

Contents

List of Figures	xv
List of Plates	xxi
List of Tables	xxiii
Foreword, by Jon S. Czaplicki	xxvii
Acknowledgments	xxix

CHAPTER 1

The Verde River and Desert Landscapes: Introduction to the Lower Verde Archaeological Project <i>Stephanie M. Whittlesey and Richard Ciolek-Torrello</i>	1
A River, a Land, and Many Peoples	4
Transition Zone Land and Rivers	7
Environmental Context	8
Research Issues	10
Horseshoe and Bartlett Project Areas	10
Research Parameters	11
Research Themes	11
Chronology and Cultural Sequence	11
Settlement and Subsistence Patterns	12
Domestic Organization and Site Structure	13
Cultural Affiliation	13
Lithic Use and Procurement	14
Yavapai and Apache Occupation	14
Exchange and Specialization	14
Summary	15

CHAPTER 2

Archaeological Landscapes: A Methodological and Theoretical Discussion <i>Stephanie M. Whittlesey</i>	17
Intellectual Sources of Landscape Theory	18
Landscapes: A New Approach	20
Landscape, Cognition, and Symbol	20
Nature and Culture	21
The Creation and Meaning of Landscapes	22
Toward Defining Archaeological Landscapes	23
Units of Analysis	23
The Formal Dimension	24
The Historical Dimension	25

The Relational Dimension	26
Summary	26
Landscapes and Archaeology	27

CHAPTER 3

The Vanished River: Historical-Period Impacts to Desert Landscapes and Archaeological Implications <i>Stephanie M. Whittlesey</i>	29
The Verde River Today	30
The Vanished River: Archaeological and Documentary Evidence of Environmental Change along the Verde River	32
Prehistoric Evidence of Riparian Environments	32
Documentary Records	34
Contextual Setting: Past and Present Riverine Landscapes	38
“The Most Wonderful Place”: Documentary Accounts of Desert Rivers, 1690–1900	39
Spanish Colonial Period	39
Early Trappers in Arizona	40
The Mexican-American War, Boundary Surveyors, and Forty-Niners	41
Southern Arizona	41
The Gila and Salt Rivers	42
The Colorado River	42
Northern Arizona	42
Human Modifications to Riverine Environments	43
Beaver Eradication	43
Vegetation Changes and Erosion Associated with Livestock Grazing	46
Woodcutting	47
Who Has Paid the Price? Consequences of Historical-Period Land-Use Practices	48
Disappearance of Cienegas and Marshlands	48
Historical-Period Flood Events	49
Arroyo Cutting	51
Waters of Change: Implications for Archaeology	51
Historic Irrigation and Riverine Conditions	52
Traditional Farming Practices and Impediments to Irrigation	54
Summary and Conclusion	56

CHAPTER 4An Overview of Research History
and Archaeology of Central Arizona*Stephanie M. Whittlesey* 59

The Verde River 60

Middle and Upper Verde Regions 61

Early Studies 61

Cummings in the Verde Valley 66

Harold S. Colton and the Sinagua Culture . . . 68

Albert H. Schroeder, the Sinagua, and the
Hakataya 71Arizona State University, Arizona State
Museum, and Other Research 72

The Lower Verde Region 74

Reconnaissance and Early Professional
Studies: Setting the Stage 74

Bandelier 74

Mindeleff 74

Mercer Ruin 76

Other Early Studies 76

Byron Cummings and the Mercer Ruin . . . 78

Small-Scale Investigations: 1940–1980 79

Frank Midvale and Irrigation Systems of
the Lower Verde Region 79

Survey and Excavation 81

Shaffer Site (AZ U:2:29 [ASU]/189) . . . 81

Brazaletes Pueblo (AZ U:2:1 [ASU]/53) . . . 82

Intensive Investigations:

U.S. Bureau of Reclamation 82

Central Arizona Water Control Study
(CAWCS) 85

Davenport Ruin

(AZ U:2:171 [ASU]/584) 86

Ister Flat Ruin

(AZ O:14:64 [ASU]/577) 87

Historical-Period Archaeology 87

Background for LVAP 87

Summary 90

Tonto National Forest 90

Sears-Kay Ruin (AZ U:1:1 [ASU]/74) . . . 92

Azatlan 94

Other Projects 94

A Summary of the Archaeological Sites in the

Lower Verde Study Area 97

Pre-Classic Period Sites 100

Dry Wash Site (AZ O:14:51/133) 100

Classic Period Sites 101

Single-Room Masonry Sites 101

Sites with Multiple Isolated Rooms 102

Contiguous Masonry Units 103

Larger Masonry Sites 104

Defensive Sites 104

Rockshelters 106

Lithic Scatters and Quarries 106

Tonto Basin and Payson Region 106

Upper and Lower Tonto Basins 107

The Payson Area 116

Reclamation and the Salado Culture 119

The Agua Fria River 119

The Prescott Region and
the Upper Agua Fria River 120

Mesas and Canyons 123

The Northern Periphery: Lower Agua Fria River

Archaeological Surveys and

Small-scale Excavations 125

Big Water-Control Projects 126

Granite Reef Aqueduct 126

U.S. Army Corps of Engineers 126

Central Arizona Water Control Study 129

New Waddell Dam 129

Other Projects 130

Phoenix Basin 130

Research Summary 137

Environment and Research History 138

Paradigm Shifts and Explanatory Models 139

Indigenous Cultural Traditions 140

Conclusion 140

Note 141

CHAPTER 5

Yavapai and Western Apache

Ethnohistory and Material Culture

Stephanie M. Whittlesey and Su Benaron 143Yavapai, by *Stephanie M. Whittlesey* 144

Language, Territorial Groups, and Demography . . 144

Origins 144

Social and Political Organization 146

Subsistence and Settlement Systems 147

Subsistence Components 147

Scheduling of Subsistence Activities 149

Site Types and Architecture 149

Material Culture 154

Ceramics 154

Lithics 160

Western Apache, by *Su Benaron*and *Stephanie M. Whittlesey* 162

Language and Origins 162

Demography and Territory 162

Social Organization 164

Subsistence and Settlement Systems 165

Components 165

Scheduling 166

Wild Plant Resources 166

Hunting 167

Agriculture 167

Plot Selection	168
Ownership	168
Field Preparation and Division of Labor . .	169
Irrigation	170
Harvest	170
Trade and Raiding	171
Site Types and Architecture, by <i>Stephanie M. Whittlesey</i>	172
Material Culture	175
Ceramics	175
Lithics	177
Summary and Discussion, by <i>Stephanie M. Whittlesey</i> .	178

CHAPTER 6

Yavapai and Western Apache Archaeology of Central Arizona

<i>Stephanie M. Whittlesey, William L. Deaver, and J. Jefferson Reid</i>	185
The Lower Verde Archaeological Project, by <i>Stephanie M. Whittlesey</i>	186
Site 66/1157	186
Flaked Stone Artifacts	186
Ceramics	187
Discussion	188
Archaeological Site Database	189
The Yavapai Construction Camp at Bartlett Dam	190
The Camp at Horseshoe Dam	191
Yavapai Archaeology, by <i>Stephanie M. Whittlesey</i>	193
Historical-Period Yavapai Sites near Prescott . .	193
Early-Twentieth-Century Yavapai	
Occupation at Fort McDowell	194
Other Archaeological Evidence	195
Western Apache Archaeology	196
East-Central Arizona, by <i>Stephanie M. Whittlesey</i> . .	196
Wickiup 2 at the Grasshopper Spring Site and the Dating of Western Apache Occupation, by <i>J. Jefferson Reid</i>	197
Apache in Basketmaker III Times?	197
Wickiup 2 at the Grasshopper Spring Site	198
<i>Terminus ante Quem</i>	198
Tonto Basin and Payson Areas, by <i>Stephanie M. Whittlesey</i>	200
Upper and Lower Tonto Basin and Globe-Miami Areas	200
The Apache Camps at Roosevelt Dam	202
Payson Area	203
Dating the Protohistoric and Early Historical Periods in the Desert Transition Zone: A Critical Review, by <i>William L. Deaver</i>	203
Protohistoric and Early-Historical-Period Dates in the Desert Transition Zone	204

