Summer 1995
Number 1

PRIMITIVE TECHNOLOGY NEWSLETTER

A Supplemental Publication of The Society of Primitive Technology

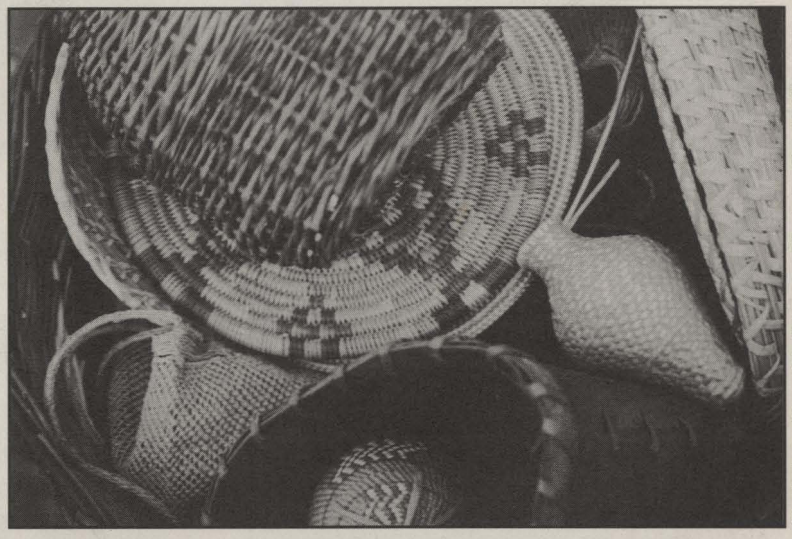
The Society of Primitive Technology is a non-profit organization.

WELCOME TO THE PREMIER ISSUE OF THE PRIMITIVE TECHNOLOGY NEWSLETTER

Since one of the goals of the SPT is to foster communication, the Board, at its November meeting, decided to implement a new publication that would be sent to the membership between the two *Bulletins*. We felt that six months between issues was too long, but the manpower and resources to produce additional *Bulletins* were too limited to make that jump possible. Hence, *The Newsletter*.

We also wanted to make the *Bulletin* a more timeless presentation. By moving discussions and advertising of a more timely nature to a simpler format, more room was available in the *Bulletin* for projects and reports. Although the costs of paper, production and postage are increasing, we felt the *Newsletter* was a needed addition to the Societies efforts to positively affect the field of primitive technology.

To kick off this new network, the Board decided to discuss topics of concern to the Societies development. One that seemed appropriate to start out with was Experimental Archaeology (EA) and how it fit with the goals of the Society. For about two decades, the field of EA in this country was very active. It still remains a respected part of the archaeological process in Europe. However, in the early 80's EA took some heavy criticisms from without and within, and became less visible in the field in the U.S. Is the time right to reconsider EA, and if so, can the Society be an effective body to bring new definition and direction to this much needed discipline ?



Baskets by Pegg Mathewson, Photo by David Wescott

Replicas? Artifacts? Reconstructions? Recreations? Authentic? Simulations? How do we define what we do, and who is going to set the "rules of the game" ?

Studies of prehistoric technologies, tool forms, and artifact types have resulted in part from a desire to go beyond ethnographic analogy and to supplement the often sketchy field notes and interpretations of ethnographers and historians. In most cases the ethnographer or historical observer did not have the opportunity to observe a particular task from its inception to its conclusion and of necessity reported on conditions observed at only one point in time. Thus, detailed observations of complex processes or manufacturing procedures that require a specific series of activities performed over a period of time are often lacking, and the complexities of performing various tasks within primitive technologies are often misrepresented in the ethnographic and historical records.

Experimental archaeology, then is generally the only means of providing additional information about primitive technologies or potential solutions to questions to manufacture and use processes that have not been addressed adequately in the historical or ethnographic literature.

