

Benchmark Portfolio
ANTH 487E/887E: Analysis of Archaeological Materials:
Historic Material Culture

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Section 1: Reflection on the Syllabus

Introduction:

The term "material culture" is used by archaeologists to refer to physical remains produced by cultures, and to the roles and meanings associated with these items. Material culture is the primary data source through which archaeologists interpret the past. Thus, systematic identification and cataloguing of recovered materials is a crucial step in archaeological analysis and interpretation. In North America, historical archaeology is understood as the time of early European settlement through the subsequent spread of the frontier and later urbanization and industrialization. In this period, the quantity and variety of materials and the objects produced is truly staggering. This course is designed to train students in the identification and interpretation of archaeologically derived historic material culture, focusing on the traditional "Big Three" materials: ceramics, glass, and metals.

Objectives of the Portfolio:

In this portfolio I would like to highlight the experiences of both the students and the instructor. In order to accomplish this task, I will emphasize three areas for review:

1. Documenting Course Mechanics and Teaching Rationale
 - ✓ Course structure, disseminating course information, expectations/tasks
 - ✓ Issues involved in the decision making process
2. Providing evidence of student learning by showing:
 - ✓ Indicators of understanding and application of core concepts
 - ✓ Applications of specific knowledge on material types to produce a material report
 - ✓ Forming interpretations of material distributions and patterning
3. Discussing Proposed Changes to the course as a result of this exercise
 - ✓ Changes in emphases and additions

Course Background:

In the past, a great deal of academic archaeological training had centered on methodological and interpretative issues, while deemphasizing the mechanics of material culture identification. The traditional plan encouraged students to gain this experience by volunteering or working in an archaeology lab washing, sorting, and identifying artifacts. In turn, the students were to receive the proper training in artifact identification by lab staff. Yet, the nature of this training was subject to many factors including time constraints, project foci, and the desire and ability of the staff to impart this information. Unfortunately, this often lead to only a partial degree of training covering very few materials, often delivered in a haphazard form mostly through oral tradition.

Another deficiency of this traditional model centers on the lack of technical writing training and opportunities. While students certainly write many academic term papers in their undergraduate and graduate careers, few have the opportunity to produce a technical report unless it is required for their thesis. This deficiency is frequently echoed by cultural resource managers who complain that many new graduates they have hired cannot take an artifact

assemblage and complete a basic “artifact write-up.” The ANTH 487/887 classes reverse these trends by initiating students into formal and systematic artifact analysis and write-up.

This course focuses on the concepts, vocabulary, and techniques needed to identify, catalog, and research materials found in archaeological sites. Given the intensity and workload, this course is assigned 4 credit-hours instead of the regular 3 credit-hour designation. The letter following the course number indicates the material type: **A.** Ceramics, **B.** Lithics, **D.** Archaeofauna, and in this case, **E.** Historic Material Culture. The rationale for lettering is twofold: i) students can receive credit for studying multiple material classes, and ii) other material studies could be added with ease to the curriculum. The prerequisite is ANTH 232 (Introduction to Prehistory) where students learn the basic concepts used in archaeology. The class size varies from 15-20 students and is taught in the spring semester of odd-number years. Almost all of the students are anthropology majors, typically juniors, seniors or graduate students, focusing on our strength in cultural resource management and historical archaeology.

Course Structure:

The course consists of 3 sections: 1) Introduction and Basic Concepts, 2) Principles of Identification and Classification, and 3) Inventory and Report on Historic Material Culture. Each of these sections requires the development of multiple skill sets, necessitating a variety of teaching methods to achieve the goals outlined in Table 1 below. Evaluation will include class quizzes, class participation, and a material report. The final grade will be calculated out of 100 points consisting of:

- Quizzes60 points
- Material Report25 points
- Class participation.....15 points

The following grading scale will be used: A+: 95-100; A: 90-94; A-: 85-89; B+: 80-84; B: 75-79; B-: 70-74; C+: 65-69; C: 63-66; C-: 60-62; D: 55-59; F: 0-54

Quizzes: There will be 4 quizzes at 15 points each. Quiz 1 will cover basic concepts while Quizzes 2-4 will cover details of identification of variables and attributes for ceramic, glass, and metallic material culture.

Class Participation: Students are expected to complete assigned readings and be prepared to discuss them each class period. Attendance in a practical lab course is critical, and a participation grade will be assessed for students after each class.

Material Report: Students will inventory and analyze a material type from a recent excavation. This report builds on the concepts and conventions discussed in class. Individuals/groups will select the material type in consultation with the instructor on a first-come, first-served basis. The report will include an inventory, graphics, and interpretations. Students will present their reports in class. Several class periods will be reserved for work on the reports. As an added incentive, students have the chance to contribute their report as a chapter in an upcoming UNL excavation manuscript report.

Table 1: Methods and Goals for ANTH 487E/887E: Historic Material Culture

SECTION	GOAL	METHODS	EVALUATION
I Introduction and Basic Concepts	Develop vocabulary and reasoning skills needed for material culture analysis	Present information on how to classify archaeological data, and examine fundamental concepts such as typology, taxonomy, seriation, variable, and attribute	Quiz 1 & Class Participation
II Principles of Identification and Classification	Describe physical qualities of artifacts in stylistic, emic, morphological, functional, and chronological terms	Conduct labs showing students how to recognize artifact landmarks and conduct appropriate measurements. The instructor visits each student to point out these qualities	Quizzes 2-4, & Class Participation
III Inventorying and Reporting on Historic Material Culture	students apply acquired skills to prepare and present a professional quality material culture report	Assist students in organizing and preparing the report on a category of materials from an archaeological dig	Material Report and Class Presentation

Section 2: Particulars of Teaching and Evaluation

Teaching Rationale:

The subject matter in this course is very detailed and intensely visual by nature. The diagnostic variables, or landmarks used to identify artifacts, are often quite small, subtle, and difficult to discern at first glance. For these reasons, the course must be taught as a lab. This does not mean simply a lecture delivered in a lab setting where students pick up and observe samples as the instructor discusses them at the front of the class. Rather, I chose to take the materials around to each student. Initially, I presented the artifacts to each student and pointed out these variables. In the past, I simply asked each student if he/she could see these landmarks. Students would then gesture or verbalize that they understood how to identify these traits. But test results indicated that in spite of this confirmation, a number of students could not identify these variables on similar artifacts during tests. Students later reported that they answered in the affirmative even though they were sometimes unsure because they felt awkward, uncomfortable, or did not want to appear as though they were having problems comprehending the material.

Hence, I felt that I could no longer rely on ambiguous indicators such as a nod or verbal “uh-huh” to measure their level of comprehension. I modified this practice by asking students to point out these variables to me on other vessels I brought them. In some cases, students who

already had more informal training, as described in the Course Background section, needed extra time to reconcile what appeared to be contradictory information. Obviously, this 1-on-1 style is time-consuming and the trade-off is that I cannot cover as many material types in the course. However, the skills developed and honed through this intensive method should pay dividends in two ways: i) a more complete understanding of the specific materials under study, and ii) the ability to apply these rigorous analytical methods in future to material types they have not studied previously. The latter is a skill-set enabling students relate analytical concepts and nomenclature to “get up to speed” on various forms of material culture.

Course Materials:

Certainly, no single work contains the requisite detail on all material and artifact types discussed in this course. Thus, I combine several different sources of information:

Artifact Collections: I use my own private collection and an historic artifact type collection that I have built through University of Nebraska-Lincoln (UNL) excavations and various donations. My colleagues Peter Bleed and Douglas Scott have also donated pieces for this comparative type collection.

Text and Readings: My primary text is:
Brauner, David R. (Compiler)

2000 **Approaches to Material Culture Research for Historical Archaeologists.**
Society for Historical Archaeology.

I also use numerous articles, book chapters, and case studies for individual artifact types such as clay pipes, nails, glass bottles, etc.

Web Pages: There are a variety of outstanding web resources for historic material culture. Many of these sites have detailed graphics for materials not contained in our collections. One such web site is the U.S. Department of the Interior-Bureau of Land Management and Society For Historical Archaeology joint website BLM-SHA Historic Glass Bottle Identification & Information Website: <http://www.sha.org/bottle/index.htm>

Activities:

Class Session/Discussion

The majority of class time is spent identifying and discussing the diagnostic variables of the artifacts. During this time students are free to ask questions based on the readings or observations made during class. Examples of questions posed in class reflect a variety of classification, methodological, and material-specific issues:

- Can you define your own [artifact] variables based on **your** research question, or do you have to use someone else’s terms?
- If you use a **closed** classification system, can you add new categories you discover them later on in the analysis?
- Does the flat circle on the machine-cut nail head mean anything?
- Can porcelain look more grainy *and* more shiny than whiteware on the broken edge?

