important route because it had water in the form of a natural seep. Assessing the archaeology and the many petroglyphs along the route, the authors believe that perhaps as many as three-fourths of them are representative of the Western Archaic Rock Art Tradition, the others belonging to Hohokam, Patayan, and other groups that frequented the route. The final chapter, "Patterns of Stone," by Rein Vanderpot and Jeffrey H. Altschul, discusses the kinds, composition, possible functions, and relationships of rock cairns and geoglyphs in the Barry M. Goldwater Range. They distinguish between geoglyphs (additive ground figures or earth figures) and intaglios (subtractive figures where desert pavement is scraped away to form figures). They see these figures and cairns as part of a larger ritual landscape that in the interior of the Western Papaguería appears to be linked, albeit tenuously, to the Hia C-ed

O'odham. Those found in the lower Colorado River valley and adjacent deserts, however, are strikingly different from those on the Western Papaguería and are likely associated with River and Delta Yumans and the Cahuilla. Vanderpot and Altschul argue that geoglyphs, cairns, and intaglios are symbolic or ideological markers that require considerable more research before their interpretation, function, and meaning can begin to be better understood.

"Trade and Travel" are the topics of Part Five. Marcy Rockman's chapter, "The Importance of Places," addresses the pesky problem of isolated artifacts—the lone projectile point or pot break found seemingly in the middle of nowhere without context to a site or other artifacts. Rockman introduces a methodological and theoretical approach to addressing the ways in which isolates, in conjunction with settlement patterns, might be used to study land use in the Western Papaguería and elsewhere. This is a perplexing problem for archaeologists, and Rockman's chapter presents another approach to the growing discussion on how to deal with isolated artifacts. Elaborate shell jewelry is one of the hallmarks of the Hohokam, and in the next chapter, "Shell Trade and Subsistence in the Western Papaguería," Jerry D. Lyon, Mark C. Slaughter, and David B. Tucker look at prehistoric shell trade and subsistence as they investigate the role that the inhabitants of the Western Papaguería played in the movement of raw and finished shell artifacts. The authors examine how core villages were related to regional Hohokam shell trade and how the availability of water, food resources, and settlement patterns in the Western Papaguería might have influ-

enced shell routes and trading system. Items such as shell moved along established trails, and Kenneth M. Becker and Jeffrey H. Altschul's chapter, "Path Finding," addresses the extremely important role of trails in the Western Papaguería. The authors review the limited data on trail studies in general, the archaeology of trails, and how to distinguish between human and animal trails. They then look back at Malcolm Rogers's pioneering study of prehistoric and historical trails in southern Arizona and southern California. Their chapter highlights that fact that trails are a foundation for understanding patterns of regional prehistoric behavior; they represent a cognitive map of a people's homeland. Nonetheless, they are "a resource that is elusive. Trails are found everywhere in the desert pavement, but few have been found to lead anywhere" (p. 443). In the final chapter of Part Five, "Country Enough for Many Years of Conquest," William K. Hartmann presents an excellent chronological history of the first Spanish exploration by land and sea of northwestern Mexico and southeastern Arizona. The records of these explorers are the earliest eyewitness accounts of the land and inhabitants of the Western Papaguería, and Hartmann shows that a careful study of them can provide important clues for archaeologists as well as information about the people the Spanish encountered.

"Material Culture and Archaeological Remains" is the title of Part Six. The first of four chapters is by Richard V. Ahlstrom: "Ceramic Period Chronology of the Central and Eastern Papaguería." He reviews the ceramic and radiocarbon chronology of central and eastern Papaguería—portions of the Papaguería east

of the Ajo Mountains — from A.D. 400 to 1500, basing his analysis on data from numerous cultural resource management projects sponsored by the U.S. Air Force on the Barry M. Goldwater Range. He notes that in 2001, there were 68 radiocarbon dates for the region, a seven-fold increase from 1995. He discusses the basis of the Eastern Papaguería ceramic sequence and demonstrates its usefulness in analyzing ceramic data from the Central Papaguería. Ahlstrom also reviews the dated radiocarbon samples that present a record of the chronometrically dated events in the Central Papaguería. He then uses ceramic and radiocarbon samples “to date events, features, and sites within the Central Papaguería and to relate them, in chronological terms, to comparable phenomena in other regions” (p. 492). “Ceramic Use in the Western Papaguería” is the next chapter by Margaret E. Beck, who examines the problems of using ceramics to assign cultural affiliation, as well as how to use ceramics to place individual sites within larger settlement systems. She discusses what ceramics can and cannot tell the archaeologist about the interaction of mobile foragers and more sedentary groups in the Western Papaguería. Ceramics, she argues, can shed light on how mobile foragers and settled agriculturalists adapted to and survived in the arid Western Papaguería. The next chapter, by David E. Doyel, is “Investigating Hohokam Mortuary Practices at the Gila Bend Site with the Norton Allen Collection.” Doyel uses a sample (13 of 140 mortuary features) of the impressive collection of whole vessels and Allen’s maps, notes, drawings, and records to look at Hohokam mortuary practices. His study confirms the im-