John L. Fagan
Experimental Archaeology and Public Involvement: A Case Study,

WE'VE MOVED - MAKE A NOTE

As of August 1, 1995, the SPT office will be returning to its original location along the banks of the Snake River in Southeastern Idaho. Please refer all inquiries and business to our new/old address:

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ETHICS STATEMENT - The following Statement of Ethics was drafted to be our guiding statement regarding memberships, advertising, and endorsement of events and projects by the Society of Primitive Technology.

STATEMENT OF ETHICS

Through the stated goals of the Society of Primitive Technology as defined by the Society of Primitive Technology mission statement, the Society will not condone, encourage, or sanction any of the following activities as they may be attempted by any individual, group, business or organization:

1. The sale of prehistoric artifacts, and/or any intentional alteration of aboriginal items. This includes the sale of modern replicas as authentic aboriginal artifacts.
2. The sale of any modern replica, in any medium, which does not clearly display a distinctive and permanent "maker's mark" which could be used to distinguish said item as a modern replica.
3. The sale or trade of products which, all or in part, contain remains of any endangered animal or plant species, where the maker does not possess a proper permit or license.
4. Any activity which as a primary intent or result, conflicts with the stated goals of The Society of Primitive Technology.

Conflicts with the above statement will be considered by the Board of Directors, who may or may not decide to take action.

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A Letter To Consider

Dear SPT -

I thought I would write and thank you for another great issue of the Bulletin of Primitive Technology [#9]. I enjoyed the articles very much. I appreciate your keeping the articles in one piece instead of breaking them up like most magazines do.

You asked 'Who are we?' Are we scientists, prehistorians, or 'primitives'? Answer: We are all of these. Whether Chinese, French, American, Israeli, African or European, we are people interested in some facet of early human development. Maybe only in a specific area or a broad spectrum of studies. Are we a field of study? Yes, albeit a broad one. Are we a movement? Yes, we are a loose, extended family of people interested in the ways of early man. If only by reading a book, or digging up artifacts or trying to make something with stone tools. Do we have a political agenda like most movements? Not really.

When it comes down to the wire, we are a large group of people with a multitude of interests centering around prehistory. All races and nationalities are we. All religions and beliefs are we. We are the rich and the poor. The well-schooled and the not-so-well schooled. The young and the old. We are all of these things and more.
In the end the question is the apparent? WE ARE ABO!!!!

Vaughn Terpack
Hodges, SC

A SUGGESTION

WHAT IS EXPERIMENTAL ARCHEOLOGY?

By Errett Callahan

Experimental archeology may be defined as "that branch of archeology which seeks to interpret material culture, technology, or lifeways of the past by means of structured, scientific experimentation: (Callahan ms: 87). Reconstructive archeology, closely akin to experimental archeology, involves "interpretation of material culture and technology by means of physical reconstruction, using either experiential (Level II) or experimental (Level III) means" (ibid.). Only the latter may be termed "experimental archeology. Level I projects, although attempts at reconstruction, may not lay claim to the term "reconstructive archeology". [See below for explanation of the three levels.]

Experimental archeology started in the late 1800s, when a number of archeologists tried to duplicate the technologies they were finding evidence of in the soil. After this, experimentation went "out of style" until "rediscovered" in the 1960s by technologists such as Hans-Ole Hansen of Denmark. Hansen took it upon himself, as a teenager, to attempt an authentic reconstruction of a specific Neolithic house pattern (1962). This experiment gave rise, in time, to Hansen's prestigious Lejre Research Center in Lejre, Denmark. The center proved so popular that it was imitated all over Europe as projects in experimental archeology gained in popularity. It is still thriving there today.

In the mid 1960s, flintknapper Don Crabtree and archeologist Francois Bordes started working together (1969) to show archeologists that experimental studies with stone tools were important to science. Flintknapping quickly evolved from a quaint hobby into the serious field of lithic technology.

These studies inspired numerous technologists around the world to start taking experimental archeology seriously. College courses popped up all over and field school projects in experimental archeology appeared, mostly in the 1970s (DeHaas 1978, Reynolds 1979, Callahan 1976, 1981). For a detailed overview of who was doing what around the world, study John Coles' two synopses with care (1973, 1979). Survival schools also started gaining in popularity at this time, thanks largely to Larry Dean Olsen (1967). Although this was not experimental archeology, survival skills still involved many of the same primitive technologies which interested both groups.

