



Paleo - Early Archaic Finds In Southeast Iowa

The members who attended the annual business meeting on April 29 in Ottumwa voted to name Don Spears as **Newsletter** Editor Emeritus in recognition of his many years of service to the **Newsletter**. Don was editor for issues 51-64 from March, 1969 to April, 1972. He has served as the associate editor since that time with primary responsibilities for the coordination with the printer. If you look back through **Newsletter** issues for the past twenty years, you will find many photos, articles, and news items that were contributed by Don. While we can expect many more items from him, it seems appropriate to dedicate Issue 110 to his years of service.

As many of you know, I have resigned the editorship after 12 years because I am leaving the state to assume the dean of students position at Hendrix College in Conway, Arkansas. Betsy and I will be heading south this summer to explore the "hills" of Arkansas. From what I have heard and read, there are excellent archaeological opportunities there. We will miss our contact with the Iowa Society, but we will remain members and file an Arkansas report from time to time.

I will miss the editorship of the **Newsletter**, but I am happy to turn it over to Lori and David Stanley. They operate their own archaeological service and are both knowledgeable and excited about the field. We can all look forward to fine **Newsletters** in the future. Please support their efforts by providing material for publication because it is difficult to be an editor with nothing to print. The lack of material has been my biggest problem as editor. While issue 110 is billed as the spring edition, it will be out this summer. I plan to do a special **Newsletter** for the summer so Dave and Lori will start on time this fall. Support their editorship by sending items for publication to:

Lori and David Stanley
P.O. Box 27
Highlandville, IA 52149

Issue 110 is devoted mainly to chert. It features an excellent article by David N. Ballard, Jr., on chert analysis of the upper Skunk River Valley. David is a good example of a lay archaeologist who is adding significant knowledge to the study of prehistoric peoples in Iowa. I also want to thank Jack H. Ray and Mike O'Brien of the Missouri Archaeological Society for allowing the reprinting of the article: "Excello Chert: An Undescribed Chert Resource in North Central Missouri." Don Spears has contributed material for this research project.

Betsy and I also want to express our appreciation for the Keyes-Orr Award. While the timing between our leaving the state and the award is coincidental, it will be a cherished remembrance of our association with the many fine people in the Iowa Archaeological Society.

Since I am planning a special summer edition, I want to thank everyone now for their support of the **Newsletter** over the past 12 years. It is not possible to mention everyone, but the following people have been especially helpful.

Duane Anderson	Herb Sovereign
George Horton	Catherine Johnson
David Gradwohl	Richard Slattery
Dennis Miller	John Feeley
Lynn Alex	Nancy Osborn
James Reysack	R. Clark Mallam
John Palmquist	Janice Hall
D.E. Pidcock	Dan Zweiner
Marilyn Lilja	Shirley Schermer
David Carlson	Adrian Anderson
Ruth Thornton	John Dandarich
Joe Tiffany	Arnold Roggman
Dale Henning	Pat Williams
Robert Conley	David Ballard
Toby Morrow	Mary Jane Hatfield
Lisa Tatum	Wayne Pushetonequa
Charles Pushetonequa	Frank Pushetonequa
Russ Holven	Sara Behrman
Deb Ziegrowsky	DD Davis
David Benn	Duane Miller
Glenn R. Hummell	Jody Meyer
Lori Lieber	Kenny Glattfelder

Special Thanks To:

Don G. Spears - Associate Editor and the person who always can find something to print.
Ken and Ken Glattfelder - Ottumwa Printers
Ronda Stump - For years of committing my handwritten scrawl to beautifully typed pages.
Betsy Lyman - For critical review and inspiration.

New Members IAS

Brenda Marlin	Indianola
Kathleen Sullivan	Burlington
Roberta Ann Connelly	Davenport
Laurie Bileborough	Algona
Bernetta Lopez	Sioux City
Andrew Barber	Des Moines
Wenona Hooper	Marshalltown
Mr. & Mrs. Daniel Huss	Marshalltown
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Jody Myer	Decorah
James M. Collins	Decorah
Frederick William Scott	Maryville, Mo.
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Coleen Nutty	Ames
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Regina Strom	Omaha
Barbara Sterzing	Marshalltown
Sara Hastings	Council Bluffs
Charles Richards	Red Oak
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Kelly Huggins	Des Moines
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Robin Weatherall	Omaha
Margaret Wilmeth	Omaha
Vicki Thieman	Omaha
Anne Sterzing	Marshalltown
Tom & Kathy Shaddy	Pacific Junction
Jean Freeman	Council Bluffs
Barbara Cochran	Glenwood
Elizabeth Wilkowski	Mineola
Charles Culp	Council Bluffs
Timothy McHugh	Logan

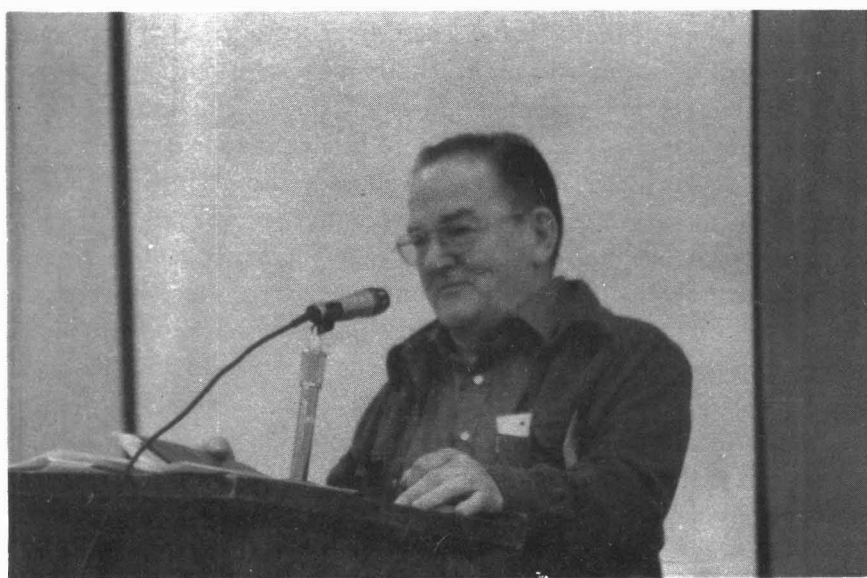
by Don G. Spears

During the year of 1968, Garland Gordon, I.A.S. **Newsletter** Editor, transferred from his job at the Effigy Mounds National Monument in McGregor to Tempe, Arizona. Adrian Anderson was reluctantly made the editor by default. He and friend George H. Horton published the next **Newsletter**, #50, dated January, 1969. In a call to Adrian about the next issue, he told me it was printed but had not been mailed. He asked me if I wanted the editor's job and my reply was, "Will try." The files, issue #50, and the society addressograph arrived the next Sunday morning in Ottumwa and I was in business. After a tenuous session with the postal authorities in Des Moines over the I.R.S. rules on non-profit organization requirements, a bulk rate permit was issued to the society, and I finally was able to mail out the #50 copy. I edited issues #51 thru #64.

During the winter of 1971-72, a

young "Turk" from Indianola wrote a letter to the **Des Moines Register** noting that there was little information available to the public about archaeology in Iowa. I replied and sent him information about the society. He joined immediately. At the annual I.A.S. meeting held in Ft. Dodge in April, 1972, I convinced Gary Valen and Betsy Lyman that the editorship of the **Newsletter** was just what they needed. At the business meeting they were selected as editors and their first issue was #65, July, 1972.

It is good to pick your successor and my proteges were excellent choices. This association has become a real, war, friendship. Their participation has been a great boost for the society. No other society **Newsletter** can be compared to this publication. While the hours of labor are long and the pay is small, the sense of accomplishment is gratifying.



Don G. Spears addresses the I.A.S. Annual Meeting in 1975.