- Why did glassmakers stop using *Prussian cobalt* [decolorant] around World War I... did the supply get cut-off by the war?
- Did they ever take the nails out of an old building and reuse them later on...or did they just use all new nails?

These questions are a crucial component of the active learning process because they indicate students are working through issues of nomenclature, analysis, and ultimately interpretation. Students were also encouraged to share their own experiences with material culture identification and analysis. In one case, undergraduate student Matt Seger compiled a handout on tin containers including food, tobacco, and beer cans. He and graduate student Brittany Brooks presented this information and related some of their experiences on sites in the Great Basin and southwestern United States. Both noted that they had to spend a great deal of time reviewing the material in order to feel comfortable presenting it in class. Throughout the semester, students became more comfortable and proficient in using the appropriate terms. In fact, they would often interject the correct terms if others were having difficulty. The phrase “**Use Your Words!**” derived from the television comedy-drama series *Scrubs* became a good-natured command offered to classmates.

Quizzes

After each unit (concepts & terms, ceramics, glass, metals) students took a quiz to determine if they have attained the requisite material knowledge base and analytical skills, and where they need to improve. I ran review sessions prior to the tests where students could come to the lab and examine materials and ask questions on identification. Artifacts were laid out at a series of stations and students had approximately 2 minutes to answer the quiz question. Students would rotate to each station, and then have 3 minutes at the end to revisit any station. Following each test, review sessions were set up to help students with incorrect identifications or clarifications. Students scored reasonably well on the quizzes with average scores of 13/15.

Material Report

The material report is the culmination of the conceptual, descriptive, and analytical aspects of this course. Students applied their recently acquired skills to prepare and present a professional quality material culture report including an inventory, graphics, and interpretations. Students worked in groups to report on a material type from recent excavations at the Lewis-Syford House or the Beaver Creek Trail Crossing site. Students also presented their reports in class to simulate a paper presentation at a professional meeting. For many students, this was their first opportunity to present research findings in front of an audience. Several class periods were reserved for work on the reports and consultation with the instructor. As an added incentive, students had the chance to contribute their report as a chapter in an upcoming UNL excavation manuscript report. I circulated copies of previous material report chapters completed by students to give them a sense of the scope of work. In addition, I posted report guidelines including a checklist, scoring structure, and style guide.

Section 3: Documenting and Analyzing Student Learning

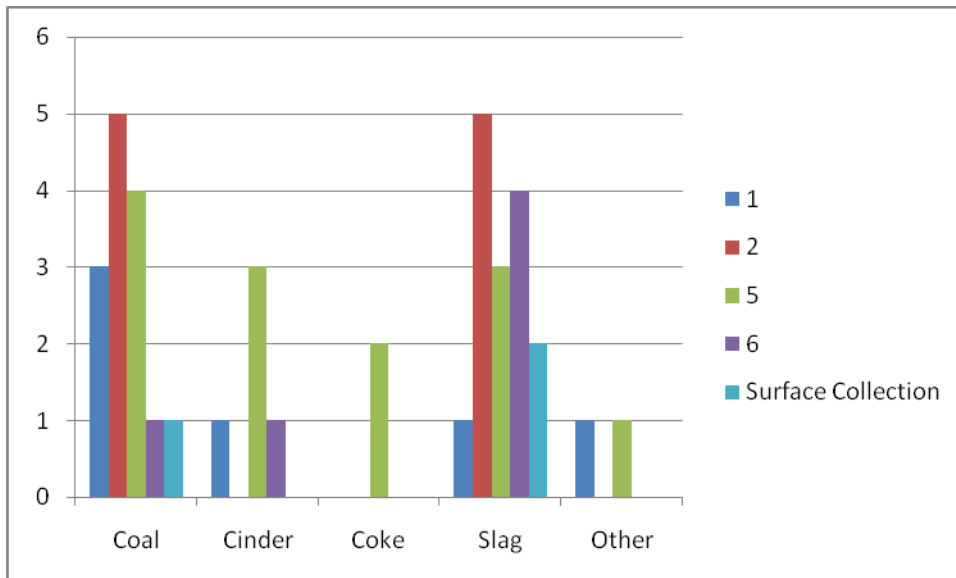
In this section, I focus on aspects of the material culture report, illustrating student examples of utilizing conceptual frameworks, applying specific knowledge and nomenclature, and forming interpretations on material distributions and patterning.

Conceptual Frameworks

One of the most interesting examples of conceptual framework development came from the report by Justin Hathaway and Katie Sandoe on heating fuel and debris. When these two students did a literature search for archaeological classifications of these materials, they found that there were no standard frameworks for analyzing fuels such as coal and coke or their byproducts such as slag, cinder, and clinkers. Undaunted, they forged ahead and developed their own system and descriptions from a variety of sources:

There is no standard method in historical archaeology for the classification of materials such as slag or coal. Hence, the working definitions provided formed the analytical basis. It was easy to tell the difference between coal and slag as coal is a fuel and the slag is the byproduct. Similarly, cinder is very brittle leaving a thin, powdery residue. Coal is usually stable and leaves no little or residue, and unlike cinder, it has very angular lines. Determining if an artifact was coke or cinder was a more complex issue. Both are very brittle, leave a light residue, and are also porous. However, since coke is not fully burned but serves as a fuel that has been partially heated, it is lighter color than cinder, with few or no vitreous impurities. Coke is most often described as being “spongy” (Timken 2009). As a byproduct, cinder is more highly fired and hence harder than coke.

Fuel and Debris by Test Unit



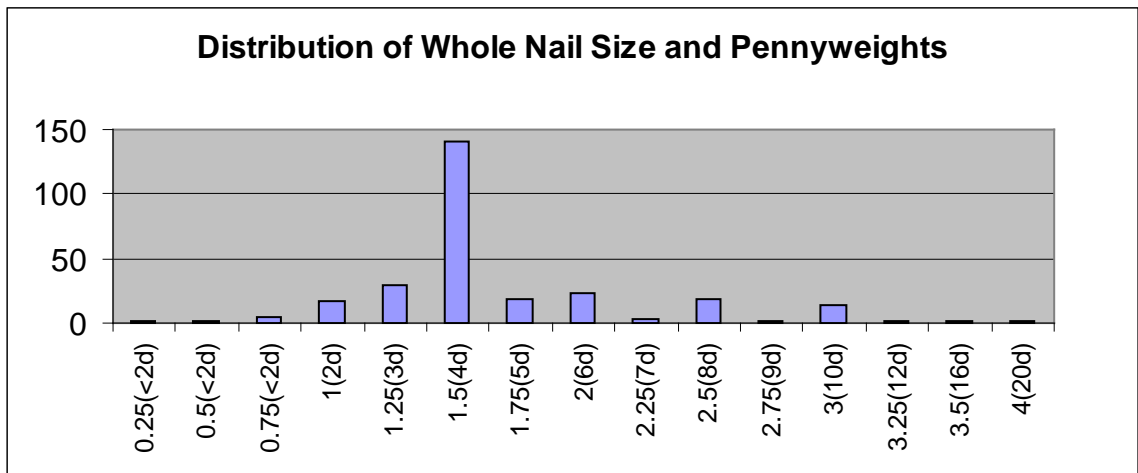
Applying Specific Knowledge and Nomenclature

An outstanding example of a classification scheme with nomenclature came from the Beaver Crossing nail report by David Amrine, Matt Seger, Jay Schwaninger, and Nancy Roll. These students classified a total of 791 nails and associated fasteners including distributions by head type for whole and broken nails:

Methods

Certain visually distinctive characteristics, or variables, were observed, and recorded for the entire assemblage of nails. These characteristics, based on nail chronologies by Tom Wells (2000:318-339) and Lee H. Nelson (1963:60-79) were composed of the following variables and their associated attributes below.

Artifacts were classified by method of manufacture, including both the nail shafts and the heads. Methods of manufacture in the assemblage included: hand forged, machine cut, wire, and modified shoeing and boot nails. Nail heads were classified as the following: machined, hand modified, and machined cast heads. For hand forged nails, variables observed to determine classifications included T-heads, roseheads, and non-uniform shafts with slightly globular distal ends found on hand forged nails. For machine cut nails, variables observed consisted of shafts with beveled facets, semi-rectangular heads (some handmade), tapering of the shafts increasing toward the distal ends, as well as machined cast heads. Nails were determined to be wire-cut if they had the following variables: a 4-facet point, gripper die marks, and circular heads. Other variables included length in inches, with the exception of nail fragments, and bends with angles greater or smaller than 45 degrees.