Evaluation of the Radiocarbon Dates	204
Summary	210
Identifying the Yavapai and Western Apache Archaeological Record, by <i>Stephanie M. Whittlesey</i>	210
Diagnostic Features of Yavapai and Western Apache Material Culture	211
Diagnostic Artifacts	211
Reuse and Alteration of Artifacts	212
Use of Prehistoric Material Culture	212
Ritual Destruction of Personal Property	212
Attenuated Artifact Assemblages	213
Archaeological Formation Processes	213
Conclusion, by <i>Stephanie M. Whittlesey</i>	214

CHAPTER 7

Two Archival Case Studies in Western Apache and Yavapai Archaeology

<i>Alan Ferg and Norm Tessman</i>	215
Introduction, by <i>Stephanie M. Whittlesey</i>	215
The Beginning of Western Apache Ethnoarchaeology: The Goodwin and Sayles 1937 Verde Survey, by <i>Alan Ferg</i>	216
The Survey and Its History	216
Site Descriptions	220
Goodwin-Sayles Site 1	220
Goodwin-Sayles Site 2	222
Goodwin-Sayles Site 3	223
Goodwin-Sayles Site 4	223
Goodwin-Sayles Site 5	223
Goodwin-Sayles Site 6	223
Goodwin-Sayles Site 7	224
Goodwin-Sayles Site 8	225
Goodwin-Sayles Site 9	225
Goodwin-Sayles Site 10	226
Goodwin-Sayles Site 11	226
Artifacts	227
Pottery	227
Ground Stone	227
Metates	227
Manos and Hand Stones	227
Pestles	228
Arrowshaft Straightener	228
Axe	229
Ball	229
Flaked Stone	230
Projectile Points	230
Point Preforms, Finished Bifaces, Drills . .	230
Bifacially Retouched Pieces, Bifacial Cores, Scrapers, Retouched Flakes, Utilized Flakes, Choppers, Tabular Knife	230