Archaeological specimens can be restored and missing pieces reconstructed using a new product from the Friendly Plastic Company, Ltd., of Boulder, Colorado. It is excellent for sculpturing representations of historic settings, furniture, and human and animal figures for diorama display. Friendly Plastic™ compound is an almost unbreakable plastic that, when warmed, can be modeled in your bare hands like clay. It can be reheated and reworked until the piece is exactly the way you want it. New material can be added and pieces can be fused together. After it hardens, detail can be carved in. It can be colored or finished to almost any desired appearance. Ordinary household utensils are all you need.

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To make a mold, simply place a piece with a flat bottom down and surround it by a cardboard and Friendly Plastic™ compound dam. Plastic supply houses sell Dow Corning's Silastic RTV rubber and curing

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Cherts of the Upper Skunk River Valley Story County, Iowa

by David N. Ballard, Jr.

This paper is an abbreviated version of **Cherts of the Upper Skunk River Valley, Story County, Iowa** (Ballard, 1983) and describes cherts naturally occurring in the Upper Skunk River Valley in relation to their identities, sources knapping qualities and response to thermal alteration. The basis for the data contained in this paper is a lithic source survey in which fifteen lithic source areas were examined. At each source a search was made for evidence of prehistoric procurement activities and samples were collected for examination, classification, and experimental knapping, and thermal alteration. For identification and descriptive purposes, following examination and comparison to archaeological materials, the cherts were divided into two groups on the basis of primary geological context. Then the cherts were classified into nine categories on the basis of morphology, composition, color, luster, knapping quality, and response to thermal alteration (refer to Table 1). The philosophy underlying this classification scheme is the grouping of cherts from similar sources and with similar characteristics into categories which then can be applied to archaeological analyses and which hopefully reflect the distinctions made by prehistoric knappers.

In the Upper Skunk River Valley of Story County, Iowa, a variety of cherts occur in primary matrices of Mississippian bedrock of the Warsaw formation and Cary till of the Wisconsin glaciation. Nodules and cobbles of tabular chert, eroded and transported from the primary sources, also occur in secondary talus, and in residual, alluvial, and stream gravel bar deposits. Outcrops of Mississippian limestones, shales, dol-

omites of the St. Louis and Warsaw formations, and Pennsylvanian limestones, shales, and sandstones of the Cherokee group occur in northwestern Story County along the axis of a northeast to southwest-trending structural anticline or fault located between the towns of Roland and Ames (Zimmerman 1952; Sendelein and Dougal 1968). Within this area the course of the Skunk River and its small tributary streams are influenced by the underlying structural discontinuity and at many locations have eroded the overlaying till, exposing small sections of bedrock to the surface. Pennsylvanian and Mississippian St. Louis sections are exposed at several locations but these contain only scattered nodules and masses of very poor quality chert. There is as yet no archaeological evidence to suggest that either of these cherts was ever used by prehistoric knappers. More prominent along the Skunk River are outcrops of Mississippian dolomites, limestones, and shales of the Warsaw formation which contain a variety of tabular and nodular cherts. These latter cherts exhibit considerable variation but fall into two main categories, chalcedonic nodular cherts and tabular dolomitic cherts (Posey 1955).

Archaeological investigation in the region (Gradwohl and Osborn 1972) indicate that the procurement and knapping of the Mississippian cherts was an important prehistoric activity in the Upper Skunk River Valley and that this chert exploitation goes back to the Archaic period and continues into the Post-Woodland period. Procurement strategies cannot be fully demonstrated, but surface collections from talus rubble and stream gravels and possibly the prying of chert masses from the out-

crop faces would have been the most efficient methods and would have provided an immense quantity of raw material with minimal investments in time and labor. No evidence has yet been found to suggest that pits or trenches were dug into residual deposits, but the possibility exists that this strategy was practiced and that modern land use has obliterated the evidence.

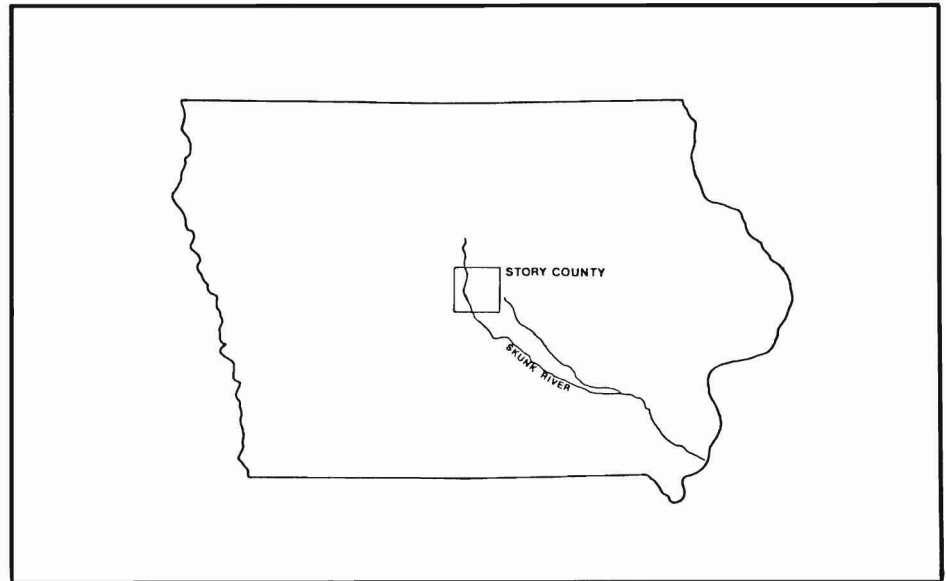
Judging from its abundance in local archaeological assemblages, Mississippian chalcedonic chert was the most extensively used source material in the Upper Skunk River Valley. The regional occurrence of the chert at archaeological sites is not as well documented, but it is known to occur in Woodland and Post-Woodland assemblages in the central Des Moines River Valley (Osborn and Gradwohl 1980). The chert contained in the nodules is generally of good knapping quality, but the nodules are often heterogeneous aggregates of chert, calcite, and quartz exhibiting a thick heterogeneous outer cortex and a concentric structure of fine-grained chert masses around a coarser-grained quartz nucleus. Often the more homogeneous and fine-grained masses are relatively small in relation to the total size of the nodule. Many quarry collection sites and knapping stations are littered with large pieces of shattered and broken and fragmented nodules, presumably from the initial search for and preparation of the more homogeneous masses. The knapping quality of this chert is greatly improved by thermal alteration, and most artifacts and debris of the chert observed exhibit characteristics of heat treatment.

The Mississippian dolomitic cherts

are often heterogeneous and tend to grade to dolomites of varying siliceous replacement. In general the knapping qualities of the chert are rather poor. Large quantities of dolomite waste are produced in preparing the source material, and the chert neither produces nor retains a sharp working edge. However, prehistoric knappers occasionally used dolomitic chert as a source material, in particular for large bifacial and unifacial chopping, picking, and digging implements. It may be that this rather soft and less compact source material was not as prone to breakage during rigorous use and was selected for tools where durability under hard use was more important than the maintenance of a sharp working edge. Although variation is observed during experimentation, knapping quality of the chert generally does not improve with thermal alteration, and preliminary analyses indicate that prehistoric people seldom applied heat treatment as a preparation of dolomitic cherts for knapping.

Story County is located near the southern terminus of the occurrence of Cary till of the Des Moines lobe created by the Wisconsin glaciation. This glacial till contains a variety of cherts, and preliminary evidence suggests that prehistoric knappers in the Upper Skunk Valley also exploited glacial erratic cherts as a source of lithic source material. Exploitation of glacial erratic cherts tends to be more extensive at sites located relatively distant from Mississippian outcrops. Glacial erratic cherts occur throughout the Upper Skunk River Valley as randomly dispersed cobbles in the glacial till, on stream gravel bars, within hill slope stone lines and on the land surface.

