Mammoth Trumpet Table of Contents

Volume 1 (1986)

Vol. 1 No. 1
- “Life in Ice Age Chile” ................................................................. pg. 1, 3
- “Early Man in Patagonia” .......................................................... pg. 1, 8
- “Cut Marks Suggest Human Presence” ....................................... pg. 1, 3
- “Human Skeletal Dating Project” ............................................... pg. 2
- “Mammoth Bones with Human Touch” ...................................... pg. 3
- “38 Years of Research on Beringia: An Interview with David Hopkins” pg. 4
- “Points in Sequence: A Well-Stratified SE Texas Site” ............... pg. 4
- “Negative Ions and Positive Numbers: New Radiocarbon Dating Method Offers Hope for Archaeologists” ................................................. pg. 5

Vol. 1 No. 2
- “Russian-American Team Links Ancient Population Genetics: Interview with Michael Crawford” ........................................ pg. 1, 3
- “New Dates on Yuha Burial” ....................................................... pg. 1
- “Bone Tools in Clovis Context” ................................................... pg. 1, 5
- “H.M. Wormington…Still Leading the Way” .............................. pg. 4
- “New World Mammoths in a Nutshell” ....................................... pg. 5
- “Two New World Specimens Included in ‘Ancestors’ Exhibit” ........ pg. 6
- “Iceman: Thinking of the Lost World” ........................................ pg. 6
- “America’s Ancient Treasures” ................................................... pg. 6

Vol. 1 No. 3
- “Butchering and Seasonal Mortality of Mastodons” ..................... pg. 1, 6
- “Quaternary Extinctions” ........................................................... pg. 1, 3
- “International Conference on Modified Bone” ........................... pg. 1, 2
- “Allan Wilson… Bridging the Gap Between Disciplines” .............. pg. 4
- “Significant Pleistocene Collections in Guadalajara, Mexico” ......... pg. 4

Vol. 1 No. 4
- “An Interview with Christy Turner: Extracting Data from Teeth” ...... pg. 1, 5
- “Haynes Receives Archaeology Award” ....................................... pg. 1, 3
- “Research Suggests Early Tools Near San Diego” ......................... pg. 1, 3
- “Society for American Archaeology… A Half Century Old” .......... pg. 4
- “Alan Bryan and Ruth Gruhn: Working to Change the Tide of American Archaeology” ............................................................ pg. 8-9
Volume 2 (1987)

Vol. 2 No. 1
- “Human Burials and Extinct Megamammals in Argentina” pg. 1, 3
- “Early Holocene Burial at the Wilson-Leonard Site in Central Texas” pg. 1, 3
- “Gramly Reports a Paleoindian Site Complex in Northern Maine” pg. 1, 7
- “Can These Bones Live? Early Humanity Reflected in Modern Literature” pg. 4-5
- “Esmee Webb... Bringing an Old World View” pg. 6
- “12th International Radiocarbon Conference” pg. 8

Vol. 2 No. 2.
- “New Date for Old Crow Caribou Flesher” pg. 1
- “The Calico Site: Coming of Age in California” pg. 1, 4
- “Update on Monte Verde” pg. 1, 5
- “Gustavo Politis: Archaeology in Argentina” pg. 3
- “The IVth International Theriological Congress” pg. 7

Vol. 2 No. 3
- “Assessing Eskimo and Indian Affinities: Closer Than You Think” pg. 1, 7
- “The Flint Run Paleoindian House Reconstruction” pg. 1, 5-6
- “George Frison: Elephant Hunting” pg. 1, 3
- “The Dreaming of the Bones” pg. 4
- “The Milliron Site: A Point in Clovis Time” pg. 8

Vol. 2 No. 4
- “Stressed Habitats and Pleistocene Extinctions” pg. 1, 5
- “Searching for the Head of the Paleolithic Dog” pg. 1, 6
- “Cutler Site in Florida Yields Human Skeletal and Cultural Remains” pg. 1, 3
- “The Dreaming of the Bones, Part II” pg. 4

Volume 3 (1988)

Vol. 3 No. 1
- “The Clovis-Archaic Interface in the West: An Update on the Dietz Site in Oregon” pg. 1, 5
- “Is There Life After Gramm-Rudman... Survival of a Major Radiocarbon Laboratory” pg. 1
- “Center Matches Half-Million Dollar Bingham Challenge” pg. 1, 8
- “Counting the Clock” pg. 3, 8
- “Trees in the Stone” pg. 4, 8
- “Possible Paleoindian Site at Indian Rockshelter” pg. 5
Vol 3. No. 2

- “Florida Archaeologists Plunge into the Past” ........................................ pg. 1, 5
- “At Home in the Pleistocene?” ................................................................. pg. 1, 3
- “Profiles of the Past: Interview with Vance Haynes” .............................. pg. 4, 8
- “Natural History Traces the First Americans” ........................................... pg. 8

Vol. 3 No. 3

- “Linking Two Americas” ................................................................. pg. 1, 5
- “Manis Mastodon Site Revisited” ......................................................... pg. 1, 3, 8
- “Interview with Richard Leakey: The Eternal Landscape of the Past” ......... pg. 4
- “The Human Story: Bringing Prehistory to Life” .................................... pg. 7
- “Peopling of the Mediterranean Islands” ................................................ pg. 8

Vol. 3 No. 4

- “Blood from a Stone” ................................................................. pg. 1, 3, 8
- “Truth- No Stranger to Fiction” .............................................................. pg. 1, 5
- “Dennis Stanford at Blackwater Draw: Tasting a Hero Sandwich” ............. pg. 4, 8


Vol. 4 No. 1

- “Knowing it in the Bone” ................................................................. pg. 1, 5, 7
- “Stranded in the Past” ................................................................. pg. 1, 8
- “The First Albertans: Research in the Ice-Free Corridor” ........................ pg. 3, 8
- “Deciphering Data from Dung” .............................................................. pg. 4
- “Paleoindian Research in Canada” ......................................................... pg. 6

Vol. 4 No. 2

- “Lubbock Lake Landmark: State Historic Site” ...................................... pg. 1, 8
- “Rocking Around the Geomorphical Clock: Dating by the Rock-Varnish Method” ................................................................. pg. 1, 3, 6
- “An Appreciation of Bill Irving” .............................................................. pg. 5

Vol. 4 No. 3

- “Blood Will Tell” ................................................................. pg. 1, 4, 8
- “The Waco Mammoth Site” ................................................................. pg. 1, 5
- “Early Human Sites in South America” .................................................. pg. 2, 6
- “Needle in a Haystack?” ................................................................. pg. 3

Vol. 4 No. 4

- “Old Bones in the New World” .......................................................... pg. 1, 7
- “Interview with Julian Hayden: A Bridge Over Time” .............................. pg. 1, 4-6
Volume 5 (1990)

Vol. 5 No. 1
- “The Burnham Site: Possible Pre-Clovis Evidence From Oklahoma”.... pg. 1, 3, 8
- “Interview with Niede Guidon: La Recherche Du Temps Perdu”....... pg. 1, 5
- “Emma Lou Davis”................................................................. pg. 2
- “Haunted by the Phantom of Antiquity”.................................... pg. 4-5
- “The Munson Springs Site: 9,000 Years of Occupation in Central Ohio”.. pg. 8

Vol. 5 No. 2
- “Of Apples and Archaeology”................................................. pg. 1, 4-5
- “Anzick Collection Reunited”................................................ pg. 1, 6
- “Possible Cremation at Crowfield”........................................... pg. 3, 8
- “The Fluted Point People: A Reconstruction”............................ pg. 7

Vol. 5 No. 3
- “Summit ‘89”........................................................................ pg. 1, 5
- “Red Ochre Use on the Plains During the Paleoindian Period”........ pg. 1, 6
- “Stones Speak Many Tongues”................................................ pg. 2
- “From the End of the Earth”.................................................... pg. 3, 8
- “A Salute to Dick Reinhart”..................................................... pg. 4
- “Seven Honored at Awards Banquet”........................................ pg. 4-5
- “The Media Comes to Summit ’89”............................................ pg. 8

Vol. 5 No. 4
- “Seasons of Life in Western New York”...................................... pg. 1, 4-5
- “A Visit to the Upper Paleolithic Sites of European Russia: A US-USSR Cultural Exchange”................................................ pg. 1, 5-7
- “New Discoveries at Mammoth Meadow, Southwestern Montana”..... pg. 2, 8
- “An Overview of Summit ’89: Interview with Alan Bryan”............... pg. 3

Volume 6 (1991)

Vol. 6 No. 1
- “Studying Ancient American DNA”........................................... pg. 1, 3, 6
- “Searching for Sites in the Gulf of Mexico”.................................. pg. 1, 4-5
- “Hair from Archaeological Sites”.............................................. pg. 2, 8
- “Coastal Entry Migration”....................................................... pg. 4
• “Update on the Thunderbird Site: Rescue Underway”…………………. pg. 6
• “The Burning Tree Mastodon: A Nearly Complete Skeleton from
  Licking County, Ohio”…………………………………………………… pg. 7

Vol. 6 No. 2
• “Pre-Clovis Barrier Broken in New Mexico”………………………… pg. 1, 6, 8
• “A New Clovis Discovery in North-Central Texas”…………………. pg. 1, 4-5
• “Linguistics and Prehistory”………………………………………… pg. 3, 7-8