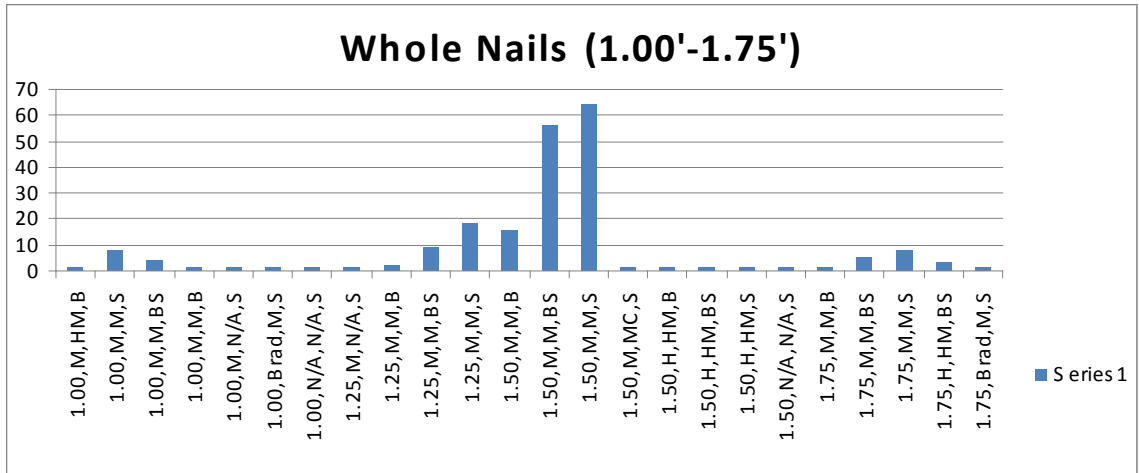
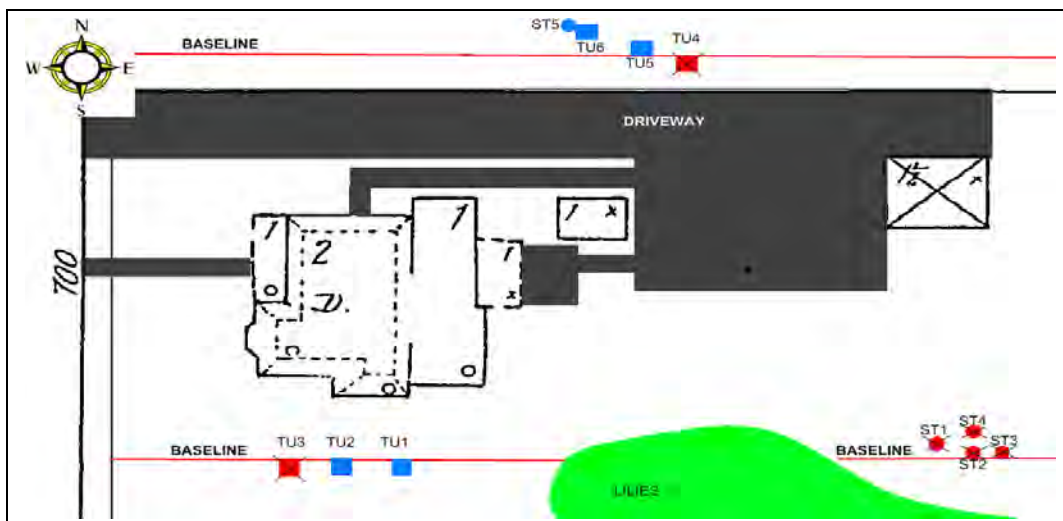


Figure 11. Distribution of whole nail lengths with manufacture, head, and bent categories. Note the high concentration of slightly bent (M, M, BS) and straight (M, M, S) 1.5” nails.

Interpretations of Material Distribution and Patterning

The material reports offered interpretations on a variety of levels from the nature and size of deposits and activity areas to larger scale behavioral patterns. When Brittany Brooks analyzed the glass from the Lewis-Syford House, she was able to identify and provide partial dimensions for several refuse areas or middens on the site:

The location of glass echoes the other materials found at the site... Test Unit 1 was south of the kitchen, and indicates a midden location. It expands to Test Unit 2 but fades out between test units 2 & 3. Glass fragments were 30-40 cmbs [below surface] in Test Unit 1, corresponding to glass fragments in Test Unit 2 (25-45 cmbs), suggesting contemporaneous deposits. Another midden through Test Unit 6 had glass as well as other material. This possible midden expanded into Test Unit 5, but not test unit 4.



L-S House Area Test Units: Blue indicates Glass Content

The analysis of metal objects other than nails posed some challenges for Courtney Cope and Jessica Cerny, due to the fragmentary nature of the artifacts and the advanced state of deterioration. Yet rather than dismissing the assemblage as insignificant, the authors recognized the importance of the state of the artifacts:

The fragmentary nature of the objects is indicative of the site itself, helping to explain why only relatively small objects were found during excavation. The existence of many partial, but few whole objects may be evidence of a discard or refuse area, particularly near Test Units 5 and 6, where the majority of objects were found. In addition, the lack of whole or nearly whole objects suggests metal objects were being recycled and reused by those associated with the site. The lack of larger objects may also be due to a conscious effort to keep discarded items off the lawn and out of public view. This seems particularly true for Test Units 1 and 2, which were closer to the front of the house and the front yard. These areas were more visible to those looking at the property from other yards or from 16th Street, necessitating a more tidy and formal appearance. The archeological deposits of this site appear intact and have a high degree of integrity. There exists a significant potential for these deposits, and for the site as a whole, to yield important and relevant information related to the Lewis-Syford House inhabitants, neighborhood history, as well as that of the city of Lincoln and its growth since the late 1800s.

Section 4: Summary and Overall Assessment

Conclusions

Overall, the students were able to comprehend and utilize higher order concepts such as taxonomy, typology, and seriation by studying individual artifact types, absorbing detailed technical information, and preparing material reports. The intense 1-on-1 lab style of teaching provided a frame of reference whereby students could apply these concepts to various forms of material culture. The students mentioned they appreciated having the instructor point out various landmarks. Juxtaposing highly detailed variables with the larger issues of interpretation facilitated an appreciation of archaeology as a multi-step process bridging the gap between *finding* artifacts and *understanding* the forces behind their production. The material reports were the culmination of this process.

Obviously, the trade-off for this intensive form of instruction is a reduction in the amount of material that can be covered in the course. However, I believe the level of skills and comprehension gained via this approach outweighs a cursory exposure to more materials. The intensity of this training and appreciation for the complexities of classification and interpretation will enable students to approach other material studies in a more detailed and professional fashion.

The quizzes were a gauge for both student and instructor to assess how well specific details were communicated and understood. It was crucial to identify and remedy deficiencies in knowledge and understanding so that students could move on. The quiz on ceramics was a case in point. Ceramic variables tend to be more difficult to discern visually, and there are many qualitative gradations. It became readily apparent that I needed to spend more time on differentiating these variables, and especially with ware types. In addition, since this was the first quiz on materials, some students reported feeling nervous about the format. The next time I offer this course, I will use a practice quiz to familiarize them with the format.

As noted above, the excerpts from the material reports reflect the process of material culture analysis from artifact identification and cataloguing, to data structuring and interpretation. Following the course, students commented that they understood much more about archaeology as a result of working through each of these stages. The draft versions of their reports also revealed some interesting patterns. Consistently, students used the passive voice in their writing, often resulting in ambiguous and confusing prose. Most students said they had never done anything like this project and were unsure about the writing style. They felt as though the passive voice would quell any form of determinism or perceived arrogance on their part. In actuality, their interpretations were both logical and innovative. In my Peer Review of Teaching Group, one of my colleagues likened it to a newborn colt standing for the first time. After going through a series of corrections to communicate in more active terms, students agreed “Yeah, that’s what I was trying to say.” With a bit of restructuring, the trepidation of that first foray into technical writing quickly passed.

The report presentations were an opportunity to develop and/or hone their oral skills. A few minutes into the presentations, the initial nervousness disappeared and they became more confident in their expression and demeanor. For some, this was the first time they had ever spoken in front of an audience. I also intended the presentations to be a chance to run through the report and add new perspectives gained through class discussion. The reports were due one week after the in-class presentation. Students quickly and enthusiastically compared patterns of other artifact distributions revealed in the presentations and incorporated them into their own conclusions. After class, they exchanged data via email and portable drives. For me, the incorporation of comparative data into their interpretations signaled that they had developed a much deeper understanding of material culture analysis.

Planned Changes

Clearly, one can only gain expertise in material culture identification through practice. In future, I will spend more time on identifying ceramics and set up additional opportunities to review all the artifacts. I also feel that small in-class exercises in identification would help students gain valuable experience with the materials. I also need to confront the usage of the passive prior to writing the material report. I can provide examples of the same sentence written in both passive and active voice to illustrate these differences. I will also *require* them to submit a draft report so I can edit papers more thoroughly and also to mirror the submission process for cultural resource

management reports. Although these changes seem minor, I feel they will greatly enhance student comprehension and expression.