Seven generalized categories of glacial erratic cherts are known to have been used as lithic source material by knappers in the Upper Skunk Valley. Of the glacial erratic cherts, Categories 4 and 6 are the most common in both the glacial till and archaeological assemblages. Both exhibit rather poor natural



knapping qualities; resistance to fracturing is rather high; and the fractures are hacky, splintery, and often irregular. Heat treatment dramatically improves the knapping qualities of both cherts, and most artifacts and debris of the cherts from archaeological context exhibit characteristics of thermal alteration. Late Archaic and Woodland peoples appear to have been the principal users of these chert types. Category 5, Tongue River chert, is source material in this region. Woodland-period knappers were the principal users of Tongue River chert in the Upper Skunk Valley, and most artifacts of this material exhibit characteristics of thermal alteration. Categories 3, 8, and 9 are less common in the till and appear to have been seldom used as lithic source material by prehistoric knappers. Although not included in the categories listed here and not occurring in sufficient size for use as a lithic source material, pebbles of Knife River flint and a black chalcedony also occur in the glacial till of Story County. The geographic distribution of these source materials within the glacial till in central Iowa has not been fully investigated, but limited data suggests that they occur over the area covered by Cary till.

The Upper Skunk River Valley of Story County, Iowa, contains abundant and varied lithic source materials. Prehistorically the procure-

ment and knapping of the cherts was an important activity in the Upper Skunk Valley, and there is evidence to indicate that regional prehistoric groups acquired the cherts locally through direct procurement or trade. The identification of the Upper Skunk River cherts, as well as cherts from other regional sources, in archaeological assemblages can provide data on prehistoric spheres of interaction and on the geographical areas exploited by prehistoric groups of different cultural traditions.

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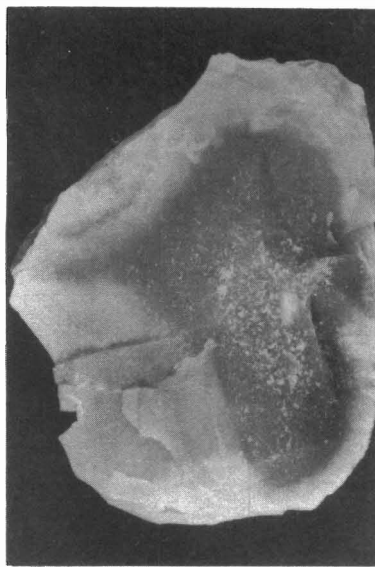
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Zimmerman, Harold Lee

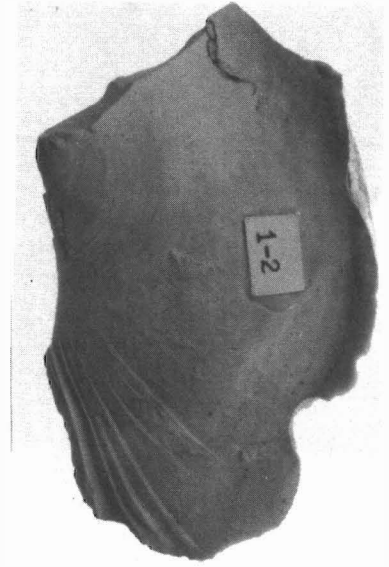
1952 Bedrock Geology of Western Story County, Iowa. Masters Thesis, Department of Geology, Iowa State College, Ames.



CATEGORY 1. Dolomitic Chert
Section: 3X



CATEGORY 2. Chalcedonic
Chert Nodule: .75X



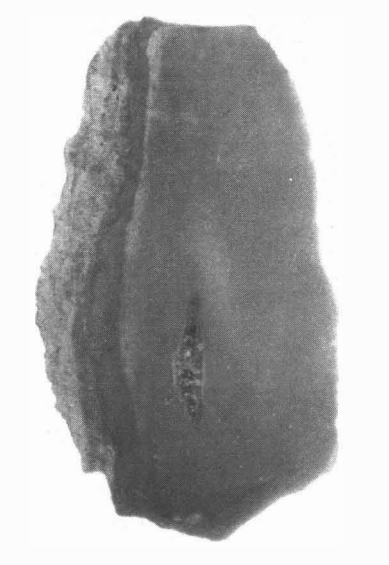
CATEGORY 3. Flake: .87X



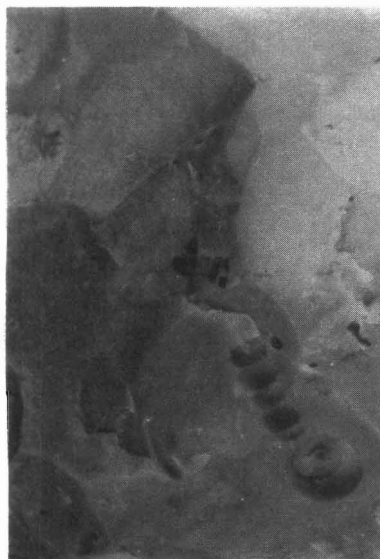
CATEGORY 4. Flake: 1X



CATEGORY 5. Tongue River
Chert Section: 2X



CATEGORY 6. Flake: 1.25X



CATEGORY 7. Section: 3X



CATEGORY 8. Nodule: 1.5X



CATEGORY 9. Oolitic Chert
Section: 3X

CATEGORY	DESCRIPTION	HEAT TREATMENT DATA			
		ALT TEMP °C	SENSITIVITY TO THERMAL STRESS	APPEARANCE	KNAPPING QUALITY
<u>MISSISSIPPIAN CHERTS OF THE WARSAW FORMATION</u>					
1 DOLOMITIC CHERT	Color: Brown to Gray. Translucency: Opaque. Luster: Dull. Morphology: Nodular and tabular. Description: Heterogeneous micrograined to granular aggregate of dolomite and chalcedony (Posey 1955). Knapping quality: poor.	300-400	Moderate	Luster: Semi-vitreous. Color: Red or blue/gray with red, pink, white, and blue patterns.	Minimal improvement
2 CHALCEDONIC CHERT NODULES	Color: Colorless, white, or blue/gray. Translucency: Opaque to slightly translucent. Luster: Dull to semi-vitreous. Morphology: Nodular. Description: Varies from a dense and homogeneous cryptocrystalline mosaic of quartz and chalcedony to a heterogeneous and granular aggregate of quartz, chalcedony, and calcite (Posey 1955). Knapping quality: Poor to good.	300-400	Moderate	Luster: Semi vitreous to waxy. Color: White, blue/gray, or colorless, sometimes with pink hues.	Marked improvement
<u>GLACIAL ERRATIC CHERTS: CARY TILL OF DES MOINES LOBE</u>					
3 YL/BR NODULAR CHERT	Color: Yellow/brown. Translucency: Opaque. Luster: Dull and chalky. Morphology: Nodular. Description: Dense and homogeneous micro-cryptocrystalline mosaic containing patches and micrograins of limonite. Knapping quality: Good.	425	None	Luster: Only slight change. Color: Yellow/Orange with red speckles.	Minimal improvement
4 YL/BR-GR TABULAR CHERT	Color: Yellow/BR-GR. Translucency: Opaque. Luster: Dull. Morphology: Tabular. Description: Dense and homogeneous microcrystalline mosaic of angular grains containing patches of crystalline quartz and micrograins and patches of limonite. Exhibits fossil casts on cortical surfaces. Knapping quality: Poor to moderate.	400	High	Luster: Waxy Color: Red and gray patterns.	Marked improvement
5 TONGUE RIVER CHERT	Color: Light yellow/gray. Translucency: Opaque. Luster: Dull. Morphology: Tabular. Description: Angular quartz grains cemented by quartz and containing root and stem impressions (Anderson 1978). Knapping quality: Poor.	300-400	None	Luster: Waxy. Color: At higher temperatures red, at lower temperatures amber.	Marked improvement
6 GRAY TABULAR CHERT	Color: light to medium gray. Translucency: Opaque. Luster: Dull. Morphology: Tabular with fossil casts on cortical surfaces. description: Dense and homogeneous micrograined mosaic of angular grains containing patches and fissures lined with crystalline quartz. Knapping quality: Poor to good.	400	High	Luster: Waxy. Color: Altered only slightly.	Marked improvement
7 LIGHT TAN TABULAR CHERT	Color: Light tan/gray. Translucency: Opaque. Luster: Dull. Morphology: Tabular?. Description: Dense and homogeneous microcrystalline mosaic of angular grains, and often angular masses, containing small fossil voids and patches of crystalline quartz. Knapping quality: Poor.	300-400	High	Luster: Waxy. Color: Orange.	Moderate improvement
8 WH/GR NODULAR CHERT	Color: White and gray. Translucency: Opaque. Luster: Dull and chalky. Morphology: Nodular. Description: Dense and homogeneous micrograined mosaic containing patches and veinlets of crystalline quartz. Nodules are composed of fissured chert masses. Knapping quality: Moderate.	400	None	Luster: Waxy. Color: White with pink hue.	Moderate improvement
9 OOLITIC CHERTS	Color: Colorless, gray, brown, and white patterns. Translucency: Opaque to slightly translucent. Luster: Dull. Morphology: Tabular oolitic chert. Description: Chalcedonic and quartz oolites in matrix of micro-cryptocrystalline quartz and chalcedony. Kanpping quality: Poor to moderate. This category is generalized and probably contains serveral distinct oolitic cherts.	400	Minimal	Luster: Waxy. Color: White and pink patterns	Moderate to marked improvement