Vol. 6 No. 3
• “Mining Knife River Flint in North Dakota”………………………… pg. 1, 4
• “Living Cells Unlock Ancient Mysteries”……………………………. pg. 1, 5
• “Earthwatch Bridges the Gap”………………………………………. pg. 3
• “An Interview with Ben Waller”…………………………………… pg. 6-8

Vol. 6 No. 4
• “Evidence of Mastodont’s Last Meal: Bacteria Still Working After
  11,000 Years”………………………………………………………….. pg. 1-2, 6
• “Mastodont Microevolution Linked to Climatic Change”…………… pg. 1, 4-5
• “Clues to Paleoindian Survival: Underwater Caches May Have
  Supplied Meat in Winter”……………………………………………… pg. 1, 6-7
• “Accidental Discovery Offers Evidence of Mastodont Butchering”….. pg. 3, 7-8
• “What do Mastodonts, Mammoths, and Gomphotheres Have in
  Common?”………………………………………………………… pg. 5
• “Mastodont Hair Gives Clues to Habitat”……………………………. pg. 8

Volume 7 (1992)

Vol. 7 No. 1
• “Bones Reveal Paleoindians’ Way of Life: New Interior Alaska Site
  Rich in Faunal Remains”……………………………………………….. pg. 1, 3, 8
• “Pre-Clovis Human Prints Found in Clay”……………………………. pg. 1, 6, 8
• “Mammoth Bones Recovered from Underwater Site”………………. pg. 1, 6
• “Oregon State University Extends Warm Welcome to CSFA”……… pg. 2
• “Clovis Book Forthcoming”……………………………………………. pg. 2
• “Paleoindians and DNA: A Review”………………………………… pg. 4-5
• “Tracing Human Evolution: Was it Really Ariadne’s Thread?”…… pg. 5
• “A Mammoth Data Base”…………………………………………… pg. 5
• “Education is Biggest Yield from Site on Alaska Coast”…………… pg. 7

Vol. 7 No. 2
• “Paleoindian Skeletal Data Re-examined: Statistical Analysis Finds
  Link with Asia”………………………………………………………. pg. 1, 3, 8
• “Idaho Burial Suggests Life of Hardships: 10,675-yr-old Remains
Reburied after Analysis”............................................................. pg. 1-3
• “New Focus on Peopling of Americas”.............................................. pg. 1, 8
• “Now Clovis Also Means a Big Book”.............................................. pg. 1, 2
• “Mammoth Meadow Yields Human Hair”...................................... pg. 2
• “Crossing Beringia: Could Glaciers Have Limited Human Access?”.... pg. 4, 7
• “Paleoecologist Finds Corridor Ice-Free but Forbidding”..................... pg. 5-7
• “Bone Projectile, 29,600 Years Old, Found Imbedded in Ancient Horse”... pg. 6

Vol. 7 No. 3
• “Siberian Site Defies Theories on Peopling: Pebble Tools are Dated to 3 Million Years”.......................................................... pg. 1, 4-5
• “Linguist Finds Evidence for Early Peopling of Americas”...................... pg. 1, 6-8
• “Forensic Methods Focus on Paleoindian”........................................ pg. 1, 2-3
• “Why Haven’t We Found More Paleoindian Skeletons?”...................... pg. 2
• “Pampas Paleoindians Valued and Reused Precious Quartzite”............. pg. 3
• “A Diversity of Relevant Research”................................................ pg. 5
• “Site Preservation Campaign Nearing Goal”...................................... pg. 6

Vol. 7 No. 4
• “Investigations at Ohio Site Push Back Dates for Clovis: Discovery May Be East’s Earliest Structure”........................................ pg. 1, 3
• “A Federal Policy for Archaeology”................................................ pg. 1, 8
• “Archaeology Has Adopted Computers: Sophisticated Methods Reveal Hidden Answers”.................................................. pg. 1, 4-5, 7
• “Montana Site Proving Rich in Old Hair”.......................................... pg. 2, 6-7
• “Center Has New Book in Production”............................................. pg. 2
• “Pendejo Investigation is Continuing”............................................. pg. 6

Volume 8 (1993)

Vol. 8 No. 1
• “Paleoindians Killed Bison in Rockies”........................................ pg. 1, 6
• “Mammoth was Butchered in Wisconsin”......................................... pg. 1, 8
• “How Old is Clovis?: An Interview with C. Vance Haynes”............... pg. 1, 5
• “CSFA, Oregon State University Work to Expand Center’ Reach”......... pg. 2
• “Welcome Clovis Cache Accord Avoids One Troublesome Issue”......... pg. 3
• “Paleoindians of Patagonia Used Pleistocene Animals”..................... pg. 4
• “Clovis Age Confirmed for Midland Woman”.................................... pg. 7
• “‘Origins’ Symposium Schedules in Siberia”..................................... pg. 8

Vol. 8 No. 2
• “Ohio Focus Illuminates Wider Puzzle”........................................ pg. 1, 3
• “Sites in Tennessee Suggest Clovis Originated in East”........................ pg. 1, 6
• “A Geneticist Looks at the Peopling of the Americas”........................ pg. 1, 4-5
Vol. 8 No. 3
- “Mastodons’ Drought Dilemma was a Boon to Paleoindians” pg. 1, 8
- “Team Traces Four Trails from Asia” pg. 1, 4
- “Research, Outreach Occupy Attention of CSFA’s Board” pg. 1, 3
- “Volunteers Help CSFA Projects and Learn, Too” pg. 2
- “Christopher Pratt, Retiring Board Leader, New Recipient of Marie Wormington Award” pg. 2
- “Maine Coast Mammoth Dig is Unusual” pg. 3
- “Pedra Furada Doctoral Thesis Convinces Committee Skeptics” pg. 5
- “The Search: Why Haven’t More Paleoindian and Other Pleistocene-Age Sites Been Excavated in the Ohio Valley?” pg. 6
- “Alaska Site Called Earliest Evidence of Human Activity” pg. 7
- “Wrangel’s Dwarf Mammoths Outlived Pleistocene Epoch” pg. 7

Vol. 8 No. 4
- “CSFA Leader is Chosen for Justice Job” pg. 1, 2
- “Butchered Mammoth Bones More Than 12,000 Years Old” pg. 1, 8
- “Worked Flint Found with Mastodon Bones” pg. 1, 8
- “Limited Season at Montana Site Focuses on Hair” pg. 2
- “Mammoth Kill Dated 10,960 B.P.” pg. 3, 7
- “Mollusks, Not Mammoths: The Case for a Pacific Rim Migration” pg. 4-5
- “Coprolites Give Evidence Mastodon Died Accidentally” pg. 6
- “Japanese Museum Buys Bones of Burning Tree Mastodon” pg. 7
- “Symposium in South Dakota Will Salute Leading Proponent of Overkill Hypothesis” pg. 7

Volume 9 (1994)

Vol. 9 No. 1
- “Wyoming Petroglyphs Dated from 11,500 to 2,000 B.P.” pg. 1, 6-7
- “Oregon Study Promises Early Sites” pg. 1-3
- “Mochanov to Visit U.S.” pg. 1
- “Montana Site Part of Program on 1st Americans” pg. 2
- “CSFA Trip Joins Washington Group on Olympic Coast” pg. 2
Vol. 9 No. 2
- “Mochanov Shows, Tells, on U.S. Tour” ........................................ pg. 1, 4-5
- “Stratigraphy Shows Unity in Draw Sites” ..................................... pg. 1, 8
- “New Genetic Study Backs Early Arrival” ..................................... pg. 2
- “New Wave in Archaeology: Hair” ............................................. pg. 3
- “Mochanov Feels Americans Have Neglected Russian Research” ..... pg. 5
- “Pedra Furada Conference Reaches for Common Ground” .......... pg. 6-7
- “After Pendejo Cave” ............................................................... pg. 7
- “Two Nova Scotia Mastodons May Be 70,000 Years Old” ............. pg. 8

Vol. 9 No. 3
- “Geologist Gives Data on Old Sites” ............................................. pg. 1, 2
- “Simply a Matter of Time” ....................................................... pg. 1
- “Mass Spectrometry Enhances Uranium-Thorium Counting” ......... pg. 1, 8
- “Long Cited for Dedication to Prehistory” .................................. pg. 2
- “Measuring Energy Stored in Trapped Electrons” ......................... pg. 3-4
- “Luther S. Cressman Dies; NW Prehistory Pioneer” ..................... pg. 3
- “Magnetism Can Chronicle Time” ............................................. pg. 5-6
- “Though Not Fully Understood, Reversals are Useful to Science” ... pg. 5-6
- “Radiocarbon Remains the Standard for Determining Archaeological Age” ......................................................... pg. 7-8
- “Counting on Calcite” ............................................................. pg. 8

Vol. 9 No. 4
- “Flint Flakes Yield Traces of Elephant” ..................................... pg. 1, 8
- “In Memoriam: H.M. Wormington: 1914-1994” ......................... pg. 1, 6-7
- “Montana Field Work Awaits Consultation” ............................... pg. 2
- “New Jersey Fluted-Point Survey Points to Pleistocene Landforms” ... pg. 3
- “Landmark Status for Paleo Sites is Goal of Program” .................. pg. 3
- “Complex Stratigraphy Obscures Paleoindian-Elephant Association” .. pg. 3
- “Chronicling Time with Volcanoes” ......................................... pg. 4-5
- “To Many She was ‘The Queen’: A Memoir by C. Vance Haynes, Jr.” .. pg. 6-7
Volume 10 (1995)