COURSE OUTLINE
ANTHROPOLOGY 487E/887E (01): HISTORIC MATERIAL CULTURE
SPRING SEMESTER 2009

Tuesday and Thursday, 11:00 AM - 12:15 PM – 428 Morrill Hall

Instructor: Paul A. Demers, Ph.D., RPA

Office: 818 Oldfather Hall; Phone: 472-8872; e-mail: pdemers2@unl.edu

Office Hours: Tuesday and Thursday, 12:45 - 1:45 PM, or by appointment

Course Description:

Material culture is the primary data source by which archaeologists to interpret the past. In historical archaeology, the quantity and variety of materials and objects is truly staggering. This course is designed to train students in the identification and interpretation of archaeologically derived historical period material culture. The course will be broken down into 3 sections: 1) Introduction and Basic Concepts; 2) Identification and Classification 3) Inventorying and Reporting on Material Culture.

Course Web Site:

Our Blackboard course web site will contain the web readings, information on assignments, announcements, and links to information on various aspects of historic material culture.

Required Text:

Brauner, David R. (Compiler)

2000 **Approaches to Material Culture Research for Historical Archaeologists.**

Society for Historical Archaeology.

*Other readings will be placed on Blackboard, or handed-out in class.

Attendance Policy:

Since this class has a lab and seminar format, attendance and participation are a critical part of your final grade. If a student is absent, it is their responsibility to obtain class notes and complete the reading assignment. **Labs cannot be repeated.**

Evaluation: Evaluation will include quizzes, a material report and class participation. The final grade will be calculated out of **100 points** consisting of:

- Quizzes60 points
- Material Report.....25 points
- Class participation.....15 points

Quizzes: Students will be responsible for identifying various attributes and dates for a variety of material culture forms. There will be 4 quizzes at 15 points each.

Material Report: Students will inventory and analyze a material type from a recent excavation. This report builds on the concepts and conventions discussed in class. Individuals/groups will select the material type in consultation with the instructor on a first-come, first-served basis. The report will include an inventory, graphics, and interpretations. Students will present their reports in class (time permitting). Several class periods will be reserved for work on the reports. Selected reports will appear in a UNL excavation manuscript report.

Class Participation: Students are expected to complete assigned readings and be prepared to discuss them each class period. Attendance in a practical lab course is critical, and a participation grade will be assessed for students after each class.

The following grading scale will be used: A+: 95-100; A: 90-94; A-: 85-89; B+: 80-84; B: 75-79; B-: 70-74; C+: 65-69; C: 63-66; C-: 60-62; D: 55-59; F: 0-54

PRELIMINARY SUBJECT AND ASSIGNMENT SCHEDULE (Subject to Change)

B=Brauner, other authors in **bold**

Unit 1: Introduction and Basic Concepts

Jan 13: Course Introduction and syllabus review

Jan 15: The Importance of Material Culture

Hindle, Brook "How much is a Piece of the True Cross Worth?" pp. 5-20 in *Material Culture and the Study of American Life*

Jan 20: Typology, Variables, and Attributes

Adams and Adams Excerpts on pp: 91-95, 157-181

Jan 22: Material Culture and Meaning III – Taxonomy and Seriation

Adams and Adams pp. 202-232

Jan 27: **Quiz #1 (intro concepts);** Introduction to ceramics

Unit 2: Material Culture Laboratories and Analyses – Additional materials will be handed out before each lab

Jan 29: Ceramics Lab I – basics of ceramic analysis (paste, form, glaze, decoration),

Feb 03: Ceramics Lab II – early ware types, glazes, decoration

Feb 05: Ceramics Lab III - mid to late 19th C. wares, glazes, decoration

Feb 10: Ceramics Lab IV – mid to late 19th C. wares (cont'd); Clay smoking pipes

Feb 12: Ceramic Assemblage Issues: **Miller: Thoughts Towards A User's Guide to Ceramic Assemblages, Parts I-IV.**

Feb 17: **Quiz #2 (ceramics);** Introduction to Glass

Feb 19: Glass Lab I – composition, early vessel forms, and decoration

Feb 24: Glass Lab II – 19th C. technology and forms

Feb 26: Glass Lab III - Early 20th C. chronologies

Mar 03: Glass Lab IV – Misc. glass and review

Mar 05: **Quiz #3 (glass);** Intro to Metals: Alloy composition

Mar 10: Metal Lab I: Nail identification

Mar 12: Metal Lab II: nails (cont'd) and button technology

Mar 17/19: **Spring Break - No Classes**

Mar 24: Military Artifacts

Mar 26: Ballistics

Mar 31: Metal containers (Tin cans and more!)