Miscellaneous Stone	235	Shirt or Blouse	266
Hide Pounder.	235	U.S. Army Saddle Blanket	267
Nut Cracker and Anvil (?)	235	Vegetal and Wooden Artifacts	267
Pitted Stone	235	Prepared Basketry Splints.	267
Unworked Pebbles	235	Cactus Tongs	267
Calcite and Argillite	235	Arrow Foreshafts (?)	269
Bows and Arrows	235	Fire Drills and Possible Hearth.	271
Differentiating Prehistoric, Western Apache, and Yavapai Components	235	Worked Sticks	273
Reuse/Reoccupation of Prehistoric Sites	236	Identifying and Differentiating Yavapai and Western Apache in the Archaeological Record	273
Flaked Stone	236	Nanni-chaddi, Delshay, and Wah-poo-eta	273
Ground Stone	237	Nantaje	275
Pottery	238	“Yavapai-Apache” as a Genuine Protohistoric Entity.	275
Summary	239	Notes	277
The Mortal Remains of Ethnicity: Material Culture and Cultural Identity at Skeleton Cave, by Alan Ferg and Norm Tessman	240	Acknowledgments.	279
Introduction	240	Goodwin-Sayles Survey, by Alan Ferg.	279
The Name.	240	Skeleton Cave, by Alan Ferg and Norm Tessman	279
The Massacre	243		
Rediscovery, Photographs, and Unwanted Publicity	247	CHAPTER 8	
Mr. Lewis, 1892, and P. C. Bicknell, 1896.	247	Euroamerican History, 1540 to the Present	
Jeff Adams and Sons, and Ivy Crabtree, February 4, 1906	247	Stephanie M. Whittlesey, Teresita Majewski, John R. Welch, Matthew C. Bischoff, and Richard Ciolek-Torrello	281
James H. McClintock, 1907	248	Periods and Themes in	
Walter Lubken, January 29, 1908	248	Lower Verde Regional History	281
George Wharton James, 1917.	249	The Period of Exploration, 1540–1848	282
Orville Harry Brown and the McCulloch Brothers, 1918 or 1920 (?)	249	The Assertion of American Control, 1849–1874	285
Carlos Montezuma and the Fort McDowell Burial Party, 1910s or 1920s	250	Trappers and U.S. Military Explorers.	285
S. O. Peterson, 1923	252	Mining.	287
Hikers and Looters, 1950s–1990s	252	Yavapai and Apache Struggles.	290
The National Register of Historic Places, 1990	253	Ranching, Homesteading, Agriculture, and Water Development: 1874–1945.	295
Human Remains and Artifacts	253	Homesteading Law	295
Human Remains	254	Ranching and Homesteading	296
Cow or Horse Bones.	256	The Cattle Industry in Central Arizona	296
Flaked Stone Artifacts	256	Homesteading, Farming, and Mormon Settlement	298
Ground Stone Artifacts	256	Water Resources Development	299
Metates	257	The Era of Dam Building	301
Hand Stones.	257	Mining, Ranching, Farming, and Water in the Lower Verde Region	302
Discussion	257	Mining.	302
Pottery	257	Ranching	304
Metal Artifacts.	259	Sheep Ranching	304
Arrowhead.	259	Cattle Ranching.	306
Bucket	261	Farming and Homesteading	308
Pan.	262	Irrigation Agriculture and Water Resources Development.	310
Cartridge Cases	263	Irrigation Agriculture	310
Rifle	264	The Eyes of Phoenix on the Verde.	316
Roller Buckle	264		
Textiles	264		
Possible Navajo Wearing Blanket	264		

Horseshoe and Bartlett Dams	318
After the Dams	319
Historical Profiles of the Apache and Yavapai	
Reservations in Arizona, <i>by Teresita Majewski</i> . .	319
Fort Apache Reservation	323
San Carlos Reservation	324
Fort McDowell Reservation	327
Yavapai Apache Reservation	329
Yavapai Prescott Reservation	330
Tonto Apache Reservation	331
Apache-Yavapai Interaction on the Reservation .	332
Evidence for Apache and Yavapai	
Interaction on the Reservations	333
Summary	335

CHAPTER 9

Environmental Variability and Agricultural Economics	
along the Lower Verde River, A.D. 750–1450	
<i>Carla R. Van West and Jeffrey H. Altschul</i>	337
The Environment of the LVAP Area	337
Physiography	337
Hydrology	339
Climate	341
Summary	341
Evidence for Agriculture in the LVAP	341
Botanical Remains	341
Archaeological Features and Artifacts	344
Geomorphic and Edaphic Data	346
Summary	349
Modeling Prehistoric Agricultural Productivity	
in the Horseshoe Basin	349
Paleoenvironmental Data	350
Prehistoric Stream Flow Variation	350
Prehistoric Soil Moisture Conditions	354
Study Area: The Horseshoe Basin	354
Arable Land	354
Crop Yield	355
Irrigated Crop Yield	355
Nonirrigated Crop Yield	367
Summary	368
Modeling Population Size and Carrying Capacity .	368
Agricultural Landscapes in the LVAP Area,	
A.D. 750–1450	369
The Colonial Period	369
The Sedentary Period	372
The Early Classic Period	372
The Middle Classic Period	372
The Late Classic Period	372
Summary, A.D. 750–1450	373
Evaluating Theoretical Carrying Capacity:	
Labor-Based Approaches	375
Maize	375