Vol. 10 No. 1

- “Bones of Nebraska Mammoths Imply Early Human Presence” pg. 1, 4-7
- “Clarification is Sought Regarding Status of Hair” pg. 3, 7
- “Hair Preserved at La Sena Site” pg. 6
- “The Tale of Two Sites” pg. 7
- “Tennessee Mastodon Bones Suggest Human Butchery” pg. 8-9
- “Clovis Tools Plentiful in Tennessee” pg. 9, 19
- “Hands-on Prehistory” pg. 10-13
- “Underwater Site Details Mastodons’ Life History” pg. 14-15
- “Waco Site Reveals 21 Mammoths Died Together 28,000 Years Ago” pg. 16-17
- “Pack Rat’s Ancient Stashes May Aid Science in New Ways” pg. 18-19

Vol. 10 No. 2

- “Pre-Glacial Site in Alberta Suggests Early Human Presence” pg. 1, 3-4
- “Montana’s Big Sky Country Site of 1995 Expedition” pg. 2
- “Ice-Age Wisconsin People Left Unique Cultural Record” pg. 5-8
- “DNA Lab Bring Biotech Era to Archaeology” pg. 9-10
- “The Novel Approach” pg. 10
- “Sue Harrison: Seeking Roots in the Americas” pg. 11, 15-17
- “Linda Lay Shuler: Exploring the Invisible” pg. 12-14
- “Perils, Sacred Responsibilities” pg. 13
- “Adventures 9,000 Years Ago” pg. 15
- “A Window on Ice Age Environment” pg. 18-20

Vol. 10 No. 3

- “Stone-Tool Tradition Endures Radical Environmental Change” pg. 1, 4-5, 10-11
- “Article by CSFA Leaders Describes Effects of Act” pg. 2
- “Interpreting NAGPRA” pg. 3
- “Replicating Ancient Artisans’ Expertise” pg. 6-9
- “Paijan Burials Analyzed” pg. 10
- “Folsom Bison Kill Offers Challenges” pg. 12-15
- “Baked Clay Fragments Reveal Evidence of Oldest Weaving” pg. 15
- “Author-teacher Marjorie Cowley: Introducing Children to Prehistory” pg. 16-18
- “Ground Sloth Authority Describes Research in Florida Mineral Spring” pg. 19-20
- “Scholars Form South American Association” pg. 19

Vol. 10 No. 4

- “Two Views of Beringia” pg. 1
- “Tanana Sites Connect Alaska with Eurasia” pg. 1, 12-13
- “Mesa’s Tools Linked with Lower 48” pg. 1, 6-11
• “Archaeology Offers Clues to Surviving Climate Change”…….. pg. 2, 5, 18, 20
• “U.S. Plans Landmark Status for Earliest Americans Sites”………….. pg. 4-5
• “Beringia Interpretive Center to Offer Window on Ice Age”………. pg. 11, 19
• “Dent Mammoth Site”……………………………………………….. pg. 14-18
• “Author’s Passing Evokes Archaeologist’s Memories”……………… pg. 19

Volume 11 (1996)

Vol. 11 No. 1
• “Thermoluminescence Dating Proves Early Peopling of Siberia”……. pg. 1, 19-20
• “Board’s Focus: Research and Fund Raising”…………………….. pg. 2-3
• “Wormington Award Honors Two Families”……………………… pg. 4
• “Nenana Field School Expedition Focuses on Paleoindian Research”…….. pg. 4
• “Good Luck and Careful Science Provide New Insights about Clovis”…… pg. 5-9
• “Site Near Savannah River Yields Clues to Paleoindians”……………. pg. 10-12
• “An Archaeological Conservator Looks at the Conservation of Rock Art”……………………………………………………………… pg. 13-15
• “Scientist Seeks Woolly Mammoths for Dating Study”……………… pg. 15
• “Isn’t Science Fun? Zinj Magazine Involves Kids in the Excitement of Discovery”………………………………………………………………. pg. 16-18

Vol. 11 No. 2
• “Frame Analysis Aids Study of Stone Tools”………………………. pg. 1, 18-20
• “New Focus: Molecular Archaeology”…………………………….. pg. 1, 15-17
• “CSFA Probes Oregon Pleistocene Fauna Site”……………………. pg. 2
• “The Frison Effect: A Career That Illuminated Plains Archaeology”….. pg. 3-5
• “Interpreting Rock Art”…………………………………………………. pg. 6-9
• “Passage of the Rain Shaman”………………………………………. pg. 7
• “Excavation in Idaho Lake Bed Yields Mammoth, Bison Remains”…… pg. 10-13
• “Beringia Center Hires Paleontologist”……………………………… pg. 14

Vol. 11 No. 3
• “Discoveries in Amazon Cave Suggest Clovis Wasn’t First”……….. pg. 1, 17-20
• “Brazilian Scientists Challenge 3-Wave Theory of Migration”………. pg. 1, 12
• “CRP: Every Paper Relevant to Scientists”………………………… pg. 2-3
• “Atlatl Maker Studies Function of Weights”………………………… pg. 3
• “Recent Advances in Finding the Age of Rock Art”………………….. pg. 4-7
• “Couple Donates Collection to Lake Superior State University”……. pg. 7, 17
• “Who Were the First Americans?”…………………………………….. pg. 8-11
• “As Scarce As…”………………………………………………………… pg. 11
• “Viruses May Offer New Line of Evidence”………………..………. pg. 13
• “Climatologist’s Model Gives Ice Age Forecasts”…………………. pg. 14-15
• “Anna Roosevelt Makes Headlines”………………………………….. pg. 16
Vol. 11 No. 4

• “Simple Tools, Hearth Found Beneath Clovis Horizon”……………...pg. 1, 14-18
• “Saltville Site has Evidence of 14,000-Year-Old Feasts”……………...pg. 1, 18-20
• “Clovis Clarification”………………………………………………….……...pg. 2
• “Who Were the First Americans? Part 2”………………………………pg. 4-7
• “Putting a Face on Ancient People”…………………………………….....pg. 8-11
• “Reproducing the Irreplaceable”…………………………………...pg. 9, 12-13
• “Seeking Beautiful Artifacts, Thieves of Time Ravage Site”…………......pg. 16

Volume 12 (1997)

Vol. 12 No. 1

• “A Database on Humanity’s Past: Smithsonian Team Races the Clock with Repatriation”…………………………………………..pg. 1, 12-15, 17
• “Biology Colloquium Focus: First Americans”……………………………...pg. 2
• “1996 CSFA Field Work Retrieves Ancient Hair”………………………....pg. 3-5
• “Genetics: A Review”……………………………………………………....pg. 6-9
• “8,000-year-old Cave Explorer Challenges Research Team”……………….pg. 10-11, 18
• “Words Supplement Numbers”…………………………………………......pg. 13
• “Honoring Ancestors… or Burning Libraries?”………………………………pg. 14-15
• “The Basic Tools”……………………………………………………….…..pg. 16
• “Who Was It? Murder Victim? Police Ask”……………………………..pg. 17-18
• “Mochanov Proposes International Effort”…………………………………pg. 18
• “Discovery of Ancient Skeleton Raises Trying Rights Question”…………pg. 19-20

Vol. 12 No. 2

• “Remarkable Discovery: Though Science Sometimes Takes Time, The Consequences Can Be Spectacular”…………………………………...pg. 1, 14-17
• “First Americans Session April 24”…………………………………………..pg. 2
• “Bering Land Bridge Was Open until 11,000 Years Ago”………………....pg. 3-4
• “Pre-Clovis Evidence Accepted”……………………………………………...pg. 5
• “Tulare Sites Rich in Fluted Points”………………………………………....pg. 6-8
• “Underwater Site Opens Window on Big Environmental Change”……….pg. 9-10
• “Update: Savannah River Quarry Site”……………………………………...pg. 11-12
• “Jose Luis Lorenzo, Mexican Prehistorian, 1921-1996”…………………….pg. 13
• “Those Cryptic Numbers”…………………………………………………....pg. 17
• “Archaeologists May Overlook Value of Fiber Artifacts”…………………pg. 18-20

Vol. 12 No. 3

• “Paleobiology Focuses on First Americans”………………………………pg. 1, 9-11
• “New Leadership for CSFA Board”…………………………………………pg. 2
• “Bog Holds Details of Pleistocene”………………………………………....pg. 3-6
• “Flaked Bone Suggests Americans Used Mammoths As Tool Material”….pg. 7-8
“Despite Obstacles, Conference Panelists Hopeful about Paleo-American Research” pg. 11-13
“In Situ Ignorance?” pg. 12
“Ancient Peoples Do Not Fit into Today’s Categories” pg. 14-15
“Reconstructing Human Societies with Molecules Ancient & Modern” pg. 16-18
“DNA Links Teacher to Ancient Skeleton” pg. 18
“Were Microbes the Cause of Pleistocene Extinctions?” pg. 19

Vol. 12 No. 4
“Corrected Radiocarbon Calendar Can Clarify Peopling of Americas” pg. 1, 4-7
“Brazilian Rockshelter Reveals Details Dating to Pleistocene” pg. 2-3
“Ancient Alaskan Bones May Help to Prove Coast Migration Theory” pg. 8-12, 20
“Tribal Governments Make Decisions” pg. 10
“Expedition Affirms Significance of Moose Creek Site” pg. 13-18
“Peopling of Americas Subject of SAA Session” pg. 17
“Ice Age Beringia the Focus of New Museum in Whitehorse” pg. 19