Apr 02: Metals Review

Apr 07: **Quiz #4 (Metals);** Intro to Reporting

Apr 09: Open Day – Special Topics

Section 3: Material Culture Reporting

Apr 14: Report work session

Apr 16: Report work session

Apr 21: Report work session

Apr 23: Report Presentations

Apr 28: Report Presentations

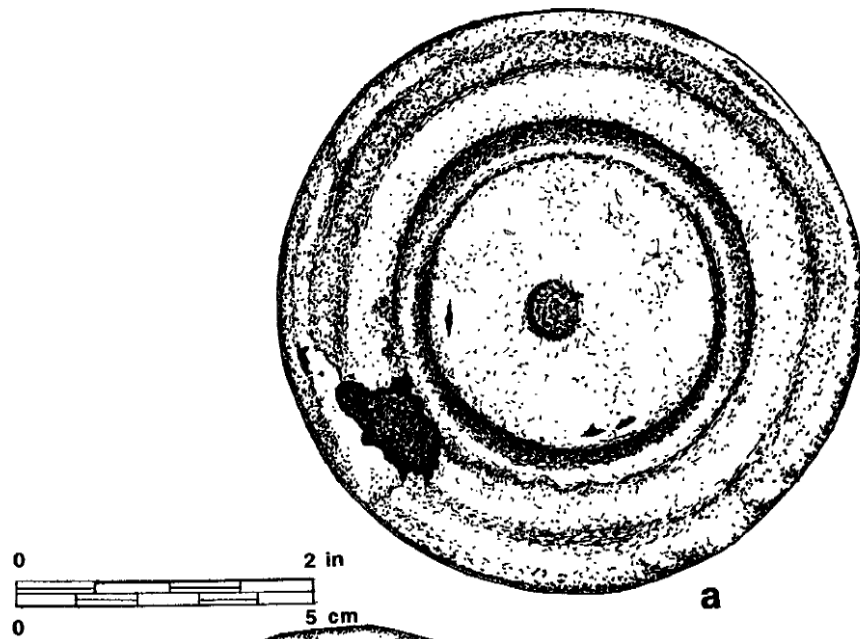
Apr. 30: Epilogue

UBIQUITOUS HISTORIC CANNISTERS

HOLE-IN-CAP CAN, Mid-1840s to WWII

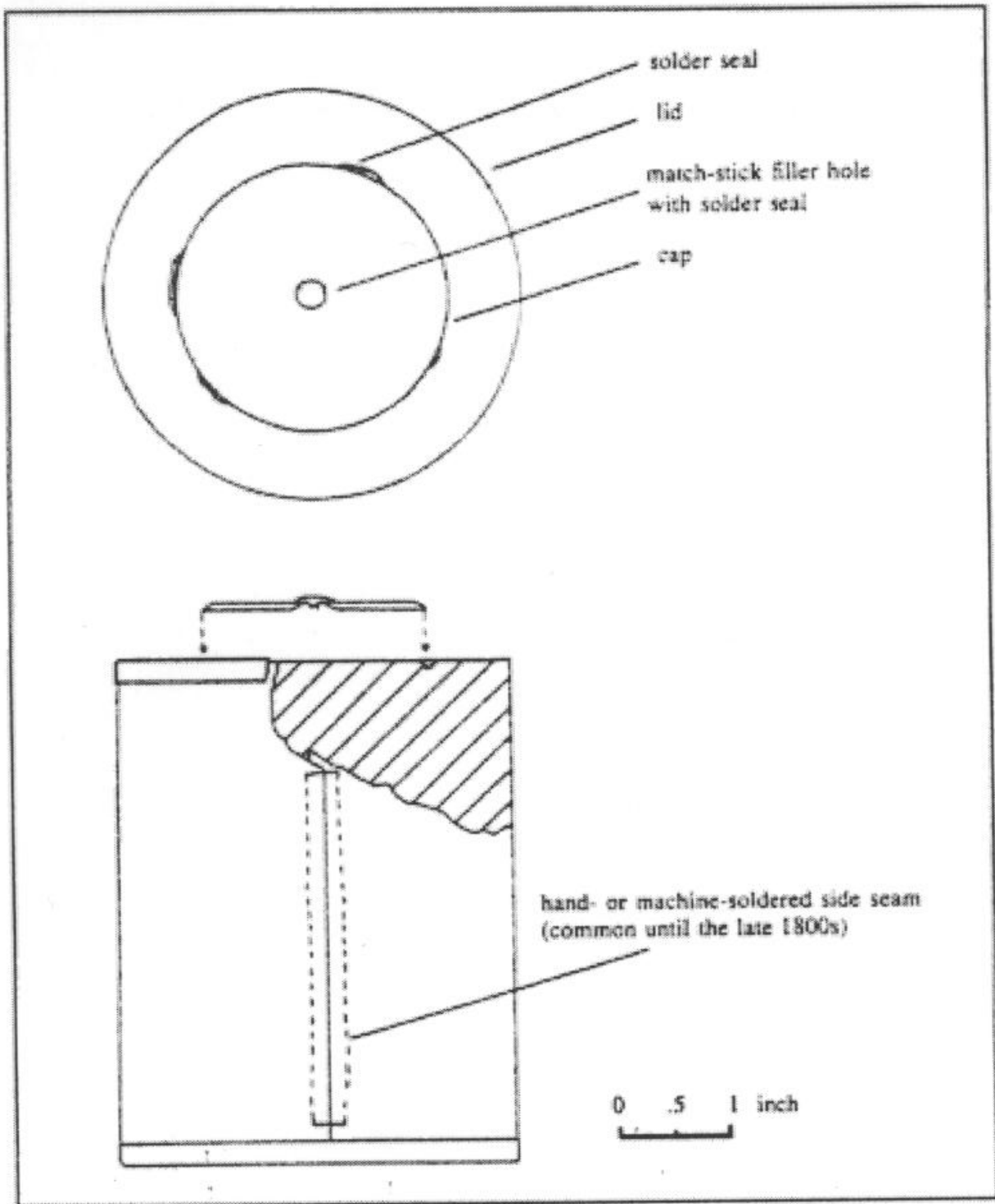


<http://www.indiana.edu/%7Ee472/cdf/suggest/old/Cans.html>



http://www.blm.gov/historic_bottles/pdffiles/oldspanishtrail1990.pdf

HOLE-IN-CAP VARIABLES



http://books.google.com/books?id=nPd0pItrrI8C&pg=PA165&lpg=PA165&dq=historic+venthole+can&source=bl&ots=2mli4Oa_AW&sig=k2i9dwPvrMGF3G4O32lxgdJomyg&hl=en&ei=eGDOSb-GCcP0nOfNsQ3YCQ&sa=X&oi=book_result&resnum=1&ct=result#PPA166.M1

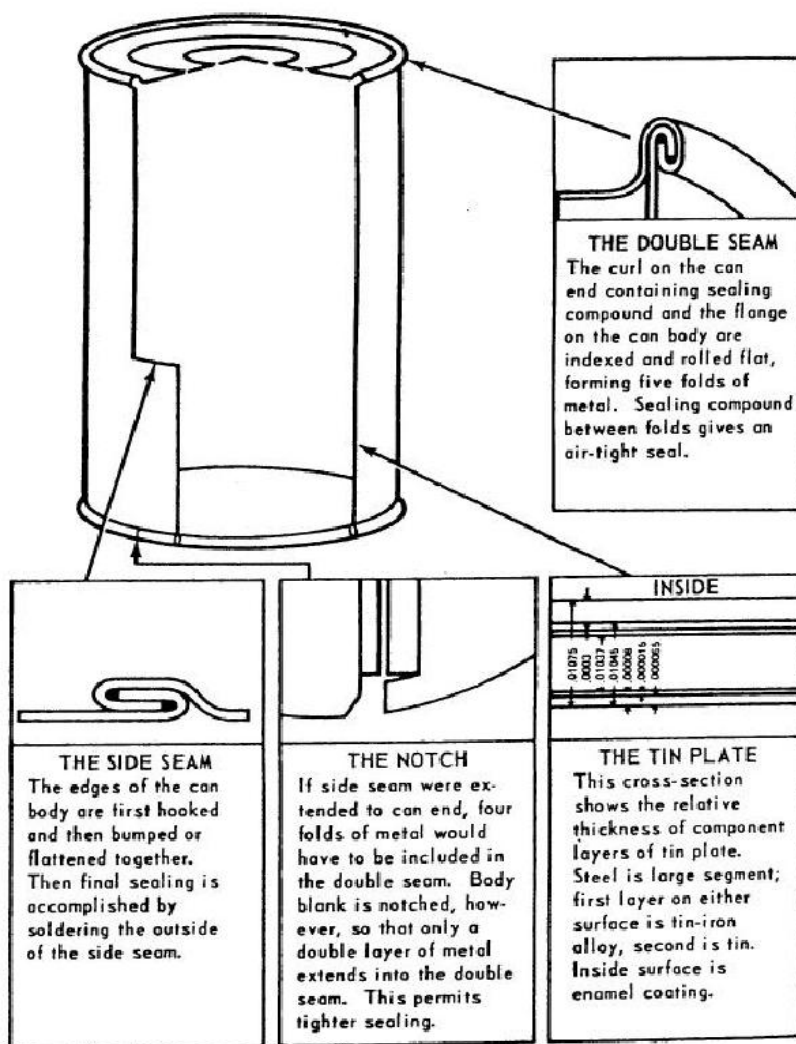
VENT-HOLE CANS (AKA “SOLDER-DOT CANS” or “HOLE-IN-TOP CANS or “MILK CANS,” 1885 +



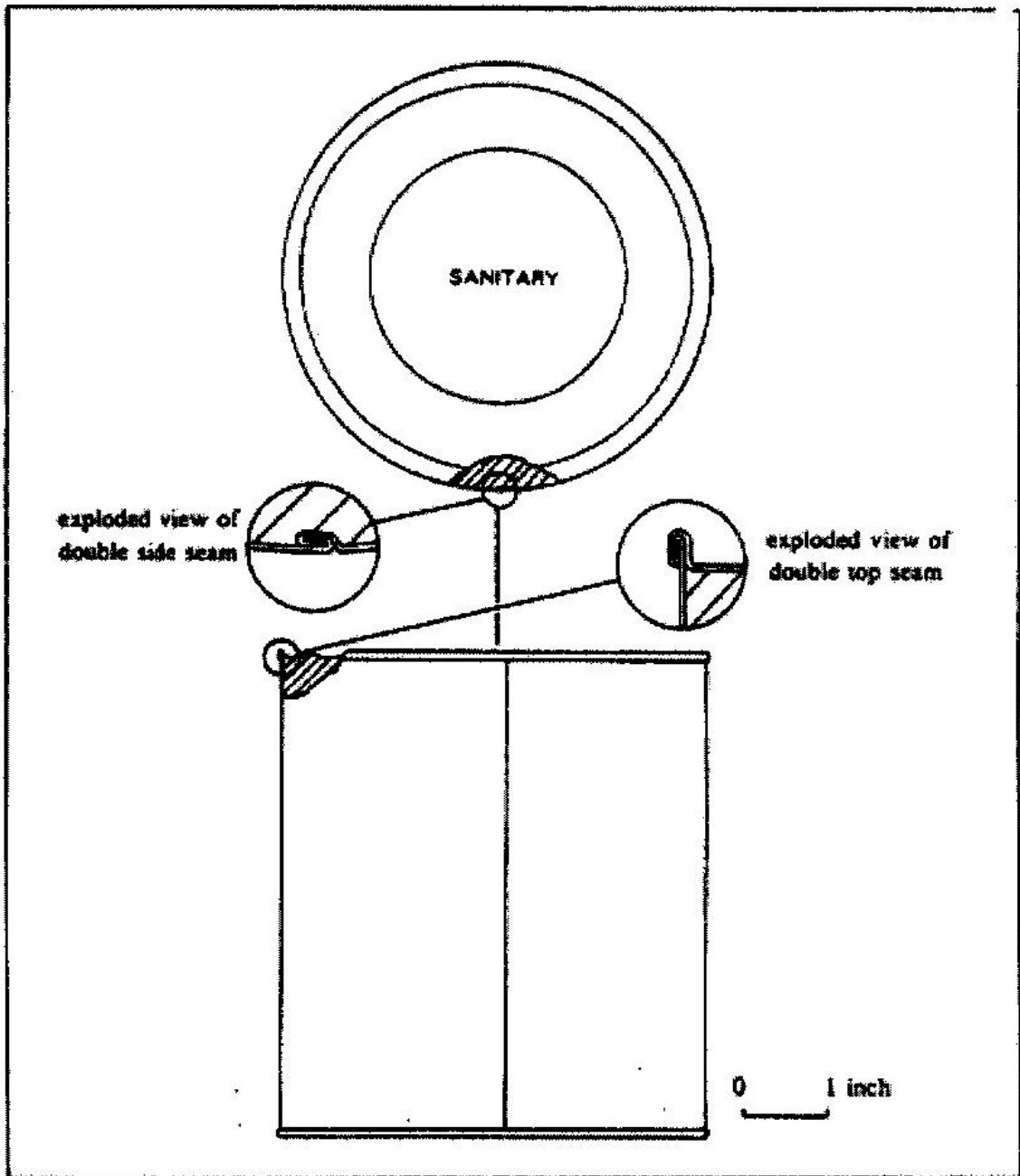
NOTE LACK OF CAP PRESENCE, ONLY SOLDER-SEALED FILLER HOLE,
CONTAINED MILK

<http://www.indiana.edu/~e472/cdf/suggest/old/HoleInTop.jpg>

SANITARY CANS, 1894 to present, increased in production gradually in the early 1900s with manufacturing innovations and completely replaced the hole-in-cap by WWII.