TABLE 1. Chert Categories from the Upper Skunk River Valley of Story County, Iowa.

EXCELLO CHERT: AN UNDESCRIBED CHERT RESOURCE IN NORTHCENTRAL MISSOURI

Jack H. Ray
Center for Archaeological Research
Southwest Missouri State University
Springfield, Mo.

This paper summarizes current knowledge about a previously unidentified and undescribed chert resource located primarily in northcentral Missouri. Although long recognized by amateur and professional archaeologists as a distinct, dense, black chert, only recently has it been identified as Excello chert (Ray *et al.* 1983). I spent nearly a year searching for both the geological name of the elusive chert type and the locations of its outcrops.

A personal interest in this high-quality chert began in the fall of 1981 when six artifacts, including one projectile point, were found during an archaeological survey of approximately 5,700 acres around the Union Electric Nuclear Power Plant in southeast Callaway County (Ray *et al.* 1983). After conducting a chert survey of the study area concomitant with the archaeological survey, it was apparent the black chert did not outcrop in the project area, and a search was begun for its name and outcrop locations. With the help of George Nichols, a source eventually was discovered 10 km north of the project area in Pinch Creek, a tributary of Auxvasse Creek. Efforts then were directed toward discovering the parent formation from which the chert derived. After a considerable literature search and several communications with various individuals, in the fall of 1982 I was fortunate enough to meet Scott Sumner, a geology graduate student who recently had completed a mapping of coal-producing Pennsylvanian strata in Randolph, Macon, and Chariton counties. Sumner informed me that it was the Excello formation that produced the black chert as well as many phosphatic nodules. I was familiar with the Excello formation from a perusal of the geological literature, but had never encountered a reference to any inclusive chert, only phosphatic nodules. This paper describes the chert, notes its geographical distribution, and takes a preliminary look at its effect on the archaeological record.

Description

Excello chert comes from the black fissile Excello shale formation defined by Searight *et al.* (1953). The formation is Pennsylvanian in age, and is placed within the Cherokee Group of the Desmoinesian Series. The Excello formation is composed of as many as four shale beds, which combined average only 1.2 m thick in the type site area in southern Macon County (Work *et al.* 1982). Beds of the formation

tend to thin out and become discontinuous west and east of the Macon-Moberly area. Excello shale generally contains numerous phosphatic nodules and fine-grained, rounded limestone concretions as large as 46 cm in diameter (*ibid.*). Excello chert nodules apparently formed in certain areas where the limestone and/or phosphatic concretions were replaced by silica. As a chert-bearing shale formation Excello is somewhat unique in Missouri, since most cherts in the state come from either dolomite or limestone formations (Howe and Koenig 1961) or from limestone members (Reid 1980). It must be noted for future research, however, that according to Sumner (1982, personal communication) two additional fissile shales *possibly* also contain black chert nodules. They are an unnamed black fissile shale member of the Verdigris formation that underlies the Excello formation at a distance of approximately 18 m, and an unnamed black fissile shale member of the Little Osage formation that overlies the Excello by approximately 6 m. Both contain abundant small, flattened phosphatic nodules, as does the Excello formation, and both average only 45-60 cm in thickness (Work *et al.* 1982). These shale members should be examined for possible additional sources of black chert in northcentral Missouri.

The shape of Excello chert nodules appears to be primarily tabular or lenticular, although some tabular chunks and blocks appear to have weathered from a seam or vein. The texture of Excello chert grades from a rather coarse-grained cortex to a dense, fine-grained interior. The cortex is generally a brown or dark gray fissile shale that gradually grades into the black, highly siliceous chert matrix. The cores of Excello chert nodules generally are of good knapping quality and exhibit excellent conchoidal fractures. The matrix of the typical nodule is usually bluish-black to coal black, and often contains narrow bluish-white calcitic or chalcedony veins. Excello chert also occasionally contains white microfossils, some of which may have been replaced by pyrite and limonite.

The narrow bluish-white veins (or septarian fractures) interspersed within a dense, blue-black to coal black matrix distinguishes Excello chert from other dark-colored cherts, such as Pitkin chert from Arkansas (House 1975), Cobden (St. Louis) chert from southern Illinois (May 1979), and Harrison County (Ste. Genevieve) chert from southern

(contd. next page)

Indiana (Bassett and Powell 1981). However, I advise caution in using this criterion, as the veins do not occur in all Excello nodules, and when present, the chert can be confused with dark or light bluish-gray Winterset chert from the Kansas City area, which contains numerous white calcitic veins (Reid 1980).

Distribution

The Excello formation outcrops primarily in southern Macon, northern Randolph, and northeastern Chariton counties, and according to Work *et al.* (1982), the most complete exposures are along the valley walls of the East Fork of the Chariton River. This area of northcentral Missouri is located in the Dissected Till Plains physiographic region, which is blanketed by several meters of glacial till. The underlying Mississippian and Pennsylvanian bedrock generally is exposed only along the valley walls of major streams. Although the core area in which chert-bearing Excello strata outcrop apparently is along the East Fork of the Chariton River (hereafter referred to as the Excello core area), other areas to the east (Salt River locality) and south that contain major stream drainages probably also supply Excello chert, but in limited quantities.

One such source reported by Ray *et al.* (1983) is located in Pinch Creek (a tributary of Auxvasse Creek) and in a nearby first-order branch in eastcentral Callaway County (NE $\frac{1}{4}$, SE $\frac{1}{4}$, NE $\frac{1}{4}$, Sec. 10, T47N, R8W, and NW $\frac{1}{4}$, SW $\frac{1}{4}$, NW $\frac{1}{4}$, Sec. 11, T47N, R8W). A fist-sized nodule of Excello chert was found on a gravel bar of Pinch Creek, and a larger tabular nodule 15 cm in diameter was found in the nearby branch; both appeared to have weathered from a vein or seam. The source of these pieces appears to be small, since the nodules were the only ones found in stream deposits dominated by Burlington chert. Nichols (1983, personal communication) also reported finding only one small nodule (2.5 x 5 cm) of Excello chert in a 1-km stretch of Pinch Creek.

Another source, recently documented by John Tandarich (1983, personal communication), is located along a small tributary of the Loutre River in the northeast corner of Callaway County (SW $\frac{1}{4}$, SW $\frac{1}{4}$, Sec. 10, T49N, R7W). He reports finding Excello chert nodules 15-20 cm in diameter in Gosport residual (shale) soil along the lower slopes of an interfluvium, and that phosphatic nodules up to 60-90 cm in diameter occur in association with the chert. This source and the one along Pinch Creek are the only known source areas of Excello chert in Callaway County.

There also appear to be sources of Excello chert in certain areas of Audrain and Monroe counties, to the north of Callaway County (Roger Boyd 1982, personal communication). One source in Monroe County reported by Robert Warren (1983, personal communication) is located in the NW $\frac{1}{4}$ of Sec. 3, T54N, R9W. This apparently is an outcrop of chert-bearing Excello shale that has been ex-

posed by the downcutting of a low-order stream. According to Warren, the outcrop measures approximately 30-40 cm at its thickest point, but gradually feathers out downstream.