Volume 13 (1998)
Vol. 13 No. 1
“Ohio Cave, Sealed Since Ice Age, Yields Data on Paleo-Americans” pg. 1, 8-11
“CSFA Honors Stanaway for Leadership” pg. 2
“Dick Reinhart” pg. 3
“Study of Paleo-Americans Offers Medical Breakthroughs” pg. 4-7
“Reading Pathology and Genetics” pg. 6
“Ontario Specialists Re-create Mammoths” pg. 12, 19
“Colorful Magazine a Flagship for Archaeological Conservancy” pg. 13, 18
“Clovis Clarification: A Follow-up” pg. 14-17
“Famous Clovis Sites Neglected?” pg. 14

Vol. 13 No. 2
“Great Lakes People Lived 2,000 Years with Glacier” pg. 1, 17-20
“Arizona’s Famous Clovis Sites Could Be Displayed for Public” pg. 2-6, 20
“Investigator Describes Site Formation” pg. 4-5
“Living on the Rim: California Island Cave Offers Tantalizing Clues to Paleoindian Life” pg. 7-11
“The Art of Preserving Ancient Skills” pg. 12-16

Vol. 13 No. 3
“The Americas After Monte Verde” pg. 1, 3-4
“August Symposium to Focus on Coast Hypothesis” pg. 2
• “Coastal-Entry Model Gains Support As Ice-Free Corridor Theory Fades”………………………………………………………………….. pg. 5-7, 10
• “Non-Archaeological Evidence Suggests People South of Ice”………… pg. 8-10
• “Pleistocene Wetlands Probably Provided Plenty of Vegetables for Paleo-Americans”……………………………………………………….. pg. 11-12
• “Tribal Members Active at SAA Even at Pre-Clovis Symposium”………… pg. 12
• “Clovis Second: Considering a Relationship with ‘The Other’”………. pg. 13, 20
• “Blades Found Below Clovis Open Window on Unknown”…………… pg. 14-15
• “North with the Thaw? Clues to Ice Age Albertans Prove ‘Only’ 13,000 Years Old”……………………………………………………… pg. 16-17
• “Spear Straightener of Spinning Tool?”………………………………... pg. 18-19

Vol. 13 No. 4
• “Cooper’s Ferry Spear Cache One of NW’s Oldest Sites”………………. pg. 1, 3-6
• “Energy Gain from Wapato Clarified”…………………………………… pg. 2, 5
• “Clovis Site on Gulf Coast Yields Booty Only to Waves”……………… pg. 7-12
• “New World Migration Research Paints Increasingly Complex Picture”……………………………………………………………… pg. 13-16, 20
• “What Happened 11,000 Years Ago?”…………………………………… pg. 17-18
• “Computer Model Offers New Twist to Explain Pleistocene Extinctions”.. pg. 19

Volume 14 (1999)

Vol. 14 No. 1
• “Charting the Way into the Americas”…………………………………… pg. 1, 3-11
• “CSFA Honors Dean Scanlan, Sandy and Larry Tradlener”……………. pg. 2, 13
• “Fladmark, Still a Coast-Route Champion, Decries Archaeology’s Terrestrial Bias”……………………………………………………… pg. 4-5
• “As Old Paradigms Fade, Timing isn’t the Issue”………………………. pg. 8-9
• “On to California- and South America”…………………………………… pg. 12-13
• “Explaining Pleistocene Extinctions”…………………………………….. pg. 14-23
• “Mammoths’ Last Stand”…………………………………………………. pg. 16-17
• “Theory Infers Late Entry of Humans”…………………………………… pg. 18
• “A Species That Should Not Have Gone Extinct”……………………… pg. 19
• “Now, Three Theories”…………………………………………………… pg. 21
• “Analysis of Ancient DNA- Essential to Disease Theory”……………… pg. 22
• “Dearth of Industrial-age Extinctions as Puzzling as Pleistocene Die-offs”.. pg. 23
• “Expedition in May on Savannah River Continues Pre-Clovis Investigations”………………………………………………………… pg. 24

Vol. 14 No. 2
• “Early Ecuador People Were Maritime Adapted”…………………… pg. 1, 4-11
• “Future of Research: Clovis and Beyond”……………………………… pg. 2-3
• “Amateur Scientist Paul Tanner Helps Preserve Texas Prehistory”….. pg. 12-13
• “Amateur Paleontologist Uncovers Oregon Mammoths” pg. 14-16
• “Friends Join in Search for Relics of Pleistocene” pg. 16
• “Genetic Research Suggests People Were in Beringia by 34,000 B.P.” pg. 17, 20
• “Experiments Confirm Likely Usage of Murray Springs Bone Tool” pg. 18-20

Vol. 14 No. 3
• “Channel Island Woman May Be Oldest Yet” pg. 1, 16-18
• “CSFA Board Reviews Research, Welcomes Three New Members” pg. 2
• “CAA Symposium Spotlights Eastern Beringia Research” pg. 3
• “Scientists Chart ‘Clovis and Beyond’” pg. 4-6
• “58 Years Ago in Santa Fe” pg. 4-5
• “AAPA Symposium Offers New Analyses and Varied Perspectives Concerning First Americans” pg. 6-7, 19-20
• “Where North Meets South” pg. 8-11
• “In Search of the First Californians” pg. 12-16
• “The Year 2000 Problem and the Peopling of the Americas” pg. 20

Vol. 14 No. 4
• “Alberta Scientists Track Mammoths Across Recently Exposed Landscape” pg. 1, 6-10
• “Appearance of Pleistocene Animal Tracks Due to Unusual Series of Circumstances” pg. 8-9
• “Virginia’s First Clovis Site Still Holds Scientific Riches” pg. 11-9
• “First Americans Studies: Caught Between Two Extremes” pg. 15-16
• “Scientific Profiles of Remote Baja Site? No Problem” pg. 17-18
• “A Personal View: Older Than We Think” pg. 18-20


Vol. 15 No. 1
• “Charting A New Era: Clovis and Beyond Draws Over 1,400” pg. 1-7
• “Texas Site Suggests Link with European Upper Paleolithic” pg. 8-10
• “Public Policy: Many Concerns, Few Answers” pg. 11-15
• “Conference Surprises Frison and Haynes With ‘Century Awards’” pg. 16
• “Linguistic Evidence Suggests Point of Origin for Na-Dene” pg. 17-18
• “Central Oregon’s Great Basin Region Has Potential for Pleistocene Sites” pg. 19-20

Vol. 15 No. 2
• “The North Atlantic Hypothesis” pg. 1, 3, 5-7
• “Leonard Ranch Expedition to Probe Ice Age Sediments” pg. 2, 19
• “Perfecting Our Chronologies Could Solve Big Controversies” pg. 7-9
• “Geoarchaeological Methods Crucial for Finding Pre-Clovis” pg. 9-15
• “Terrestrial Evidence of a Nuclear Catastrophe in Paleoindian Times”…. pg. 9-15
• “A Very Delicate Tool For a Very Special Purpose”............................... pg. 19-20

Vol. 16 No. 3
• “Fragile History: The Big Eddy Site”............................................ pg. 1-3, 20
• “A Professional Archaeologist”................................................... pg. 4-8, 11
• “One-Stop Shopping for Radiocarbon Dates”.................................. pg. 9-11
• “The Search for Japanese Origins”.............................................. pg. 12-13, 20
• “Towards Resolving Clovis Origins”........................................... pg. 14-16
• “Clovis and Solutrean: Is There a Common Thread?”........................ pg. 15
• “Oral Traditions and Rules of Evidence”..................................... pg. 17-19

Vol. 16 No. 4
• “Kennewick Man’s Legal Odyssey Nears an End”......................... pg. 1-2, 15-16
• “The Big Eddy Site”.............................................................. pg. 3-6
• “The Clovis-to-Dalton Transition”............................................. pg. 5
• “New Study on Peopling of Americas Confirms Some Theories, Unsettles Others”................................................................. pg. 6
• “Survey of Fluted Points in Darke County Area”............................. pg. 7-9, 19
• “The Topper Site: Beyond Clovis at Allendale”............................. pg. 10-15
• “What is the Meaning of Native American”.................................. pg. 16-17
• “The Hiscock Site: A Lovely Jumble of Discoveries”..................... pg. 18-19
• “Hoofs Open Window on the Past”............................................. pg. 20

Volume 17 (2002)

Vol. 17 No. 1
• “Pleistocene Lake Lahontan: Filling in More Blanks”...................... pg. 1-3, 17-20
• “Article Questioning Radiocarbon-dating Accuracy Draws Fire from Scientists”................................................................. pg. 3
• “Lithic Caches: The Puzzling Legacy from Early Knappers”.......... pg. 4-9
• “Kennewick Man and the Peopling of the Americas”...................... pg. 10
• “Immigrants from the Other Side?”........................................... pg. 11-16
• “Making Order Out of Bits and Pieces”..................................... pg. 18-19

Vol. 17 No. 2
• “The Case of Kennewick Man: Linguistic Evidence and Cultural Affiliation”.......................................................... pg. 1-3, 17-20
• “A Passion for Ancient Technology: Gene Titmus”......................... pg. 4-9
• “The Baja Connection”.......................................................... pg. 10-13, 20
• “Article Questioning Radiocarbon-dating Accuracy Draws Fire from Scientists”................................................................. pg. 14
• “Brief Comments on “Terrestrial Evidence of a Nuclear Catastrophe in Paleoindian Times””......................................................... pg. 14-17
Vol. 17 No. 3