Sanitary cans are what you have at home; note 2 to 3 stamped concentric circles on the top.

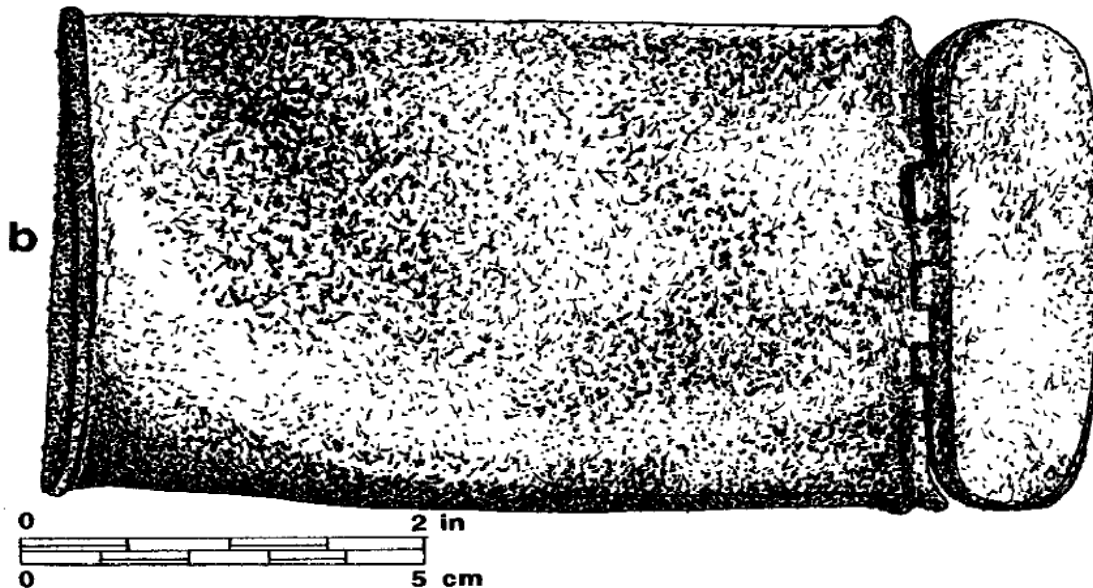


UPRIGHT POCKET TOBACCO TINS (“U.P.T.T.s”), primarily 1896 to 1950s, resurgence in reproductions many times until the present. The first UPTT was “Tuxedo Tobacco” in 1896. Prince Albert is the most common.



http://archive.liveauctioneers.com/archive4/tomharrisauctions/16217/0051_1_1g.jpg

Note the “hinged external friction lid” on the sketch below. UPPTs can be dated within fairly precise temporal spans based on the company, seams, and also based on either/or the presence, lack of, or number of hinges.



<http://www.blm.gov>

KEY-WIND "FISH" TINS, 1866 to present

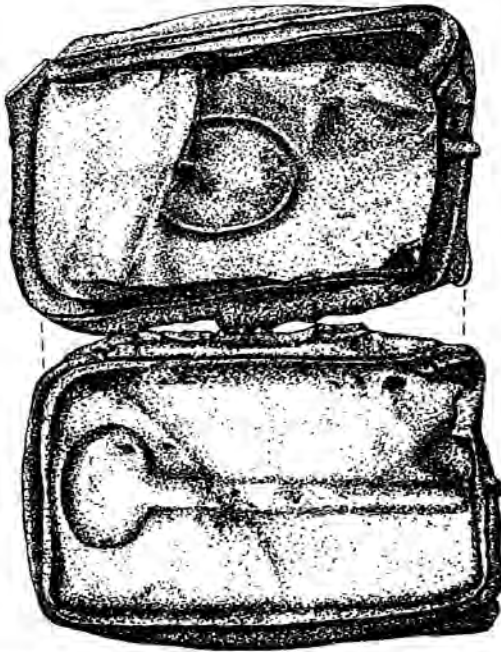


Figure 12. Top and bottom views of opened sardine can.

<http://www.blm.gov>

Tin Can Chronology (Jim Rock, 1990):

1810- Peter Durand was granted a patent for a tin-plated food container by King George III of England.

1818- Peter Durand introduced the tin container in America.

1819- Fish, oysters, fruits, meats and vegetables were being canned in New York by Thomas Kensett, Sr. and Ezra Daggett.

1830s- Huntley and Palmer of Reading, England were selling their cakes and biscuits in decorated tin boxes.

Mid- 1840s -The hole-in-cap can became common.

1847- Allen Taylor patented a machine for stamping cylindrical can ends.

1849- Henry Evans, Jr. improved Taylor's patent with the "Pendulum": press for making can ends.

1850-1860 - Louis Pasteur discovered that bacteria caused food spoilage. By heating a "closed" can these microscopic, single-cell plants could be killed. This could be done in a hole-in-cap can.

By the Mid-1850s small seamless cans were being manufactured.

1856 Gail Borden began canning condensed milk in America. To get the contents out of this can you must remove all or most of the can end.

1856 Henry Bessmer of England discovered, as did William Kelley of America in 1857, the process for converting cast iron into steel.

1859 A patent was granted for lock side seams for cans in America.

1861- 1865 - The U.S. Government, "The North", purchased quantities of Borden's condensed milk for military use. This proved to the public that canned products were safe and nutritious.

1871- The first American tinplate works was established.

1870s- A process for one-color lithography on tin plate was developed. Hinged lid tins were on the market.

1875- Arthur A. Libby and William J. Wilson of Chicago developed a tapered meat tin for packing their products.

Late 1870s- Daniel, Joseph and Guy Somers of New York developed their lithography techniques. Ginna and Co. of Brooklyn, New York, began producing fine artistic lithographed tins. Howe developed the "Joker" and "Little Joker" systems that automatically attached and soldered can ends. The English required their can manufacturers to stop soldering on inside side seams of cans. In America, this practice was discontinued at a later time.

1880s- Chromolithographed tins were introduced. These tins were lithographed by using a series of color plates. Multicolored tins were now on the market.

1885- Evaporated milk was first canned in the United States. These cans are opened by punching two holes on opposite sides of the can lid or top.

1888- Max Ams of Max Ams Machine Co. of New York developed a double side seam and gasket for cylindrical cans. This led to the "Sanitary Can".

1891- The McKinley Tariff Act greatly reduced the flow of tinplate from Europe to America.

1892- Hasker and Marcuse Manufacturing Co. was founded in Richmond, Virginia. The flat top tobacco can was introduced on the American market.

1895- The tapered meat can was improved by the Norton Brothers of Chicago, when they added a scored key wind strip to the large end of the can.

1897- The log cabin shaped can was patented.

1898- Edwin Norton patented a vacuum pack tin.

1900- Tindeco (Tin Decorating Co.) of Baltimore was founded. By the 1920s it was the leader in lithographed tin.

After 1900 the vent hole filler can was introduced for evaporated milk.

1901- American Can Co. (AC Co.) was formed. By the 'teens they were using Canco as their logo.

1901- Hecking Can Co. began operations in Cincinnati, Ohio. Their logo was an H inside a circle.

1903- Hills Brothers of San Francisco vacuum packed the first coffee for commercial use in "squat" on pound cans.

1904- The Sanitary Can Co. was founded. They produced double-seamed open top cans. Continental Can Co. (C.C.Co) was founded.

1906- Plus or minus two years, the upright flat tobacco can was marketed.

1908- American Can Co. absorbed the four sanitary can companies.