Another small source area of Excello chert is located just north of Columbia in Boone County. A large (7 x 12 cm) residual tabular nodule of Excello chert was found on the surface of a graded area just northwest of the junction of I-70 and Route 63; the nodule was found isolated in a residual clay matrix (Nichols 1983, personal communication). The occurrence of this nodule in the Columbia area suggests possible limited source areas along Hinkson and Perche creeks.

Archaeological Record

Having described Excello chert's physical attributes and its known geographical distribution, I now discuss its prehistoric exploitation. Special emphasis is placed on spatial and temporal data concerning identified Excello chert artifacts in an attempt to delineate differential patterns of Excello chert selection and use.

Few archaeological surveys have been conducted in the Excello core area. Although a study of the Prairie Hill area (Sturdevant 1979) makes no reference to local black chert resources or to black chert artifacts, Sturdevant (1980:64) indicates the presence of black chert in a survey of the Bee Veer area, and reports finding a North point manufactured from the black (Excello) chert at site 23MC396. According to Perino (1971), North points are associated with the Middle Woodland period and are found on sites with Snyders points. The North point found at site 23MC396—an elliptical, thin point that exhibits fine secondary percussion flaking—may actually be a Snyders point preform. In a review of material collected from sites in Macon and Randolph counties, Sturdevant (1983, personal communication) notes that aside from the North point, all other artifacts made from Excello chert consist of waste flakes and other debitage.

Based on the presence of Excello chert debitage on sites in the Macon-Moberly area, Boyd (1982, personal communication) states that sites containing the highest percentage of Excello material are located along the East and Middle forks of the Chariton River. Although Excello chert occurs on sites surrounding this core area, it is present in smaller quantities.

In a survey of the Long Branch Reservoir in Macon County, just to the north of the core area of Excello chert, Grantham (1977) reports that none of the strata within the immediate survey area contains chert. However, he does recognize a black-dark navy blue chert type in artifact assemblages from area sites, and importantly, he notes that the quantity of this distinctive chert type at sites in the reservoir area decreased from south to north (i.e., north of, or away from, the Excello core area). Grantham (1983, *contd. next page*)

personal communication) recorded Middle and Late Woodland Excello chert artifacts and a black side- and basal-notched Mississippian arrowpoint from sites in the southern portion of Long Branch Reservoir.

In the upper Chariton River valley in Adair County, Boyd (1983, personal communication) reports that three sites yielded Excello chert artifacts. At site 23AD8, he estimated that Excello chert comprised approximately 1% of the debitage. Unfortunately, temporal association of the Excello chert artifacts from the site is uncertain, since 23AD8 is multicomponent, containing Paleo-Indian through Late Woodland occupations. Excello chert artifacts also have been found at site 23AD160, which contains Early, Middle, and Late Woodland components intermixed in the plow zone. However, procurement and use of Excello chert is unmistakably associated with the Mississippian period at site 23AD242, where a basal- and side-notched triangular arrowpoint made from Excello chert was found.

Even farther north, in southern Iowa, two basally-thinned lanceolate points (probably Dalton) manufactured from Excello chert were found in gravel bar deposits in Soap Creek, a tributary of the Des Moines River, in Wapello County near Ottumwa, Iowa (David Benn, Dean Thompson 1983, personal communications). Although the points were found on a redeposited gravel bar, limited edge damage indicates they were transported only a short distance, possibly from nearby buried deposits estimated to date to the early Holocene. Two additional Dalton forms from Wapello and Davis counties, Iowa, are reportedly made from Excello chert, but I have not confirmed these identifications.

East of the Excello core area in the Salt River drainage, Mike O'Brien (1983, personal communication) reports that less than 1% of the artifacts from sites in the Cannon Reservoir were made from Excello chert. He also noted that at least one bifacially-flaked piece was recovered from the Dalton-Early Archaic levels of the stratified Pigeon Roost Creek site. Further upstream, at the Collins site, Klippel (1972) noted 46 dense, black, "exotic" chert flakes among the more than 100,000 pieces of debitage collected during excavation. Two tools made from the chert include a Graham Cave-like side-notched point with a slightly concave base (Klippel 1972) and an unclassified distal-end fragment.

In eastcentral Callaway County, three diagnostic artifacts manufactured from Excello chert were collected from the Austin site, near the confluence of Pinch and Auxvasse creeks (Nichols 1983, personal communication). These include a Hardin barbed projectile point/knife, a Rice lobed-like projectile point/knife, and a possible Hopewellian blade core. In addition to Early Archaic and Middle Woodland artifacts, numerous Late Woodland/Mississippian arrowpoints have been found at the Austin site; however, none was made from Excello chert.

During a survey of 5,700 acres in southeastern Callaway

County, Ray *et al.* (1983) found six artifacts (0.1% of the total assemblage from surveyed sites) made from Excello chert, one of which was a side-notched, concave-base Graham Cave-like projectile point/knife. The point was found at site 23CY353, near the Missouri River, 17 km south of the nearest source of Excello chert. Farther to the southeast, Diaz-Granados (1980) mentions a "solid black chert knife" (probably manufactured from Excello chert) in a private collection from her study area at the confluence of the Gasconade and Missouri rivers in Gasconade County.

In Boone County, south of the Excello core area, a few Excello artifacts were found at site 23BO1050, located on the west bank of Hinkson Creek, just north of Interstate 70. Based on the presence of a side-notched point with a ground base, this site probably contains an Early-Middle Archaic component (O'Brien 1983, personal communication). Another Excello artifact from Boone County is an oval-shaped preform found at a site on Perche Creek, approximately 20 km north of Columbia (Nichols 1983, personal communication). The site is preceramic, and based on the presence of a Graham Cave point, the site appears to date to the Early Archaic period.

In southeastern Howard County a spurred end scraper and a utilized flake knapped from Excello chert were recovered from the Walter site (23HD38) (Nichols 1983, personal communication). After limited testing and a thorough examination of artifacts from the site, Biggs *et al.* (1970) concluded that the site represents a transitional Late Paleo-Indian/Early Archaic manifestation.

Farther to the west, in northwest Cooper County, a flake-blade, an expanding-stem projectile point/knife, and an asymmetrical projectile point/knife, all manufactured from Excello chert, were collected from Mellor, a Middle Woodland-Hopewell site in the Missouri and Lamine River drainage area (Nichols 1983, personal communication).

I have identified a couple of Excello chert flakes in a collection of artifacts from the Utz site (23SA2), located in northwest Saline County. Although much of the site dates to the period of occupation by the Missouri Indians (Berry and Chapman 1942), the two chipped-stone artifacts knapped from Excello chert are likely associated with earlier Mississippian and/or Oneota components (Bray 1963; Chapman 1980; Henning 1970).

One Excello chert flake was found in association with a Graham Cave point and four other artifacts at site 23CH276, near Swan Lake in northwestern Chariton County (Boyd 1982, personal communication). From evidence to date, this find and the flakes recovered from the Utz site represent the farthest transportation to the west of Excello chert artifacts.