• “Anthropology Center Brings Opportunities to Texas A&M”……………….. pg. 1
• “New Books: Ancient Encounters”....................................................... pg. 2-3, 16-18
• “Sentinel Gap: Living on the Edge 12,000 Years Ago”.......................... pg. 4-9, 20
• “In Memoriam: Elaine Anderson”......................................................... pg. 8-9
• “When Science and Politics Collide”..................................................... pg. 10-13, 19
• “Cactus Hill Passes Midpoint in Multi-year Investigation”...................... pg. 15
• “New Carbon-14 Dates for Early Humans in Mexico”............................. pg. 16

Vol. 17 No. 4

• “The Move”......................................................... pg. 1-3
• “Paleoindians in Northeastern Brazil”.................................................... pg. 4-7, 18-20
• “Monograph on Pedra Furada Now Available from French Publisher”....... pg. 7
• “When Science and Politics Collide”..................................................... pg. 8-11
• “Shedding Dead Weight of the Past”.................................................... pg. 12-17
• “Kennewick Man: He’s on the Minds of A Lot of People”....................... pg. 18


Vol. 18 No. 1

• “Judge Rules Scientists Can Study Kennewick Man”......................... pg. 1-3, 18-19
• “Mammoth Rocks: Where Pleistocene Giants Got a Good Rub?”........ pg. 4-7, 20
• “Hunting Pre-Clovis in Siberia”........................................................... pg. 8-11
• “A Campaign to Find the First Americans”........................................ pg. 12-17

Vol. 18 No. 2

• “Native Americans Appeal: Kennewick Man Decision”....................... pg. 1-3
• “Dating Rock Art”................................................................................ pg. 4-7, 14-15
• “In Memoriam: Robert E. Funk”.......................................................... pg. 7
• “Pollen and the First Americans”........................................................... pg. 8-9, 15-16
• “Mammoth Renderings”...................................................................... pg. 10-12
• “International Symposium on the Peopling of the Basin of Mexico”..... pg. 13-14
• “Texas Marsh Reveals 13,000-year-old Human Remains”..................... pg. 17-20

Vol. 18 No. 3

• “Congressional Intent: What is the Purpose of NAGPRA?”............... pg. 1-2, 19-20
• “CSFA Grand Opening”........................................................................ pg. 3, 7
• “The D. Gentry Steele Award for Academic Excellence”...................... pg. 3, 7
• “A Beachfront Getaway in Nevada”...................................................... pg. 4-7
• “Remembering Ed Lehner”................................................................... pg. 8-9
• “Luminescence Dating of Quaternary Sediments”................................. pg. 10-13
• “The Elusive Pollen Grain”.................................................................... pg. 14-19
Vol. 18 No. 4

• “Tuberculosis Found in Mastodon Makes the Case for Hyperdisease in Megafauna”......................................................... pg. 1-3
• “Kennewick Man Ruling Defended in U.S. Court of Appeals”................................................................. pg. 3, 10-11, 18-20
• “Lubbock Lake: Three Pillars of Research and Teaching Dominate this Famous Early American Site”.......................... pg. 4-10
• “Rethinking Clovis Origins: A Conversation with Michael Faught”.. pg. 12-14, 20
• “Danger Cave”.......................................................................................................................... pg. 15-18

Volume 19 (2004)

Vol. 19 No. 1

• “Major Decision: Kennewick Man Case”......................... pg. 1, 3-4, 18-19
• “New Books: Lost World”.............................................................. pg. 2-3
• “Highlights of the 16th INQUA Congress”.......................... pg. 5, 20
• “Florida Paleoindian Points and Knives”................................. pg. 6-9
• “Investigating Clovis on the Delmarva Peninsula”..................... pg. 10-14
• “Pushing Back Time in Wisconsin”........................................ pg. 15-18
• “New Evidence of Early Americans in Northeast”..................... pg. 19-20

Vol. 19 No. 2

• “Kennewick Man Decision Upheld By Court of Appeals”........ pg. 1-2, 18-19
• “Texas Mammoth is a Scientific Prize and a Crowd-stopping Local Event”.......................... pg. 3-5
• “Use Wear: A Hands-on Study”..................................................... pg. 6-9
• “A New CRP...And a New CRP Editor”.......................... pg. 10-11
• “Waters and Haynes Share the Kirk Bryan Award from GSA”...... pg. 11, 20
• “Nature’s Freezer Yields Look at Ancient Hunting Grounds”........ pg. 16-18

Vol. 19 No. 3

• “Petition to Rehear Decision on Kennewick Man is Denied”..... pg. 1, 6-9, 18-19
• “Legislative Attempts to Alter NAGPRA”............................... pg. 1, 19-20
• “Yana River, Siberia: Implications for the Peopling of the Americas”.......................................................... pg. 2-4, 13
• “Are Climate Shifts Opening Mountaintop Time Capsules?”........ pg. 5-6
• “It Took Two Generations”.............................................................. pg. 6-7
• “In Memoriam: George F. Carter, Sr.”........................................ pg. 8-9
• “Megafauna of Mexico”................................................................. pg. 10-13
• “Hooking Students on Clovis”..................................................... pg. 14-18
Vol. 19 No. 4
• “A&M Professor Earns ‘Rip Rapp’ Award” .......................................pg. 1, 12
• “Yana River, Siberia: Part II” ......................................................... pg. 2-3, 11-12
• “Remembering Mort Turner” ....................................................... pg. 4-7
• “When the Camel Died, Did Anyone Hear It?” ............................... pg. 8-11
• “The Curse of Plenty” ................................................................. pg. 13-17
• “Diving into Florida Prehistory” .................................................... pg. 18-20

Volume 20 (2005)

Vol. 20 No. 1
• “Kennewick Man Still in Legal Limbo” .......................................... pg. 1, 15-16, 20
• “Another Attempt to Amend NAGPRA” ......................................... pg. 1, 14-15
• “Yana River, Siberia: Part III” ....................................................... pg. 2-3, 7
• “Pre-Clovis Traces at Swan Point, Alaska” ....................................... pg. 4-7
• “Report from Mexico City: Early Humans in the Americas” ............... pg. 8-10
• “The Treasure of a New World” ................................................... pg. 11-14
• “Assault on Gault: Part I” ............................................................. pg. 17-19

Vol. 20 No. 2
• “Rob Bonnichsen: The Making of a Scientist” ................................. pg. 1-3
• “Remembering Rob” ................................................................... pg. 4-13
• “The Treasure of a New World” ................................................... pg. 14-16
• “Assault on Gault: Part II” ............................................................. pg. 17-20

Vol. 20 No. 3
• “A Tribute to Robson Bonnichsen’ ..................................................... pg. 1-3, 20
• “Ancient DNA: A Tough Nut to Crack” .......................................... pg. 4-7
• “Teasing Information from Human Coprolites” ............................... pg. 6
• “Early Humans South of the Border” ............................................. pg. 8-11
• “Clovis in the Southeast” ............................................................... pg. 12
• “Cyberspace and the Peopling of the New World” ......................... pg. 13-16
• “Clovis Picassos? Proboscidian & Equine Petroglyphs?” .................. pg. 17-19

Vol. 20 No. 4
• “Dept. of the Interior Stands Up for Science” ..................................... pg. 1-5, 20
• “Remembering Rob” ................................................................... pg. 4-5
• “The Kanorado Sites” ................................................................... pg. 6-10
• “E. James Dixon and the Peopling of the New World” ...................... pg. 11-13
• “Early Maritime Adaptations in Western South America” ............... pg. 14-20
Volume 21 (2006)

Vol. 21 No. 1
- “Learning by Doing: Experimental Archaeology with Bruce Bradley” ................................................................. pg. 4-5, 20
- “Paleoamericans in South America” .............................................. pg. 6-8, 13
- “Traveling Light on the Trans-Siberian Trailway” ................................. pg. 9-12
- “Early Maritime Adaptations in Western South America” ....................... pg. 14-17

Vol. 21 No. 2
- “Clovis in the Southeast Conference 2005” ........................................ pg. 1-3, 11-12
- “Paleoamerican Foragers in the Forests of Brazil” ................................. pg. 4-7
- “Probing the Past: Leland Bement and the Paleoindians of Oklahoma” ... pg. 8-11
- “Phytolith Analysis” ........................................................................ pg. 14-16
- “Toluquilla, Mexico: American Laetoli?” ........................................... pg. 17-20

Vol. 21 No. 3
- “A New Fluted Fishtail Point Find from Costa Rica” .............................. pg. 1-2, 20
- “Vaughn Bryant Honored by SAA” .................................................... pg. 3, 8
- “Tracking the Well-traveled Bottle Gourd” .............................................. pg. 4-8
- “Folsom on a Mountain Top” ............................................................. pg. 9-12
- “To the End of the Southern Continent” ............................................... pg. 13-15, 19
- “Wally’s Beach: New Evidence for Pleistocene Horse Hunting in Canada” ........................................................................ pg. 16-19

Vol. 21 No. 4
- “Clovis at Topper” .............................................................................. pg. 1-3, 15-20
- “First Lady of the New World: Arlington Springs Woman” ..................... pg. 4-6, 14
- “New Books: Phytoliths” ..................................................................... pg. 7-9
- “Paleoamericans in Peru” .................................................................... pg. 10-13

Volume 22 (2007)