1911- Most California can manufacturers were producing sanitary cans.

1921- Enamel lining of zinc oxide was first used to coat the inside of cans. This coating prevented discoloration of vegetables and other reactions with the metal can.

1935- The invention of C-enamel allowed the flat top and bottom beer can to be introduced. Later that year the cone-top beer can was also introduced. The "Church Key" was invented to open the flat top beer can. This opener makes a triangular shaped hole in the can's top. The cone-top can allowed beer bottlers to retain their old bottling equipment.

WWII - It appears that the hole-in-cap was taken out of production.

Late 1950s- A soft aluminum top was added to the metal flat top beer can.

1957- All aluminum cans were first produced.

1963- The aluminum tear-top can and the D & I (drawn and ironed) aluminum can were introduced.

1972- The State of Oregon required beer can tabs to remain with the can.

1980- 3M developed a peel scotch tab for drink cans.

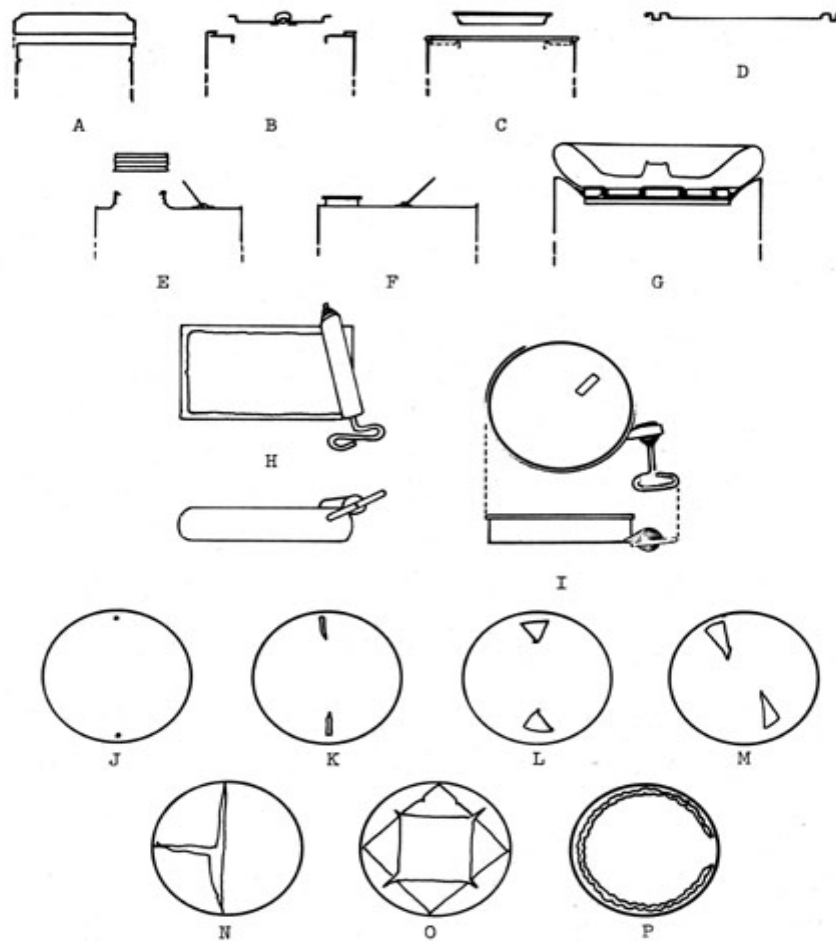
<http://www.anthro.utah.edu/IMACs/471-TinCans.pdf>

OPENINGS:

Types of Can Openings (from Buckles et al. 1978:412-415) The manner of opening a can reflects, to a degree, what was contained within the can. The types of openings which are recognized should be recorded as per the description/illustration below. In addition, the number of cans with different types of opening should be estimated.

471 - Tin Cans (Page 7)

Tin Can Openings



- | | | |
|----------------------|-----------------------------------|-------------------------------|
| A. Removable lid | G. Hinged lid | L. Church key |
| B. Removable lip lid | H. Key-opened, rectangular/square | M. Puncture and Pry |
| C. Pry out lid | I. Key-opened, round | N. "T" cut (usually by knife) |
| D. Paint can lid | J. Ice pick | O. "X" cut (usually by knife) |
| E. Screw cap | K. Knife cut | P. Cut completely around |
| F. Spout | | |

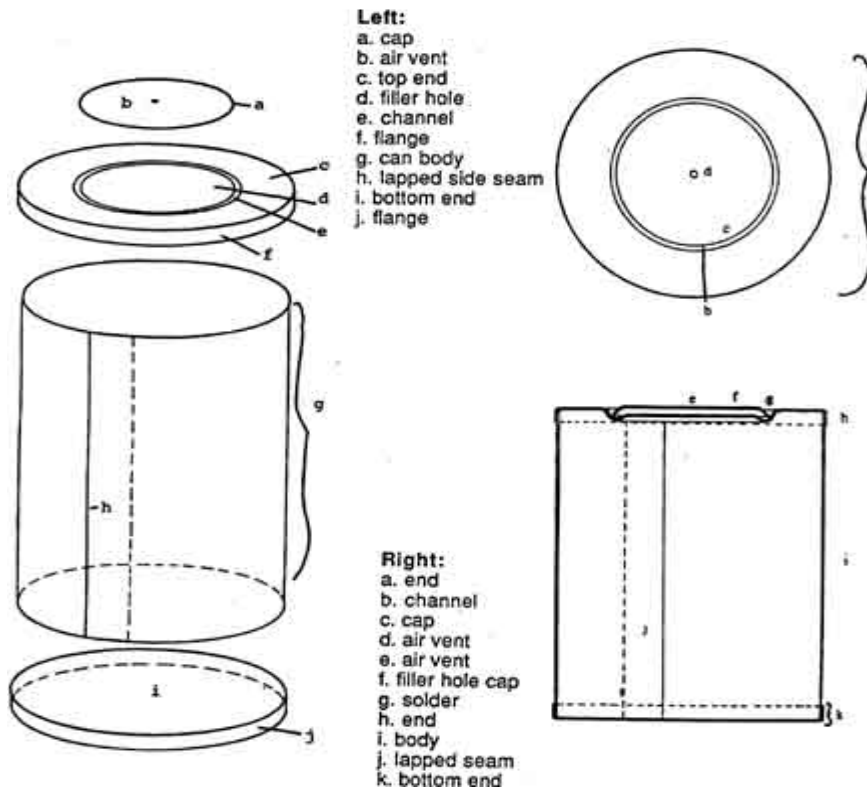
<http://www.anthro.utah.edu/IMACs/471-Tincans2.jpg>

EVEN MORE EXCITING CANNISTER VARIABLES:

Figure 13

Anatomy of a can

The glossary on page 105 and the drawing below are derived from Parks Canada Manuscript Report 299, *Manufacturing typology for tin containers from the Arctic Salvage Project*, by Barbara J. Wade, 1978. The illustrations are plates 1 and 2, by J. Métiévier.



<http://www.deldot.gov/archaeology/lebanon/images/appendices/appendix3>

M.D. Seger, Compiler, 2009.

ANTH 487E/887E TEST #1 – SPRING 2009

Answer all questions on the bubble sheet provided

1. ___ is defined as partitioning a specific field of entities into a set of mutually exclusive types

- a) seriation
- b) typology
- c) taxonomy
- d) methodology
- e) eschatology

2. Frequency seriation can be illustrated as a (nickname)

- a) battleship curve
- b) eye of the needle
- c) throw the dice
- d) butter bar
- e) pirate's cove

3. An attribute is best defined as

- a) a definable aspect of a variable
- b) an orthogonal shift
- c) a binomial
- d) a polynomial
- e) an intrinsic but not measurable entity

4. Which of the following is true about defining a type

- a) it must include all observable variables
- b) it must be consistent with other typologies
- c) it must be mutually exclusive
- d) it must employ different sets of criteria
- e) it must be musty

5. ___ is hierarchical clustering into larger or smaller groups

- a) deuteronomy
- b) typology
- c) cladistics
- d) isonomy
- e) taxonomy

6. Seriation can be defined as

- a) multivariate analysis
- b) a set of mutually exclusive types
- c) categorical groupings
- d) linear ordering along a single scale
- e) none of the above

7. The visual display of presence/absence of dimensions for crested ceramics shown in class was

- a) a cladogram
- b) a dendrogram
- c) a Linnean taxagraam
- d) an isostatogram
- e) a Venn diagram

8. Which of the following are archaeological classifications

- a) morphological
- b) stylistic
- c) chronological
- d) functional
- e) all of the above

9. Which is true regarding seriation

- a) each variable can produce a different seriation
- b) it does not produce categorical groupings
- c) it can produce some kind of rank-order
- d) all of the above
- e) none of the above

10. ___ are dimensions of a material manifest in all types of the typology

- a) finites
- b) attributes
- c) variables
- d) co-dependents
- e) extrinsics

11. New types can be generated in a ___ ; but methodological rigor is maintained in a ___

- a) closed system; open system
- b) open system; closed system
- c) taxonomy; seriation
- d) seriation; taxonomy
- e) taxonomy; seriation

12. In the crested ceramics study, which dimension was expressed most often?

- a) sovereign
- b) pan military
- c) regiment
- d) county/ethnicity
- e) battle honours

6. THE FABRIC OF THIS SHERD IS _____
7. THE WARE TYPE OF THIS SHERD IS _____
8. THE DECORATIVE SYTLE IS _____
THE POSITION OF THIS DECORATION IS _____
9. THE DECORATIVE STYLE IS _____
10. THE FINE LINES ON THIS SHERD ARE _____
11. THE GLAZE ON THIS VESSEL IS _____

ANTH 487/887E SPRING 2009 - TEST # 2 – GLASS

Visit all 12 artifact stations and answer the following questions. Instructions for specific stations will be provided. Closely examine the artifact attributes and variables.