Finally, three Excello chert artifacts have been identified in private collections from Greene County, located more than 200 km southwest of the closest (minor) source areas. One thin, well-made Langtry stemmed point, unmistakably

(contd. next page)

knapped from Excello chert, was recovered from a cave site recently recorded by Ray and Benn (1983). The site, 23GR542, is located on the southern end of "Lost Hill" meander core, a unique erosional feature in the South Dry Sac River valley, just north of Springfield in central Greene County. Although Langtry stemmed points in Missouri are dated to the Late Archaic through Late Woodland periods

(Chapman 1980), and to the Woodland period in general (Goldberg and Roper 1983; Kay 1982), recent radiocarbon dates from Cobb Cave (23CN71) in neighboring Christian County have associated a well-defined Langtry component with the Middle Woodland period (Cooley *et al.* 1979; Helm and Purrington 1981). Langtry points from Cobb

(contd. next page)

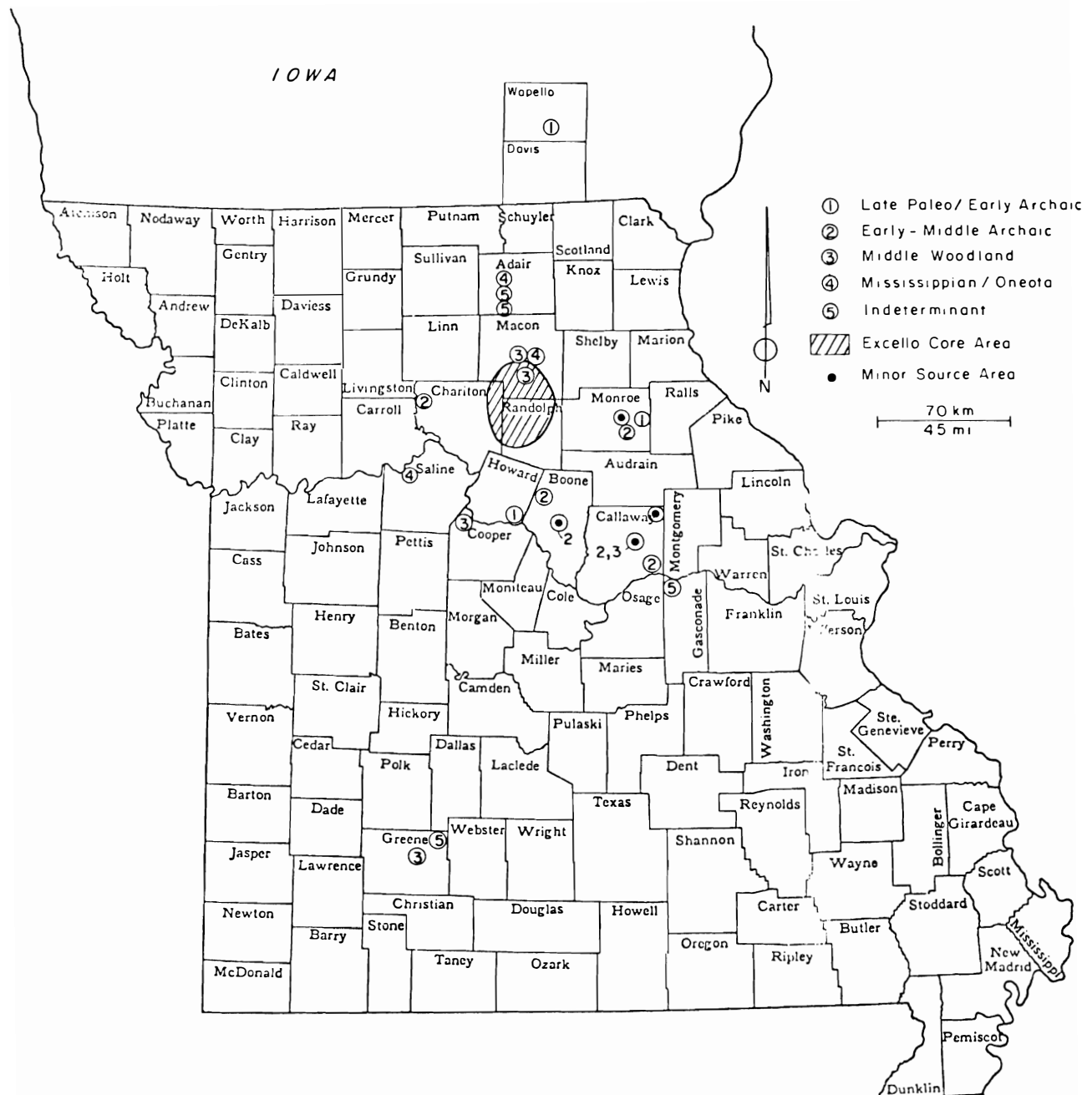


Figure 1. Distribution of known Excello source areas and sites containing Excello chert artifacts.

Cave generally are thin, well made, and are associated with grit-tempered pottery. The Excello Langtry point from site 23GR542 also is thin, finely chipped, and is associated with grit- and limestone-tempered pottery, as well as with a Snyders point (Ray and Benn 1983).

Two other small elliptical bifaces made from Excello chert were observed in the artifact collection of Willis Farmer. These two artifacts were found on a multicomponent site on the Pomme de Terre River in extreme northeastern Greene County.

Summary and Conclusions

Nine sites are known to have contained diagnostic Excello chert artifacts, and nondiagnostic Excello artifacts from 5 additional sites have been affiliated with a cultural period based on association with diagnostic projectile points. Of these 14 sites, 3 are affiliated with the transitional Late Paleo-Indian/Early Archaic period, 5 are associated with the Early-Middle Archaic period, 3 date to the Middle Woodland period, 1 contains Early Archaic and Middle Woodland components, and 2 are associated with Mississippian/Oneota occupations.

Although all but one of the 14 sites are located outside the Excello core area, 6 are located near limited or minor source areas in Boone, Callaway, and Monroe counties. According to current information, the farthestmost distances from Excello sources that Excello artifacts have been found are Wapello County in southern Iowa and Greene County in southwest Missouri. The one site located within the Excello core area yielded a Middle Woodland North point or preform, possibly manufactured for trade. The distribution of known Excello source areas and sites containing Excello chert artifacts is presented in Figure 1.

These data indicate differential use of Excello chert resources through time and across space. Spatially, Excello chert artifacts appear to decrease in number away from the East Fork Chariton River core area (Boyd 1982, personal communication; Grantham 1977), as we would expect with any chert or other lithic resource that tends to occur in localized areas. As future studies are conducted in the core area, I expect to find that the full range of cultural traditions (Paleo-Indian through Mississippian) used this localized black chert resource.

These reported finds by Bob Skinner came as a result of the ongoing survey I have undertaken as described in **I.A.S. Newsletter** #100, page 6, 1981. Dean Thompson was shown these black points at the 1983 I.A.S. meeting in Des Moines. He was really interested and later came to Ottumwa to view the find locale. Later when Federal funding and a grant from Adrian Anderson's I.S.H.P. Dept. were made available, Dean came down and took soil samples to test for Radio-Carbon dating.

This reprint of Jack's paper is timely, important, and should help to find a distributive pattern in Iowa and elsewhere. In the years past I first noticed this type of chert in collections I viewed and I have been told that some of the points and one axe were made from "chan(n)el coal," a totally different substance. More checking is needed now.

The temporal aspect of Excello chert utilization is interesting. Outside the core area, in places where Excello chert either was unavailable or occurred in limited quantities, only four cultural groups apparently procured, curated, and/or traded for this distinctive chert type. Artifacts manufactured from Excello chert have been found on transitional Late Paleo-Indian/Early Archaic sites located considerable distances from Excello sources, as well as on sites near minor Excello source areas; those located long distances from source areas are probably a result of the wide-ranging wanderings of largely nomadic Late Paleo-Indian/Early Archaic groups. It appears that Early and Middle Archaic groups, particularly those manufacturing Graham Cave points, were somewhat selective in chert procurement. In five areas dominated by other chert types, Early and Middle Archaic peoples procured Excello chert from minor sources for the manufacture of chipped-stone tools. There is a conspicuously little or no evidence for the use of Excello chert outside the core area by Late Archaic, Early Woodland, and Late Woodland groups. I propose that Excello artifacts occur on Middle Woodland and Mississippian/Oneota sites outside the core area because of the extensive trade networks developed during those time periods.

I hope that the definition and description of Excello chert will aid future lithic studies in both Missouri and surrounding states. The preliminary data presented here undoubtedly will be modified and expanded as additional source areas of Excello chert are discovered, and new information on the prehistoric use of this chert is presented. I am interested in any new or additional information others might have regarding Excello chert.