Cotton	376
Agave	377
Summary	378
A Comparison of Agricultural Potential	
in Tonto Basin	378
Agriculture in the Transition Zone of	
Central Arizona: Sustainable or Not?	389

CHAPTER 10

Temporal Variation in Undecorated Pottery:	
A Tool for Chronology Building	
<i>Barbara K. Montgomery and Stephanie M. Whittlesey</i> .	393
Methods	393
Establishing the Approach	393
Sampling the Ceramic Collections	395
The Sherd Sample	395
The Sample of Reconstructible Vessels	396
Analytic Techniques	396
Defining Attributes with Temporal Sensitivity	396
Weak Temporal Attributes	399
Specific Jar Form	399
Blackened Surface Finish	401
Vessel Size and Wall Thickness	401
Strong Temporal Attributes	402
Trends among Sherd Collections	402
Temper	402
Red Slip	403
Polish	404
Trends among Reconstructible Vessels	405
Modeling Temporal Variation	407
Colonial versus Sedentary Periods	
as Distinguished by Temper	407
Classic Period as Distinguished by Slip and Polish	411
Summary	411
Conclusions	412
Note on Nonmetric Multidimensional Scaling	
as a Ceramic Seriation Technique,	
<i>by Jeffrey H. Altschul and Deborah L. Huston</i> . . .	414
MDS: Conceptual Design	414
Points of Concern in Using MDS	
with Archaeological Data	415
LVAP Analysis	415

CHAPTER 11

Toward a Unified Theory of Ceramic Production	
and Distribution: Examples from the	
Central Arizona Deserts	
<i>Stephanie M. Whittlesey</i>	417
The Materialist-Ecological Model of	
Ceramic Production and Distribution	417

A Comparative View of Ceramic Production	
and Distribution in Central Arizona	419
The Lower Verde Valley	421
The Pre-Classic Period	421
Direct Evidence for Pottery Manufacture	422
Temper and Petrographic Evidence	422
Plain Ware Vessel Form	427
Decorated Pottery	427
The Classic Period	430
Direct Evidence for Pottery Manufacture	430
Temper and Petrographic Data	430
Plain Ware Vessel Form	431
Decorated Pottery	431
Regional Comparisons	433
The Pre-Classic Period	433
Agua Fria Drainage	433
Tonto Basin	435
The Classic Period Tonto Basin	436
Summary	438
Ceramic Landscapes: A Contemporary Perspective	439
Procurement	441
Distribution	443
Use	445
Conclusions	445

CHAPTER 12

Chronological Issues of the LVAP

<i>William L. Deaver</i>	447
Dating Prehistoric Cultural Developments	
in the LVAP	448
The Archaeological Periods	448
Period 1: Circa A.D. 700–950	448
Hiatus: A.D. 950–1000	448
Period 2: A.D. 1000–1125	452
Period 3: A.D. 1125–1360	452
Chronologies of LVAP Study Area Sites	452
Horseshoe Dam Study Area	452
Bartlett Dam Study Area	455
Discussion	456
Evaluating the Synchronicity of Cultural	
Developments in the Desert Transition Zone	
and the Phoenix Basin	457
An Archaeological Framework for the Prehistory	
of the Hohokam Culture Area	457
The Early Period: Pre-Hohokam	460
The Middle Period: Hohokam	
Expansion and Retraction	461
The Late Period: The Classic Period	462
The Chronometric Database	463
Contextual Information	464
Archaeomagnetic Data	465
Radiocarbon Data	465

The Phoenix Basin and	
Desert Transition Zone Chronologies	466
The Radiocarbon Evidence	466
Sequential Order of	
Chronological Intervals	467
Contemporaneity of	
Chronological Intervals	468
The Archaeomagnetic Evidence	471
Sequential Order of	
Chronological Intervals	473
Contemporaneity of	
Chronological Intervals	476
Early Period I/Red Mountain Phase	476
Middle Period I/Snaketown Phase	476
Middle Period II/Gila Butte Phase	477
Middle Period III/Santa Cruz Phase	477
Middle Period IV/Sacaton Phase	480
Late Period/Classic Period	480
Synthesis of Radiocarbon and	
Archaeomagnetic Data	480
Observations on the Phoenix Basin	
Chronological Sequence	485
Observations on the Desert Transition Zone	
Chronological Sequence	486
Summary	486
Conclusions	489