Vol. 22 No. 1
- “Ted Goebel: Second in Command at CSFA” ........................................ pg. 1-3
- “Fire-cracked Rocks and the Carbohydrate Revolution” ........................ pg. 4-6, 18-20
- “The Timing of Megafaunal Extinctions in North America” ................... pg. 7-9, 20
- “Late-Pleistocene Occupations on the Oregon Coast” ............................ pg. 10-12
- “Court Decision Leaves Fate of Spirit Cave Man Undecided” ................ pg. 13, 15-17
- “Arlington Springs- The Story Isn’t Over Yet” ...................................... pg. 13
- “The Earliest Reported Archaeological Sites in South America” .............. pg. 14-18
Vol. 22 No. 2
- “Pleistocene Human Colonization of Beringia”………………. pg. 1-3, 15-17
- “A Spring That Keeps Flowing- The Shawnee-Minisink Clovis Site”……………………………………………………… pg. 4-7
- “Borax Lake Site: Revisited (Yet Again)”……………………….. pg. 8-12
- “Snapshots in Time: New Insights from Clovis Lithic Caches”…… pg. 13-15
- “In Memoriam: Richard E. Morlan”……………………………… pg. 16
- “Ancient DNA in Canada Reveals New Founding Lineage of Native Americans”……………………………………………… pg. 18-20

Vol. 22 No. 3
- “Clovis Dethroned: A New Perspective on the First Americans”… pg. 1-3, 20
- “Early Americans in Utah: They’re Getting Earlier”……………… pg. 4-6, 13
- “Sunken Treasure: Marmes Rockshelter”…………………………….. pg. 7-10
- “Megafaunal Extinctions Revisited”…………………………………… pg. 11-13
- “Is It or Isn’t It? The Quiet Controversy Over the Hudson-Meng Site”………………………………………………………… pg. 14-16, 20
- “Keeping Ancient Time”……………………………………………… pg. 17-19

Vol. 22 No. 4
- “Clovis Dethroned: Part II”………………………………………… pg. 1-2, 13
- “The Search for Starch Grains at Archaeological Sites”…………… pg. 3-4, 16-17
- “An Enduring Investigation: Wilson Butte Cave”………………….. pg. 5-8
- “The Hardaway Site”………………………………………………….. pg. 9-13
- “Genetic Discovery Refines Our View of the Peopling of the Americas”………………………………………………………… pg. 14-16
- “Footprints in the Mud: Insights into Extinction at Wally’s Beach”… pg. 18-20

Volume 23 (2008)

Vol. 23 No. 1
- “The Clovis Comet: Part I”………………………………………… pg. 1-3, 19-20
- “Pribilof Islands Mammoths: The Last to Fall”………………….. pg. 4-7, 18
- “Diving into Paleo Florida”……………………………………….. pg. 8-11
- “Early Mammoth Bone Flaking on the Great Plains”…………….. pg. 12-18

Vol. 23 No. 2
- “The Silver Beach Elk Site: A Case of Misleading Association”…… pg. 1-4, 8
- “Chemical Studies Reveal the Lost World of Pleistocene America”…… pg. 5-8
- “Boisvert, SCRAPP, and the Paleoamericans of New Hampshire”….. pg. 9-11, 20
- “Largest-ever Survey of Native American Genes Sheds Light on First Americans”……………………………………………… pg. 12-14, 19
• “The Clovis Comet: Part II”……………………………………………. pg. 15-18

Vol. 23 No. 3
• “Paleoamerican Origins Workshop”………………………………………. pg. 1-3, 16-17
• “Early-Holocene Caveman Sinks His Teeth into Genetics”………… pg. 4-9, 16
• “Remembering Robert H. Weber”………………………………………. pg. 8-9
• “Paleoamericans in Chile: The Evidence from Quebrada Santa Julia” … pg. 10-13
• “Through a Glass Darkly: Dating Obsidian Points”………………… pg. 14-15
• “The Clovis Comet: Part III”……………………………………………. pg. 18-20

Vol. 23 No. 4
• “Marcel Kornfeld: Paleoamerican Subsistence and Folsom in the Rockies”……………………………………………………………… pg. 1-4
• “Mockingbird Gap: A Mid-century Discovery Gets Another Spin”….. pg. 5-7, 16
• “New Study of Animal Bones from Sandia Cave Sheds Light on 70-year-old Controversy”………………………………… pg. 8-12
• “The Clovis Comet: Part IV”……………………………………………. pg. 13-15
• “In the Footsteps of Junius Bird”……………………………………….. pg. 17-20

Volume 24 (2009)

Vol. 24 No. 1
• “Paleoamericans in the Ozarks: Big Eddy Revisited”……………… pg. 1-3, 8-9
• “The Allen Site: Paleoamericans Seen Through a Different Prism”…… pg. 4-8
• “In the Footsteps of Junius Bird: Part II”……………………………… pg. 10-16
• “Clues from the Ashes: A Closer Look at Swan Point”……………… pg. 17-20

Vol. 24 No. 2
• “Following the Obsidian Trail”………………………………… pg. 1-3, 13-14, 20
• “Page-Ladson Gets Intimate”………………………………………… pg. 4-8
• “Hester: The Paleoamerican Site That Wasn’t Supposed to be There”….. pg. 9-13
• “In the Footsteps of Junius Bird: Part III”…………………………….. pg. 15-20

Vol. 24 No. 3
• “Early Bear Hunting and Ceremony on the Northwest Pacific Coast”……………………………………………………………… pg. 1-4, 20
• “Walking in Their Shoes”…………………………………………………. pg. 5-7
• “Putting Muscle into Coastal-Entry Research”………………………. pg. 8-11, 19-20
• “Fluted-Point Technology in Alaska: An Early Example from the Steward Peninsula”……………………………………………… pg. 12-15
• “Beyond the Border: Paleoamericans in Sonora, Mexico”………… pg. 16-19

Vol. 24 No. 4
• “Big Black Wolf”……………………………………………………… pg. 1-3, 7-8
Volume 25 (2010)

Vol. 25 No. 1
- “Paleo Woman: Lost to History”................................. pg. 1-3, 7-8
- “Finding Traces of Early Hunters Beneath the Great Lakes”........ pg. 4-7, 20
- “Decoding the Woolly Mammoth: Part II”........................ pg. 9-11, 20
- “Early Human Occupation in the NW Plains of Uruguay”........ pg. 12-15
- “Use Wear, Up Close”.............................................. pg. 16-19

Vol. 25 No. 2
- “Decoding the Woolly Mammoth: Part III”.................... pg. 1-3, 20
- “Paleolithic Art in North America?”............................. pg. 4-7, 11
- “Paleo Woman: America’s First Ladies: Gone, but Not Forgotten”.... pg. 8-11
- “The Clovis Comet Revisited”...................................... pg. 15-19

Vol. 25 No. 3
- “Studying Crescentics: Form or Function?”................... pg. 1-3, 6-7
- “Remembering Alan Lyle Bryan”................................ pg. 4-6
- “The Little John Site”............................................. pg. 8-12
- “On the Trail of the Domestic Dog: Part II”................... pg. 13-14, 20
- “An Archaeological Feast: Digging into Owl Ridge”.......... pg. 15-20
- “The Problem with Alaskan Fluted Points”..................... pg. 16-17

Vol. 25 No. 4
- “The Paleoindian Menu: Subsistence and Diet”................ pg. 1-4, 15
- “On the Trail of the Domestic Dog: Part III”..................... pg. 5-7, 19-20
- “Life of Its Own”.................................................. pg. 7
- “Human Migration into the New World: A New Look at the Genetic Evidence”..................................................... pg. 8-11
- “Paisley South America: Long Time, No See”.................... pg. 12-15
- “Paisley Caves: Part I”............................................. pg. 16-20

Volume 26 (2011)

Vol. 26 No. 1
- “Probing the Mysteries of the Shoop Site”........................ pg. 1-3, 11
Volume 28 (2013)

Vol. 28 No. 1
- “The Big-Game Hunting Conundrum” pg. 1-3, 7-8
- “Paleoamerican Odyssey” pg. 4-7
- “Angus Mammoth: Archaeological or Tampered Paleontological Site” pg. 9-11, 20
- “Pre-Clovis Butchered Ground Sloth in Ohio” pg. 12-15
- “A Revised Paleoamerican Menu: Wally’s Beach Camel” pg. 17-20

Vol. 28 No. 2
- “Ancient Siberian Canid Skull Raises Questions” pg. 1-4, 9
- “The Manis Mastodon in Context” pg. 5-8
- “Do Clovis Origins Lie in Paleolithic Spain? Part I” pg. 13-16
- “The Western Stemmed Tradition Points from Paisley Caves” pg. 17-20

Vol. 28 No. 3
- “Early Skeletons Point to a Single Source Population of the First Americans” pg. 1-5
- “In Memoriam: Joseph L. Cramer” pg. 4
- “Paleoamerican Odyssey Schedule” pg. 6-14
- “Alternative Views of the Solutrean Theory: Part II” pg. 15-18
- “The Last Gasp of the Last Ice Age: The Lakehead Complex of Ontario, Canada” pg. 20-24

Vol. 28 No. 4
- “The Ice-Free Corridor and the Peopling of the Americas” pg. 1-3, 15-16
- “Building the Case for Bull Brook” pg. 4-7
- “The Vela Supernova” pg. 8-11
- “Looking Back at Over 40 Years of Research on the Peopling of Latin America” pg. 12-15
- “Ben-192 and Alaskan Fluted-Point Technology” pg. 17-20
Volume 29 (2014)