Acknowledgments

Several people provided valuable assistance toward the completion of this paper. Many thanks go to Dean Thompson, John Tandarich, Robert Warren, Craig Sturdevant, Mike O'Brien, Jack Owen, and Willis Farmer, all of whom provided artifacts and illustrations for study and comparison; also to Bob Skinner and D. G. Spears, Ottumwa, who made the point data available to this writer. Special thanks go to George Nichols, who guided me to the Excello source in east central Callaway County and provided much of the spatial and temporal data; to Scott Sumner who formally introduced me to the Excello formation and provided geological data; and to Roger Boyd whose assistance in the quest for Excello information for over a year is much appreciated. Dave Massey drafted the figure.

Submitted by D.G. Spears

Submitted by D.G. Spears

IAS

34th ANNUAL MEETING Indian Hills Community College Sunday, April 29, 1984

by Mary Jane Hatfield

President Dan Zwiener called the meeting to order. He thanked all of those who helped to make the 34th Annual Meeting a success.

Don Spears and Joe Fabyan for planning, organizing, and executing a successful and interesting meeting.

Lyle Hellyer, President of IHCC, for his warm welcome and the use of the IHCC facilities.

Marie Davis, Kay Wright and Ron Johnson, IHCC student volunteers, for their hard work and smiling faces.

Michael O'Brien, guest lecturer at the Annual Banquet, for his informative talk.

John VanDello, IHCC Special Events Coordinator for his "behind the scene" work.

The possibility of the fall meeting being a field trip was discussed. There seems to be plenty of interest. We must now get prices and specific information.

Gary Valen announced his upcoming move to Arkansas and his resignation as **Newsletter** editor. He thanked the society and members for the many years of mutual benefit and association. We will miss you, Gary and Betsy.

The election of officers was held. The results were:

President Richard Slattery
Vice President Dave Carlson
Secretary Deb Zieglowsky
Treasurer Ruth Thornton
Board of Directors, 3 years . . . Roger

Natte, Ron Cross, Dan Zwiener
Newsletter Editors, 3 years . . . Lori and Dave Stanley

Congratulations to all!

Last years goals were discussed.
Field Trip No
Field School No
Newsletter report
of Field School No

Photographic Coverage No
Index **Newsletter** Yes
Index Journal Yes
PAP Grant Yes
100 New Sites Yes
Operating Budget Partially

Lay participation in professional activities No
The Public Archaeology Program (PAP) was discussed. The response to the program was excellent and well worth continuing.

The Treasurer's report was given. As of April 1984:

Checking \$ 676.43
Savings \$3,225.22
\$3,901.65

With \$2,000.00 in the ISU account for the 1984 **Journal**.
Membership: 389

The Society wished to send its condolences to the families of:

Lee Madison, Lincoln, Neb.
John Yenger, Ottumwa
Lawrence Ryan, Ottumwa.
Meeting was adjourned.

IAS BOARD OF DIRECTORS MEETING

Indian Hills Community College Ottumwa Sunday, April 29, 1984

Members in attendance:
Richard & Marge Slattery
Dave Carlson
Dan Zwiener
Ron Cross
Joe Fabyan
Dick Shepherd
Terry Walker
M.J. Hatfield
Gary Valen
Don Spears

President Dan Zwiener called the meeting to order at 9:02 a.m. The minutes of the last meeting were read. R. Slattery noted that D. Zwiener arrived at the meeting at the end of D. Spear's talk. No amendments were made to the minutes and they were approved (T. Walker/R. Cross)

Ruth Thornton was unable to attend and sent the following report.

As of April 1984

Checking \$ 676.43
Savings 3,225.22
\$3,901.65

With \$2,000.00 in the ISU Account for the 1984 **Journal**.
Membership: 389

Gary Valen, **Newsletter** editor reported that the winter issue was in the mail and the spring issue was nearing completion. He also said that he was moving to Arkansas this summer, but will do the summer issue of the **Newsletter**. Concerning future **Newsletters** he suggested that the format remain the same and we continue to use our present Ottumwa printer. He suggested Lori Stanley as the new editor.

Nancy Osborn, **Journal** editor, was unable to attend but sent her report. The current **Journal** will contain two major articles concerning historic archaeology in Story County and is projected with a mid-summer release date.

The Mills Co. Field School was discussed. It is a salvage operation involving an earth lodge and will run from May 30-June 30. The board's response to this school was overwhelmingly positive. However, concern was expressed concerning the IAS and liability. The standard waiver of liability is not a legal document but it does help to make the participating persons aware. D. Anderson will check into accident/liability procedures and this will be resolved by the time of the field school. A flyer explaining the field school will be sent to all IAS members. Don Spears made the motion that the IAS president has the power to handle any problems that may arise at the field school. G. Valen seconded it.

Dave Carlson motioned that the **Newsletter** include the once-a-year

notation concerning bequests to the society. R. Cross seconded the motion.

Carlson motioned that first time members should receive a non-dated membership card and that renewals could receive a card by sending a SASE with their dues. A notice to this effect will be printed in the **Newsletter**. T. Walker seconded the motion.

A summary of the Public Archaeology Program (PAP) was given. It is a success and appears to be a one-of-a-kind program. At a meeting held in Ames by the Iowa Humanities Board, the PAP was well received. D. Anderson has submitted another grant proposal. The possibility of including workshops was discussed.

A fall field trip, a bus trip to Cahokia or Pipestone, was discussed. The membership in attendance at the annual meeting will be asked their opinion of this.

It was suggested that the 1985 Spring Meeting be held in N.W. Iowa. Terry Walker took this suggestion under advisement.

Don Spears discussed the Soap Creek work.

Ron Cross moved to adjourn. R. Slattery seconded the motion.

The Iowa Archaeological Society is a non-profit, scientific society legally organized under the corporate laws of Iowa. Members of the society share a serious interest in the archaeology of Iowa and the midwest.

The **Newsletter** is published four times a year. All materials for publication should be sent to the editor.

Editors: Lori and David Stanley
P.O. Box 27
Highlandville, IA 52149

Associate

Editor: Don G. Spears
536 South Davis
Ottumwa, IA 52501

Subscriptions to the **Newsletter** may be obtained by joining the society. Memberships are available from Ruth Thornton, 326 Otsego Street, Storm Lake, IA 50588. (\$10.00 active, \$17.00 household, \$7.00 student, \$10.00 institution).

Questions about the distribution of the **Newsletter** including a change of address should be sent to the Office of State Archaeologist, Eastlawn, University of Iowa, Iowa City, IA 52242.

Cover Photo:

Top Row, left to right: expended Dalton, lanceolate I, & II (see **I.A.S. Newsletter** #108 p. 7), Paarman point (see **Newsletter** #70 p. 9), Quad point, all are made from "Excello" flint and were found in a general locality in Wapello and Davis Counties.

Middle and bottom row: An assemblage of Paleo - Archaic points found over a period of time in the same general locale by Skinner, Spears, et.al. To date, no accession numbers have been requested. Photo and data furnished by Don Spears.

I.A.S. Field School

The Iowa Archaeological Society is conducting a field school this summer at the site of a Glenwood earthlodge in Mills County. The objective of the project is to rescue data from site 13ML176 before it is destroyed. The fieldwork provides an opportunity for volunteers to gain excavation and laboratory experience pertaining to the Glenwood culture dating ca. AD 1100.

Special Prices for the NORTH AMERICAN ARCHAEOLOGIST

have been offered to members of archaeological societies Baywood Publishing Company, Inc. Published quarterly, this is the only general journal dedicated solely to North America--with total coverage of archaeological activity in the United States, Canada, and Northern Mexico (excluding Mesoamerica).

The **North American Archaeologist** surveys all aspects of prehistoric and historic archaeology within an evolutionary perspective, from Paleo-Indian studies to industrial sites. It accents the results of Resource Management and Contract Archaeology, the newest growth areas in archaeology, often neglected in other publications.

Baywood Publishing Company is also offering two books at a discount rate. They are; **Archaeological Perspectives on Ethnicity in America and Historical Archaeology** both edited by Robert L. Schuyler.