STATION #

1. Which is a lead glass vessel (circle #) 1 2 3 4
2. This bottle has a _____ stopper.
3. A bottle with “FEDERAL LAW FORBIDS SALE OR REUSE OF THIS BOTTLE” would date from _____ or later.
4. This bottle was formed using a _____ mold (be specific).
5. This bottle was formed using a _____ mold (be specific) and dates to _____ or after.
6. This bottle was finished in a _____ mold.
7. This finish is called a _____ closure (specific name).
8. This sherd has a _____ decolorant (be specific).
9. Examine this bottle CLOSELY. Based on variables, what is its TPQ _____
10. Given the body and lip shape, this bottle most likely has a _____ stopper
11. This is a fully machined bottle (circle one) T F

Explain 2 diagnostic variables that support your answer:

1) _____

2) _____

12. The term for the very dark green color of this bottle is known as

_____ (2 words)

ANTH 487E/887E SPRING 2009 TEST 4 – METALS

Station #

1. This object known as a _____ was made from a _____ alloy

2. The discoloration on this artifact indicates the presence of what metal

3. This nail fragment was identified as hand-forged. Do you agree? Y N (circle one)

List two variables and their attributes to argue for or against:

4. These two fragments represent _____ nails

5. While rusty, this is most likely a _____ nail

List two variables and their attributes that support your identification

6. This specialty nail was used for

7. This item often found on fur trade sites is called a _____
8. The striations running the length of the case are _____
9. What is the approximate caliber of this lead shot? _____
10. These two items are called _____
11. Collectively as a single piece, this item is called a

12. The size and composition of this item suggest it is what type of shot?

13. The marks on the bottom of the cartridge cases indicate they are _____ fire
14. The shape and ring near the base of this bullet suggest it is a _____
15. The wear pattern on this bullet is known as

16. This can is known as a _____
because of the method of closure (use the proper name, not the slang)
17. The double lip on this modern item indicates that is a _____
can
18. This can was opened with a _____ (slang
term)

ANTH 487E/887E: Material Report Guidelines, Checklist, and Style Guide

In each material report, you should include the following sections: introduction, methods, findings and conclusions, an appendix for data, and references. General content requirements for each section and the point values are presented below. Use the checklist to make sure you have included all the pertinent information. Also, be sure to use spell check and proofread your hardcopy report draft.

1. Introduction (2 points)

- Briefly describe the site (the compiled report introduction will have more details)
- What materials you are analyzing?
- What artifacts/ecofacts fall under this category?
- Make a summary statement of general findings

2. Methods (8 points)

- How are you classifying and analyzing the materials?
- What are the variables and their attributes?
- Discuss the categories, distinctions, and exclusions

3. Findings and Conclusions (7 points)

- What patterns did you find?
- Are there any spatial patterns? (e.g. Concentrations in areas or depths vs. wide scatters)
- What were the spatial and temporal implications?
- Directions for future research

4. Data (you can also include maps and photos within the main body) (5 points)

- Artifact catalogue
- Tables
- Maps
- Photos

5. References (3 points)

- alphabetical list of cited works including articles, technical reports, web sites, etc.
- Use SAA format. SAA Style Guide:
<http://www.saa.org/AbouttheSociety/Publications/StyleGuide/tabid/984/Default.aspx>

Formatting and style issues are covered in the next section

Style Guidelines

2009 Lewis-Syford and Beaver Creek Trail Crossing Site Reports

The reports will closely follow the style of reports in past years. Please review the following checklist before submitting your paper, and refer to the example page for the specific layout. Copies of reports can be viewed in the Lab in 428 Morrill Hall

General Formatting

- _____ Spacing: Double
- _____ Font: 12 pt, Times New Roman
- _____ Title: 14 pt, bold and italicized
- _____ Left, right, bottom margins: 1.25"
- _____ Top margin: 1"
- _____ Remove page numbers
- _____ Left-aligned (not justified)

Specifics

- _____ Title is centered, bold and italicized with the author's name immediately beneath
- _____ Sections (e.g. *Introduction* and *Conclusions*) should be in italics and aligned left.
- _____ Figures and Tables are to be referenced in parenthesis (Figure 1, Table 1).
- _____ All figures and tables are numbered and named directly beneath the information (Table 1 Empty Example Space).
- _____ Distribution maps placed at the end of the chapter, labeled as a figure (Figure 2 Number of Tin Can Fragments).
- _____ References are to follow the cited text (Winner 1928:3-7).
- _____ Cite references using the AAA style guide (http://www.aaanet.org/publications/style_guide.pdf)
- _____ Include a separate list of your figures and tables.

The Quintessential Chapter

Havelock Qismet

Introduction

_____ Lorem ipsum dolor sit amet, consectetur adipiscing elit. Proin pede. Fusce laoreet tellus in justo (Rohlen 1993). Fusce non massa eu mauris feugiat tempus. Maecenas id arcu vitae est malesuada ornare. Vivamus dignissim lobortis leo. Vivamus sem eros, auctor quis, tincidunt eget, nonummy id, purus. In hac habitasse platea

dictumst. Duis eget eros quis quam hendrerit venenatis. Integer eu risus. Suspendisse eros nibh, blandit nec, iaculis et, rutrum non, felis. Sed sit amet eros at turpis feugiat varius.Sed nec ligula. Duis sed arcu. Praesent trum est sit amet sem (Winner 1928:3-7).

Table 1 Empty Table Example



Figure 7 White, 11 mm, Prosser, four-hole dish type

Conclusion

Sed dictum, felis eu luctus blandit, nisl quam ullamcorper neque, in volutpat nunc enim quis leo (Gompers 1999). Vestibulum fringilla. Vestibulum mauris sapien, vulputate nec, lacinia ac, dictum quis, eros. Integer vel odio at diam tincidunt rutrum. In hac habitasse platea dictumst. Quisque luctus dignissim nisl. Maecenas aliquet, enim nec placerat dictum, tortor sapien luctus nisl, porta sollicitudin nisi velit eget turpis (Rheingold 2000; Zinfandel 2007). Phasellus ante. Etiam et tortor ut est posuere elementum. Nulla nisi nunc, consequat ac, gravida porttitor, luctus sed, turpis.

Begin your references on a new page (see Below)

References Cited

Name – no indentation

Year line – indent 3 spaces then put in year, then 2 more spaces, then title

Subsequent lines – indent 8 spaces

Gompers, Samuel

1999 Lorem Ipsum Laborum and You. London: Remus Press.

Winner, Kathryn E.

1928 Winning is Awesome: A Guide for You. *Journal of American Winning*

18(2):189–216.

Rheingold, Howard

2000 A Slice of Life in My Virtual Community. Electronic document,

<http://well.sf.ca.us/serv/ftp.htm> accessed April 27, 2009.

Rohlen, Thomas P.

1993 Education: Policies and Prospects. *In* Koreans in Japan: Ethnic Conflicts and Accommodation. Cameron Lee and George De Vos, eds. Pp. 182–222. Berkeley: University of California Press.

Zinfandel, Andrew

2007 “The Best of Historical Archaeology”: A Study of The Industrial Revolution from an Archaeological Perspective. Ph.D. dissertation, Department of Anthropology, University of Nebraska-Hopefully.

Every reference listed should be used in the paper.

Every citation made in the paper *must* be included here.

For more examples and specific styles for other media see

http://www.aaanet.org/pubs/style_guide.pdf or

<http://www.aaanet.org/publications/guidelines.cfm> then select AAA Style Guide