Vol. 29 No. 1
• “Looking Back at Over 40 Years of Research on the Peopling of Latin America: Part II” ................................................................. pg. 1-3, 20
• “Paleoamerican Odyssey: The Conference That Was!” ......................... pg. 4-5
• “The Rising Tide of Northeast Asian Human Occupation” ..................... pg. 6-9
• “Monolithic No Longer: Cultural Diversity in North America Before 13,000 CALBP” ................................................................. pg. 9-13
• “What About Clovis?” ................................................................. pg. 13-15
• “Latin American Mosaic: Biological Homogeneity and Cultural Diversity Before 10,000 CALBP” ........................................ pg. 15-18
• “Archaeology and the Occupation of New Lands” ................................ pg. 19-20

Vol. 29 No. 2
• “Footprints of the Pampas: A Past Worth Saving” ................................ pg. 1-5, 15
• “Ancient Siberian Boy Reveals Complex Origins of First Americans” ................................................................. pg. 6, 12-15
• “Clovis Child Answers Fundamental Questions About the First Americans” ................................................................. pg. 7-12
• “Oldest Dated Petroglyphs in North America” .................................... pg. 16-20

Vol. 29 No. 3
• “The Clovis Comet: The Cratering Evidence” .................................... pg. 1-5, 9
• “Paleolandscapes of the South Atlantic Bight” ................................... pg. 6-9
• “Hogeye Secrets” .......................................................................... pg. 10-13
• “Clovis Spear Points Were Used to Process Plants” .......................... pg. 14-17
• “The Cody Complex: Part I” .......................................................... pg. 18-20

Vol. 29 No. 4
• “Spread of Wapiti Mimics the Migration of Ancient Humans” ............ pg. 1-4, 8
• “Tracking Paleoamerican Migrations with Mitogenomes” ..................... pg. 5-8
• “The Cody Complex: Part II” .......................................................... pg. 9-12
• “Exploring an Ethnolinguistic Melting Pot: Prehistoric California” ...... pg. 13-16
• “Elusive Crescentics” ..................................................................... pg. 17-20

Volume 30 (2015)

Vol. 30 No. 1
• “The Clovis Diet: Mostly Mammoths?” ........................................ pg. 1-3, 19-20
• “Kennewick Man: Ambassador from Our Ancient Past” ..................... pg. 4, 8-10
• “Kennewick Man- Setting Precedents: A Legal Odyssey” ..................... pg. 5-8
• “The Clovis Comet: New Developments in the Proxy Evidence” ….. pg. 11-14
• “Forgotten Land Bridge” ……………………………………………………… pg. 15-19

Vol. 30 No. 2
• “George C. Frison: Archaeologist on Horseback” …………….. pg. 1-4, 9-10
• “Sourcing Clovis Toolstone” …………………………………… pg. 5-9
• “A Tribute to Larry D. Agenbroad” ………………………………….. pg. 8
• “We Are All One: Anzick Children Reburied” ………………….. pg. 11-14, 20
• “The Clovis Comet: New Developments in the Proxy Evidence, Part II” ……………………………………………………… pg. 15-19

Vol. 30 No. 3
• “C. Vance Haynes, Jr.: A Legacy of Impeccable Scholarship” ….. pg. 1-3, 18-20
• “El Fin Del Mundo” ……………………………………………………… pg. 4-7
• “DNA Links Mexican Paleoamerican to Native Americans” ….. pg. 8-12, 17
• “The Shape of Clovis” ………………………………………………….. pg. 13-16

Vol. 30 No. 4
• “Looking for Sites at the Water’s Edge” ……………………………. pg. 1-6, 10-11
• “Horn Shelter No. 2 Double Burial” …………………………………… pg. 7-10
• “Reaching New Heights in the Peruvian Andes” …………………… pg. 12-16
• “The Clovis Comet: New Developments in the Proxy Evidence, Part III” ……………………………………………………… pg. 17-20

Volume 31 (2016)

Vol. 31 No. 1
• “The Essential Tool for Making Needles” ………………………… pg. 1-3, 14-15
• “The Archaeology of Mars-on-Earth” ………………………………… pg. 4-9
• “Reaching New Heights in the Peruvian Andes: Part II” …………… pg. 10-14
• “Digging Deeper into Upward Sun” …………………………………… pg. 16-20

Vol. 31 No. 2
• “DNA Clarifies Prehistory of New World Arctic” ………………… pg. 1-3, 14-16
• “Who Were the People That Peopled America?” …………………… pg. 4-9, 14
• “The Windover Site: A Paleoamerican Tableau” …………………… pg. 8-9
• “A Beacon in First Americans Studies: Ruth Gruhn” ……………… pg. 10-14
• “A Light Footprint: Pre-Clovis in the Northern Cap, South America”… pg. 17-20

Vol. 31 No. 3
• “Kennewick Man’s DNA Reveals His Ancestry” ………………….. pg. 1-5, 19-20
• “The Plainview Site: Part I” …………………………………………… pg. 6-10
• “Ranging Widely in Search of the First Americans: David J. Meltzer”… pg. 11-13
<table>
<thead>
<tr>
<th>Volume 32 (2017)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Vol. 32 No. 1</strong></td>
</tr>
<tr>
<td>• “Clovis, Masters of Organized Transport”........................................ pg. 1-5</td>
</tr>
<tr>
<td>• “Genetic Clues Answer Fundamental Questions about the Peopling of the Americas”..................................................... pg. 6-8, 14-15</td>
</tr>
<tr>
<td>• “Lighting the Path: Dennis Stanford”............................................... pg. 9-13</td>
</tr>
<tr>
<td>• “Archaeology Under the Great Lakes”................................................. pg. 16-20</td>
</tr>
<tr>
<td><strong>Vol. 32 No. 2</strong></td>
</tr>
<tr>
<td>• “A High-Resolution Timeline for Peopling of the Americas”............. pg. 1-4, 9</td>
</tr>
<tr>
<td>• “An Uncommon Doorway to Our Past: The Page-Ladson Site”.............. pg. 5-9</td>
</tr>
<tr>
<td>• “Submerged at Page-Ladson”.......................................................... pg. 10-11</td>
</tr>
<tr>
<td>• “The Opposite of Overkill: Sporormiella Evidence at the Page-Ladson Site”................................................................. pg. 12-14</td>
</tr>
<tr>
<td>• “An Organized Mind: David G. Anderson”........................................... pg. 15-20</td>
</tr>
<tr>
<td><strong>Vol. 32 No. 3</strong></td>
</tr>
<tr>
<td>• “Unearthing an Ancient Ecosystem: Megafaunal Remains in the Willamette Valley”................................................................. pg. 1-5, 11-12</td>
</tr>
<tr>
<td>• “Artifacts and Geofacts at Wenas Creek”.......................................... pg. 6-11</td>
</tr>
<tr>
<td>• “What We Know About the Origin of Dogs: Part I”............................. pg. 13-14</td>
</tr>
<tr>
<td>• “Bonnie Pitblado: A Passion for Peaks, Paleoamericans, and Public Archaeology”.............................................................. pg. 15-20</td>
</tr>
<tr>
<td><strong>Vol. 32 No. 4</strong></td>
</tr>
<tr>
<td>• “Re-examining a Classic First Americans Site: Return to Old Vero”..... pg. 1-4, 8</td>
</tr>
<tr>
<td>• “Was the Ice-Free Corridor the Route Followed by the First Americans?”................................................................. pg. 5-8</td>
</tr>
<tr>
<td>• “Was the Ice-Free Corridor the Route Followed by the First Americans?: Part II”................................................................. pg. 9-11, 20</td>
</tr>
<tr>
<td>• “What We Know About the Origin of Dogs: Part II”............................ pg. 12-14</td>
</tr>
<tr>
<td>• “Gary Haynes: A Predilection for Proboscideans”................................ pg. 15-20</td>
</tr>
</tbody>
</table>
Volume 33 (2018)

Vol. 33 No. 1
- “Paleoamerican Art Objects”……………………………………………………………. pg. 5-7, 20
- “Brazil: Leafing Through Prehistory”…………………………………………. pg. 8-12
- “A Refined Chronology for Kills at Wally’s Beach”………………….. pg. 13-15, 19
- “A Model of Excellence in Latin American Archaeology: Luis Borrero”……………………………………………………………………………. pg. 16-19

Vol. 33 No. 2
- “Proving the Beringian Standstill Hypothesis: The Bluefish Caves”…. pg. 1-4, 20
- “Genetic Insight into the First Americans”………………………………… pg. 5-8
- “Brazil: Leafing Through Prehistory: Part II”…………………………… pg. 9-14, 20
- “An Early Discovery Leads to a Lifetime Passion: Nora Fleggenheimer”…………………………………………………………………………….. pg. 15-19

Vol. 33 No. 3
- “From Three Waves to a Standstill: An Evolving Story Based on Teeth”…………………………………………………………………. pg. 1-4, 8
- “Prehistory in the Southern Cone: Arroyo Seco 2”……………………….. pg. 5-8
- “South American Monkeys Make Stone Pseudo Tools”…………………. pg. 9, 12-14
- “Remembering Ruthann Knudson”……………………………………… pg. 10-11
- “Tom Dillehay: The Clovis-First Iconoclast”……………………………. pg. 15-20

Vol. 33 No. 4
- “Technological Revolution: Ancient Human DNA Recovered from Pleistocene Cave Sediments”…………………………………………… pg. 1-5
- “Of Mammoths and Men”…………………………………………………… pg. 6-12
- “Dry Creek: Part I”……………………………………………………………. pg. 17-20

Volume 34 (2019)