To order any of the publication at the special rate, you will need an order form. Please send a self-addressed, stamped envelope to Don G. Spears, 536 South Davis St., Ottumwa, IA 52501

Book Review

The Missouri Archaeologist - Vol 44, December 1983.

"A Study of Ordovician and Mississippian Chert Resources in Southwest - Central Missouri

An informative and descriptive paper on chert formations including the Warsaw strata. Specimens of this chert are found in southern Iowa collections in the form of quarry blanks, unfinished artifacts and large debitage flakes. Finished artifacts are rare finds. Good photos. Also included in the Journal are reports on fieldwork in Missouri. 134 pages, paperback. May be ordered from Missouri Archaeology Society, Inc. P.O. Box #958, Columbia, MO 65205. No price listed.

Book Review:

AMERICAN BOTTOM ARCHAEOLOGY

I.A.S. Annual Meeting April 28 - 29, 1984

I.A.S. members dodged the rain storms to attend a successful annual meeting on the Indian Hills Community College campus in Ottumwa on April 28-29. The excellent facilities provided a good setting for the meetings and discussions. Elections were held at the annual business meeting on Sunday.

President Emeritus Award

To Richard G. Slattery for his many years of service and support for the society as a long time president and member of the Board of Directors.

Editor Emeritus

To Don G. Spears for his years of service as the Associate Editor and Editor of the **Newsletter of the Iowa Archaeological Society** and his numerous contributions of articles and photos for publication.

Keyes-Orr Award

To Betsy M. Lyman and Gary L. Valen

In recognition and appreciation of: Their long time support and service to the Society as **Newsletter** Editors.

For the Public Archeological program they have developed and presented in many places in Iowa. Betsy's determined efforts in making the Warren County Conservation Park come true.

American Bottom Archaeology: A Summary of the FAI-270 Project Contribution to the culture History of the Mississippi River Valley, Edited by Charles J. Bareis and James W. Porter, University of Illinois Press, 304 pages, Illustrated. \$22.50.

A 21 volume series is in the works to examine the seven year archaeological field work that is associated with the construction of Highway 270 across the river from St. Louis, Missouri. This area is one of the most significant archaeological regions in North America.

American Bottom Archaeology is a summary of the project including the research efforts and documentation of the data, analysis, and results. Individual site reports will complete the set.

My first reaction to **American Bottom Archaeology** is a healthy respect for the magnitude of the project. Major representations of the significant midwest cultures were uncovered in the FAI-270 field work. The result is an important overview of middle American archaeology backed by excellent research and prodigious data. Naturally, the most exciting aspect of the **American Bottom** presentation is the Cahokia complex. Since the FAI-270 design concentrated on all the features within a specified target area, the relationship between the Cahokia trade and social system and the other cultures emerge as a substantial component of this project. Add to that the modern archaeological techniques used to determine the prior environmental setting, this work is a fresh statement about a major archaeological region in the U.S. that is the confluence area for the Missouri, Mississippi, and Illinois Rivers drainage basins.

The **Newsletter** attempts to review books that are useful and interesting to the non-career archaeologists. While the professionals should have this volume in their libraries, it is a good book for lay people. The text is readable and

follows a logical sequence. Copious illustrations can be used to learn point and pottery types. The site maps present an easy to see format to understand how archaeological research reveals the components of a previously occupied area. Information about geomorphology, paleoethnobotany, zooarchaeology, and bioanthropology are carefully presented to provide the average reader with an understanding of how a modern archaeologist examines and interprets the past.

James B. Griffin summarizes the project by writing: "The ability of this program to allow a large group of excavators and specialists in various facets of prehistoric studies to interact for most of the project's life has been of extraordinary value. Seldom if ever has so much been added to archaeological knowledge, by so many participants, supported by so much money. Together, these participants comprised a noninstitutionalized, unfortunately short-lived, archaeological institute of high quality."

I recommend **American Bottom Archaeology** to anyone with a serious interest in American prehistory. Its 304 illustrated pages should hold your interest for hours.

To order: Write the University of Illinois Press, 54 E. Gregory Drive, Champaign, IL 61820 or call toll free 800-638-3030.

Also available from the University of Illinois Press:

Vol. 1: The East St. Louis Stone Quarry Site Cemetery, George R. Milner. A Mississippian occupation. 192 pages. Illustrated. \$8.95

Vol. 2: The Florence Street Site Thomas E. Emerson, George R. Milner and Douglas K. Jackson. Early Woodland and Mississippian occupations. 368 pages. Illustrated. \$12.95

Vol. 3: The Missouri Pacific #2 Site. Dale L. McElrath and Andrew C. Fortier. A Late Archaic occupation. 272 pages. Illustrated. \$11.95

Vol. 4: The Turner and DeMange Sites. George R. Milner. A Mississippian occupation. 256 pages. Illustrated. \$10.95.

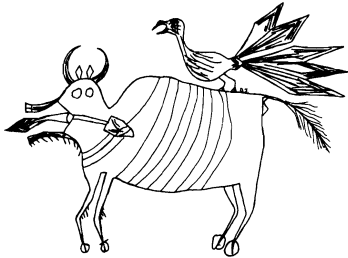
Vol. 5: The Mund Site. Andrew C. Fortier, Fred A. Finney, and Richard B. Lacampagne. Early, Middle, and Late Woodland occupations. 448 pages. Illustrated. \$13.95.

Vol. 6: The BBB Motor Site. Thomas E. Emerson and Douglas K. Jackson. A Mississippian occupation. 424 pages. Illustrated. \$13.95.

New Look for Northwest Chapter Newsletter

The Northwest Chapter of the Iowa Archaeological Society has a new cover for its **Newsletter**. The drawing is taken from a catlinite tablet that was found in a stream bed north of Cherokee. Northwest chapter memberships are available for \$3.00 by writing Mrs. C.H.D. Smith, 814 W. Cedar, Cherokee, IA 51012. News items and articles for publication for their **Newsletter** should be sent to J. Terry Walker, Director, Sanford Museum and Planetarium, 117 E. Willow, Cherokee, IA 51012.

Northwest Chapter of the
Iowa Archaeological Society



Newsletter

Public Archaeology

The "Public Archaeology" programs sponsored by the Iowa Archaeological Society, Office of State Archaeologist and the Iowa Humanities Board was a major success this year. Thirty-three speakers spoke to approximately 2,057 people about a variety of topics related to archaeology and history. Hopefully, these presentations will spark interest in the society and its activities and interests in Iowa. Special thanks to the Iowa Humanities Board for its generous support of this project.

Con't. from Page 2

agents. The RTV rubber is mixed with the curing agent that takes a full 24 hours to set up. Never use modeling clay as part of the dam because silicone rubber will not cure in contact with modeling clay. Once the mold hardens, remove the pattern and fill the mold with Friendly Plastic pellets. You can bake the mold, plastic and all, at 150 degrees Fahrenheit in your oven for about twenty minutes.

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The Great Pyramid Speaks

Why were the pyramids built, and what do they say to us? In **The Great Pyramid Speaks To You** Joseph B. Gill provides a detailed, fascinating, and well-documented answer. Step by step he analyzes the patterns in the design of the Great Pyramid of Cheops (Khufu) and reveals their amazing message to contemporary man. He demonstrates convincingly the enormous scientific knowledge of the builders of the pyramid, and discusses their intent as embodied in its intricate construction.

This book is an intellectual whodunit which will appeal to both the specialist and the general reader. The author's discoveries raise many questions about our ideas of ancient history.

The Great Pyramid Speaks To You

Joseph B. Gill

Hardcover; \$13.95

Publication date: May 25, 1984

Remember I.A.S. In Your Will

One of the ways to insure a long healthy future for the I.A.S. is to add a simple codicil to your will that will provide funds to the society. Since I.A.S. is a non-profit organization, there are tax benefits for your estate. Ask your lawyer about the advantage of a bequest to I.A.S.

Iowa Archeological Society
Office of Newsletter
Gary Valen - Editor
Route # 2 Box # 166
Lacona, IA. 50139



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