portance of the Allen’s well-documented collection and shows that much more analysis needs to be done. Doyel’s chapter showcases the research potential of existing collections. In the final chapter, Koral Ahmet explains and demonstrates the use of low-level aerial photography in “Western Papaguería from the Air — Digital Imagery Using Kite and Balloon Aerial Photography.” The author explains how multiflare kites and helium balloons can be used to lift a camera cradle in low-wind or windless situations to provide quality digital photographs of sites and individual features. His system provides a stable platform for photography that is easily and quickly set up for use on a daily basis. Furthermore, rectified aerial photographs can be taken for conversion into scaled photographs or line drawings. He is working to integrate global positioning systems technology with the aerial photography to provide even greater utility for the archaeologist.

Part Seven, “Management of Cultural Resources,” consists of two chapters concerning the 1996 Western Papaguería workshop sponsored by the Air Force: “The Once and Future Western Papaguería Cultural Workshop” and “Draft Recommended Guidelines for the Management of Cultural Resources in the Western Papaguería.” Both are written by W. Bruce Masse and Adrienne G. Rankin. Masse, a former archaeologist with Luke Air Force Base, examines how a 1996 cultural workshop for archaeologists from federal, state, and local agencies; Native Americans; researchers; and the public was conceived, planned, and executed. Anyone planning a workshop with the intention of bringing together a diverse and competing group of partners would

do well to read about how this particular workshop was developed. The workshop received the *Renew America* award of excellence for its efforts to improve environmental sustainability. The second chapter presents the first published version of draft guidelines originally prepared for the 1996 workshop. They were to be reviewed and discussed during the workshop, but time constraints did not allow for this. Instead, the published version incorporates comments and ideas raised by participants of the workshop and is included as a planning tool for regional land-use planners.

Part Eight, "Cultures of the Papaguería: Past, Present, and Future," concludes *Fragile Patterns* and offers a Native American perspective on the Western Papaguería. The section begins with a discussion of the most important natural resource in the Western Papaguería—water. Authored by Adrienne G. Rankin, Lorraine M. Eiler, and Joseph T. Joaquin, "Water and the Human Spirit: Traditional Sacred Natural Surface Water" examines the real and symbolic importance of water for past and present cultures. It is a short but informative chapter about the various water sources found in the region, their association with and relationship to archaeological sites, oral traditions, healing power, and sacred sites. Lorraine M. Eiler and David E. Doyel next discuss the history of the Hia C-ed O'odham in "The Extinct Tribe." They take "the perspective of the Hia C-ed O'odham in discussing their origins, historical land-tenure patterns, traditional stewardship of natural and cultural resources, clashes in cultural belief systems, and purported extinction" (p. 607). I found the chapter interesting

because some 30 years ago when I was studying anthropology and archaeology, the Sand Papago, as the Hia C-ed O'odham were then referred to, were considered extinct. Eiler and Doyel argue that the archaeological perspective of the Hia C-ed O'odham as a nomadic lifeway much like that of earlier, Archaic (pre-ceramic) peoples is wrong and discuss why. They urge archaeologists to "think in new ways" when interpreting Hia C-ed O'odham culture, such as by talking to elders to learn their worldview. In the brief six pages of "Culture as an Applied Concept," Jeffrey H. Altschul presents a thoughtful discussion of several issues: the concept of culture, sacred sites, the question of who owns the past, the relevancy of archaeology, and the chasm separating archaeologists and Native Americans. It is a short but insightful point of view. The final chapter, "Elder Brother's Creation," was written by W. Bruce Masse and is a plea for archaeologists to talk with and listen to Native Americans to learn the Native American perspective about the archaeology they are interpreting. Using his own experiences as examples, Masse argues that Native American oral history "is real history, as real as any artifact or cultural site that we archaeologists and historians can define, study, and manage in the western Papaguería. Let us rejoice in the wisdom and lore of traditional cultures everywhere, and let us be proud of our shared place together as the products—however rough, blind, and mortal—of Elder Brother and all other creators" (p. 661).

SRI Press did a superb job in producing the volume. The use of color photographs throughout the book adds greatly to its appeal, but with more than 700 pag-

es, *Fragile Patterns* is not a pocket book. It is a book, however, that anyone interested in the cultures, archaeology, and history of southwestern Arizona needs to have. Archaeologists in particular will find an amazing amount of information between the covers, and the amount of research sponsored by the Air Force on the Barry M. Goldwater Range is truly impressive. My only minor concern is that some of the map texts are too small and difficult to read. That said, the Air Force and the book's editors did southwestern archaeologists a tremendous favor by making this volume possible.

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