Vol. 34 No. 1
- “Archaeology of the Gem State”………………………………………. pg. 1-5, 12
- “Dry Creek: Part II”……………………………………………………………. pg. 6-12
- “Along the Coast or Down the Ice-Free Corridor- How Did the First Americans Get Here? Part I”……………………………………….. pg. 13-16, 20
- “Jon Erlandson: The Role of the Sea in Human Prehistory”…………… pg. 17-20

Vol. 34 No. 2
• “The Chan Hol II Individual” .................................................. pg. 1-4
• “Along the Coast or Down the Ice-Free Corridor- How Did the First Americans Get Here? Part II” ......................................... pg. 5-9, 13
• “Beringian Child’s Genome Reveals the Founding population of the First Americans” .................................................. pg. 10-13
• “The Fifth Beginning: Robert L. Kelly” .................................. pg. 14-17
• “Huaca Prieta: An Ancient Maritime Economy” ..................... pg. 18-20

Vol. 34 No. 3
• “The Native American Family Tree Branched Early” .............. pg. 1-6, 17
• “Hooked on Cedros Island: An Oasis for Prehistoric Fishermen” .. pg. 7-11
• “Dennis Jenkins: Pre-Clovis DNA Deposits at the Paisley Caves” .... pg. 12-17
• “Huaca Prieta: An Ancient Maritime Economy Part II” ............ pg. 18-20

Vol. 34 No. 4
• “Ghost Fossils: A Pleistocene Trackway and Possible Kill Site at White Sands, New Mexico” ................................................ pg. 1-4, 15
• “Footprints on the Sands of Time” .......................................... pg. 5-9
• “Remembering Dennis J. Stanford” ...................................... pg. 10-11
• “Digging Below the Ash: Discoveries at Fort Rock Cave” ........ pg. 12-15
• “Getting to the Bottom of Topper: Albert Goodyear” ............ pg. 16-20

Volume 35 (2020)

Vol. 35. No. 1
• “Americas Lost Dogs” ......................................................... pg. 1-4
• “Plumbing the Depths of Human Presence” ............................ pg. 5-8, 17
• “Dung Fungus and Megafaunal Extinctions: The Humblest of Clues” .... pg. 9-11
• “Laura Miotti: The Peopling of the Pampas and Patagonia” ......... pg. 12-17
• “What Does the Y Chromosome Tell Us About the First Americans” ... pg. 18-20

Vol. 35 No. 2
• “What Does the Y Chromosome Tell Us About the First Americans: Part 2” pg. 1-4
• “Clovis Toolmaking: To Flute, or Not to Flute” ......................... pg. 5-8
• “Beck & Jones: A Talented Team” ....................................... pg. 9-12
• “The View from the Cerutti Mastodon Site” ........................... pg. 13-16, 20
• “Genetic Studies Reveal Rich History of Ancient America” ........ pg. 17-20

Vol. 35 No. 3
• “Genetic Studies Reveal Rich History of Ancient America: Part 2” ... pg. 1-4, 19
• “40 Years Excavating the Monte Verde Complex” .................... pg. 5-9
• “Tom Stafford: Master of Validating the Age of Fossils” ............ pg. 10-14, 20
• “Living the High Life: The Early Humans of Cuncaicha Rockshelter” .. pg. 15-18
Vol. 35 No. 4

- “Siberian Roots of the First Americans”................................. pg. 1-4, 14
- “Ceramics: Born in Pleistocene Asia, the Industry Hitched a Ride to the Americas”.......................................................... pg. 5-9
- “Cooper’s Ferry: An Important Addition to Pre-Clovis Sites”........ pg. 10-14
- “Vance Holliday: More Than a Texas Dirt Archaeologist”............ pg. 15-20

Volume 36 (2021)

Vol. 36. No. 1

- “The Gault and Friedkin Sites: The Stemmed-point Trail to Clovis”..... pg. 1-4
- “Ceramics: Born in Pleistocene Asia, the Industry Hitched a Ride to the Americas: Part 2”.............................................................. pg. 5-6
- “Beyond Survival: Hunting Mammoths in the Paleolithic”.......... pg. 7-11, 20
- “John Hoffecker: Seer of the Global Dispersal of Anatomically Modern Humans” pg. 12-15
- “Remembering George Carr Frison 1924-2020”......................... pg. 16-18

Vol. 36. No. 2

- “Lange/Ferguson: A Clovis Mammoth Butchery Site in the South Dakota Badlands”................................................................. pg. 1-4
- “Bone Needles of the Younger Dryas”........................................ pg. 5-9
- “Archaeology in Coastal British Columbia”................................. pg. 10-14, 20
- “Loren Davis: Validating a Pacific Coast Entry Route”............... pg. 15-20

Vol. 36 No. 3

- “Yukon Site Yields Evidence of First Americans”....................... pg. 1-4
- “Lange/Ferguson: A Clovis Mammoth Butchery Site in the South Dakota Badlands: Part 2”......................................................... pg. 5-7
- “Rolfe Mandel: Finding Evidence of Early Humans in the Great Plains, Midwest, and Beyond”....................................................... pg. 8-12, 17
- “Is That Artifact Really Clovis? A Case In Point”..................... pg. 13-17
- “Evidence From Campo Laborde: Did Pampas Megafauna Survive Until the Holocene?”....................................................... pg. 18-20

Vol. 36 No. 4

- “The Lowe Complex: Dating the Peopling of Mesoamerica”......... pg. 1-4, 20
- “El Tigre: The Sleeper Site of Uruguay”..................................... pg. 5-8
- “Genetics Study Links Upper Paleolithic Siberians to First Americans” pg. 9-10, 20
- “Cueva del Medio: A Window on the Colonizing of Southern Patagonia” pg. 11-15
- “La Prele: The Perplexing History of a Mammoth Kill Site”......... pg. 16-19
Volume 37 (2022)

Vol. 37 No. 1
- “Perishable Technologies: A Window Into Understanding Paleoindian Material Culture”………………………………………………………………… pg. 1-5
- “First Evidence of S.A. Megafauna Killed by Humans”…………… pg. 6-10, 20
- “Hall’s Cave: Where aDNA Revealed the Cause of Megafauna Extinction”…… pg. 11-15
- “Vladimir Pitulko: The Search for Paleosiberians”………………… pg. 16-20

Vol. 37 No. 2
- “Bone Chemistry Reveals First Americans’ Diet”………………… pg. 1-4
- “Dogs of the First Americans”…………………………………………… pg. 5-8
- “The Origins of Dogs: New Discoveries”…………………………… pg. 9-11, 20
- “Following in Giants’ Footsteps”……………………………………… pg. 12-15
- “Michael Collins: Clovis Expert Extraordinaire”…………………… pg. 16-20

Vol. 37 No. 3
- “Raven Bluff: A Well-behaved Fluted-point Site in Alaska”……… pg. 1-5, 20
- “Female Hunters and the Sexual Division of Labor in Early Americas”… pg. 6-9
- “American Indian Ancestors Arose in Asia During the Beringian Standstill”…… pg. 10-11, 20
- “Barbara Purdy: Authenticating Age by Rare Earth Elements”……… pg. 12-15
- “A Cave in Mexico Challenges Our Model of the Earliest Entry into the Americas”……………………………………………………………… pg. 16-19

Vol. 37 No. 4
- “The Hunting Weapon that was Too Efficient”………………………… pg. 1-5, 20
- “Owl Ridge: Exploring Three Distinct Occupations at an Alaskan Site”….. pg. 6-9
- “Paleocoastal Living: Earning a Living on Santarosae Island”……… pg. 10-14
- “James S. Dunbar: The Master Archaeologist of Florida”…………….. pg. 15-20

Volume 38 (2023)

Vol. 38 No. 1
- “Early Tobacco Use in North America”……………………………….. pg. 1-4, 20
- “aDNA and Archaeology Reveal the Peopling of the Americas”…….. pg. 5-8
- “Stepping WAY Back in Time at White Sands National Park”……….. pg. 9-13
- “The Australasian Connection to the First South Americans”……….. pg. 14-15
- “Guadalupe Sanchez: Learning How Humans Adapt to Arid Landscapes” pg. 16-20

Vol. 38 No. 2
- “sedaDNA: Wresting Secrets from Sediments”……………………… pg. 1-4, 20
- “Stepping WAY Back in Time at White Sands National Park part 2”…… pg. 5-7
- “After Cooper’s Ferry, Rethinking How the Americas Were Peopled” pg. 8-11, 20
- “Craniofacial Morphology: Putting it to Work”………………………… pg. 12-14
- “Eske Willerslev: Using aDNA to Reconstruct 50,000-year-old humans”pg. 15-19
Vol. 38 No. 3

• “Questioning the Age of Human and Megafauna Footprints at White Sands National Park” ......................................................... pg. 1-4, 20
• “La Mina: The mysteries of Quintana Roo” .................................................. pg. 5-11
• “Craniofacial Morphology: Putting it to Work part 2” ............................. pg. 12-14
• “Ben Potter: Lifeways of Ancient Hunter-gatherers” .......................... pg. 15-20

Vol. 38 No. 4

• “La Mina: The mysteries of Quintana Roo part 2” ........................................ pg. 1-3
• “Charting the Arctic Past Using Metagenomics” ........................................ pg. 4-7
• “Bone & Ivory: The favorite toolstock of Paleolithic toolmakers” .......... pg. 8-10
• “The Thule Migration: An ethnographic model for the peopling of the Americas” pg. 11-13, 17
• “Leland C. Bement: Defining bison-kill sites” .............................................. pg. 14-16
• “Genetic Diversity at the Gateway to South America” .......................... pg. 18-20
• “Challenging the Japan Connection” .......................................................... pg. 21-24