CHAPTER 13

Site Structure and Domestic Organization

<i>Eric Eugene Klucas, Richard Ciolek-Torrello, and</i>	
<i>Charles R. Riggs</i>	491
Introduction	491
The Built Environment and	
Domestic Organization	491
Households, Settlement Structure,	
and Economy	492
Identification of Domestic Units	493
Courtyard Groups and Compounds	493
House Function	494
Methods	496
The Identification of Courtyard Groups	496
Characterization and Analysis	
of the Built Environment	497
The Pre-Classic Period Sample	498
Scorpion Point Village (80/819)	498
The CTC Site (95/1134)	504
The Middendrum Site (107/318)	504
The Damview Site (106/316)	505
The Classic Period Sample	505
Roadhouse Ruin (73/167)	505
Architecture and Construction Sequence	505
Other Features	509

The Lone Juniper Site (75/751)	509
The Little House Site (85/286)	510
The Results.	510
The Pre-Classic Period.	510
House Size and Function.	510
Courtyard Groups.	512
The Classic Period	516
Discussion	518
Regional Comparisons	519
Summary and Conclusions	526

CHAPTER 14

Prehistoric Settlement and Demography in the Lower Verde Region	
<i>Richard Ciolek-Torrello</i>	531
Settlement in the Transition Zone and Adjacent Areas	533
The Preceramic Period.	533
The Early Formative and Pioneer Periods	533
The Colonial Period.	535
The Sedentary Period	537
The Early Classic Period.	543
The Late Classic Period	549
The Lower Verde Archaeological Region.	554
Pre-Classic Period Sites and Settlement Patterns	555
Pre-Classic Period Sites in the Confluence Area	559
Pre-Classic Period Sites in the Bartlett Area	560
Pre-Classic Period Sites in the Horseshoe Basin	562
The Classic Period	564
Classic Period Sites	565
Small Habitation Sites	565
Medium-Sized Habitation Sites	569
Large Habitation Sites	570
Fortified Sites.	573
Platform Mounds	573
Irrigation Canals.	575
Dryland Farming Systems	576
Discussion	579
Population and Carrying Capacity.	580
Pre-Classic Period Population	581
Hamlet/Village Sites	581
Farmsteads and Small Hamlets	583
Classic Period Population.	583
Discussion	585
Summary and Conclusions	588

CHAPTER 15

Rethinking the Core-Periphery Model of the Pre-Classic Period Hohokam	
<i>Stephanie M. Whittlesey</i>	597
Conceptual History:	
Three Models of Hohokam Culture	598
The Gladwinian Model	598
The Core-Periphery Model	600
The Hohokam Regional System.	601
What's Wrong with This Picture?	
Intellectual Issues in Modeling Hohokam Culture on a Regional Basis	602
The Core-Periphery Model and State-Level Societies	602
Applying the Model in Prehistoric Situations	604
Defining Cores and Peripheries.	605
Identifying Territories and Boundaries	606
Empty Niches and Migrations	607
Core-Periphery Relationships:	
Dynamic or Static?	608
A Comparative View of Regional Variability in Hohokam Culture.	609
Decorated Pottery	609
Ball Courts.	614
Cremation Mortuary Complex	616
Site Structure	618
Summary.	619
Unpacking the Hohokam Culture.	620
The Geographic Basis of Hohokam Culture.	620
Rivers and Basins	620
Environmental Carrying Capacity	621
The Religious Basis of Hohokam Culture.	622
The Economic Basis of Hohokam Culture.	623
Exchange and Interaction Processes	623
Logistical Mobility.	624
The Social Basis of Hohokam Culture	626
Conclusions	627

CHAPTER 16

Return to Migration, Population Movement, and Ethnic Identity in the American Southwest: A Peer Reviewer's Thoughts on Archaeological Inference	
<i>J. Jefferson Reid</i>	629
Migration Revival	630
Rouse's Migration Criteria Revisited	631
An Analogue Model of Archaeological Inference.	631
Migration at Grasshopper: History and Structure of a Migration Inference	633
Population Mobility	634
Ethnic Identity, Ethnic Coresidence, Ethnogenesis	635

Culture and the Unbearable		Transition Zone Architecture.	679
Necessity of Ethnicity.	635	Mortuary Practices	682
Ethnic Coresidence	636	Indigenous Traditions: A Summary	683
Ethnogenesis	637	Joint Use, Population Movement, and	
Beyond Compliance and the Confines of		Colonies in the Transition Zone	684
Processual Thought: An Assessment of		Summary	687
the Lower Verde Archaeological Project . .	637	Land-use Systems: Adaptations to the Desert	
		Transition Zone, <i>by Richard Ciolek-Torrello</i>	689
		Forager-Farmers	690
		Village Farming	690
		Pueblo Village Farming	693
		Processual Perspectives on Social Organization,	
		<i>by Richard Ciolek-Torrello</i>	696
		Agricultural Intensification	
		and Organizational Change.	696
		Social Complexity	697
		Adaptive Mobility and Sequential Hierarchy. . . .	699
		Summary and Conclusions,	
		<i>by Richard Ciolek-Torrello</i>	701
CHAPTER 17		CHAPTER 19	
The Lower Verde Archaeological Project,		Landscapes and Lives along the Lower Verde River	
Big Projects, and Cultural Resource Management		<i>Stephanie M. Whittlesey</i>	703
<i>Jeffrey H. Altschul</i>	639	Desert River and Land: Prehistoric Landscapes. . . .	704
Big Projects: Definition	640	Traditional Territories	705
Big Projects: A Historical Sketch.	640	Agricultural Landscapes	706
WPA Archaeology	640	Procurement Space	707
River Basin Surveys	642	Dwelling Space: The Built Environment	707
NSF Big Projects	643	Ritual Space	708
Big CRM Projects	645	Landscape Modifications and Maintenance	709
LVAP: An Intellectual History	646	“Wisdom Sits in Places”:	
Statistical Research, Inc.’s		Western Apache and Yavapai Landscapes. . . .	710
Proposed Approach to LVAP.	647	Traditional Territories	711
The Overview	648	Agricultural Landscapes	713
Fieldwork	650	Procurement Space: Raiding and Resources. . . .	713
Analysis and Report Preparation	653	Social and Historical Factors	714
Discussion	655	Ritual Space.	715
Vision	655	Paradise in the Desert: Euroamerican Landscapes. .	717
Planning.	656		
Information Management	657	EPILOGUE	
Commitment.	658	The Lower Verde Archaeological Project in Context	
Conclusion	659	<i>Jeffrey H. Altschul, Stephanie M. Whittlesey, and</i>	
		<i>Richard Ciolek-Torrello</i>	723
CHAPTER 18		REFERENCES CITED	727
Research Design Revisited: Processual Issues in the		Addenda to References.	821
Prehistory of the Lower Verde Valley	661	List of Contributors.	823
Introduction, <i>by Richard Ciolek-Torrello</i>	661		
Chronology, <i>by Richard Ciolek-Torrello</i>	662		
Early Period	664		
Middle Period	664		
Late Period	667		
Summary.	671		
Cultural Affiliation, Population Movement, and			
Migration, <i>by Stephanie M. Whittlesey</i>	672		
Indigenous Cultural Traditions			
of Central Arizona	673		
The Central Arizona Ceramic Tradition.	673		
Tonto Basin	674		
Verde Valley	676		
Lower Agua Fria Region	677		
Northern Sinagua.	677		