During the 1980s, interest in experimental archeology and lithic technology in the States faded rapidly because of unwarranted, unfair, and harsh criticism mounted by archeology "guru" David Hurst Thomas (1986) and others. The fainthearted dropped by the wayside and the pioneers went into seclusion—ever improving their skills and methodology, but keeping the results of their work to themselves. Meanwhile, the survival schools were growing by leaps and bounds as interest in technology as an end in and of itself, not as a means to science, which was where the criticism lay, gained in popularity.

Finally, as the field was bursting at the seams for expression, the Society of Primitive Technology was born in 1989. The rest of the story you know.

So where does that leave experimental archeology today? Interest in Europe never diminished, but has continued to grow and gain respect. In the USA, however, experimental archeology is all but dead. Most of the proponents have changed direction and gone into more "respectable" professions. Others, the die-hards, are still out there plugging away, making better and better science, but, as I said, doing so in privacy until the time is ripe for fruition.

Perhaps that time has come. The Board of Directors of the SPT, at their last annual meeting, made a commitment to look into experimental archeology again, to dust it off, to give it a second chance. Realizing the common bond of interest between technology and experimental archeology, the Board is considering the sponsorship of exciting new projects in experimental archeology. For now the focus should be upon the methodology rather than the theory, upon the experiment more than its meaning to science.

Accordingly, I would now like to offer some suggestions as to how to distinguish three different levels of investment in doing physical reconstructions. (The following is condensed from Callahan ms: 35-46.)

" These Levels dawned upon me as I personally examined projects in primitive technology and experimental archeology around the world. I came to realize that different attitudes and levels of quality were being expressed, often without the re-creators being aware of it. To avoid the pitfalls of claiming to be more or less scientific than you really are, I'd suggest a careful consideration of your objectives and a clear understanding of which level you are shooting for.

Level I: NON-AUTHENTIC AND NON-SCIENTIFIC ("Play" level). Reproductions which are unsuccessful or nonfunctional units, whether undertaken with the correct period tools, materials, and procedures or not. Such reproductions may vary between honest, failed attempts at authentic units or blatantly non-authentic simulations of authentic originals. Artifact examples might range from an arrow which is made with the proper tools, materials, and procedures but which does not fly straight (improper alignment of fletching, underspined shaft,

(more)

or simply too crooked) to an immaculate, straight-shooting arrow made with modern tools from a commercial dowel.

These projects usually feature poorly researched, literal interpretations of ethnohistorical sketches or written accounts and are generalized versions of supposedly typical but usually imaginary situations. Although what the situation may pose to say and what it actually communicates may be at odds, I must add that the intentions of the designers are usually reverent and the mistakes often made in ignorance rather than by deliberation.

Level II: AUTHENTIC BUT NON-SCIENTIFIC (Experiential level). Reproductions which are successful, functional units undertaken with the correct period tools, materials, and procedures. An artifact example might include the aforementioned arrow, made with the proper tools, materials, and procedures, which does fly true.

Level II projects vary between those which are private and short-lived to those which are permanent and open to the public. Thus their educational value may fluctuate between "learning by doing" experiences for the builders and the better living history type reenactments for the media or general public. In general, the questions which are raised are of the experiential or "how" variety rather than of the experimental or "why" variety.

The value of these projects lies not only in their technological authenticity but in the critically important, experiential training which they impart to their practitioners—training which is imperative for gaining the experience required to attempt Level III reconstructions, which is where experimental archeology lies. (Level II is not experimental archeology.) It is my opinion that while Level II projects need not necessarily gravitate toward the Level II category, those who find themselves caught in Level I projects should work toward Level II status as rapidly as feasible. Likewise, and this is critically important, Level III projects should not be undertaken until Level II proficiency has provided adequate training (Kelterborn 1990).

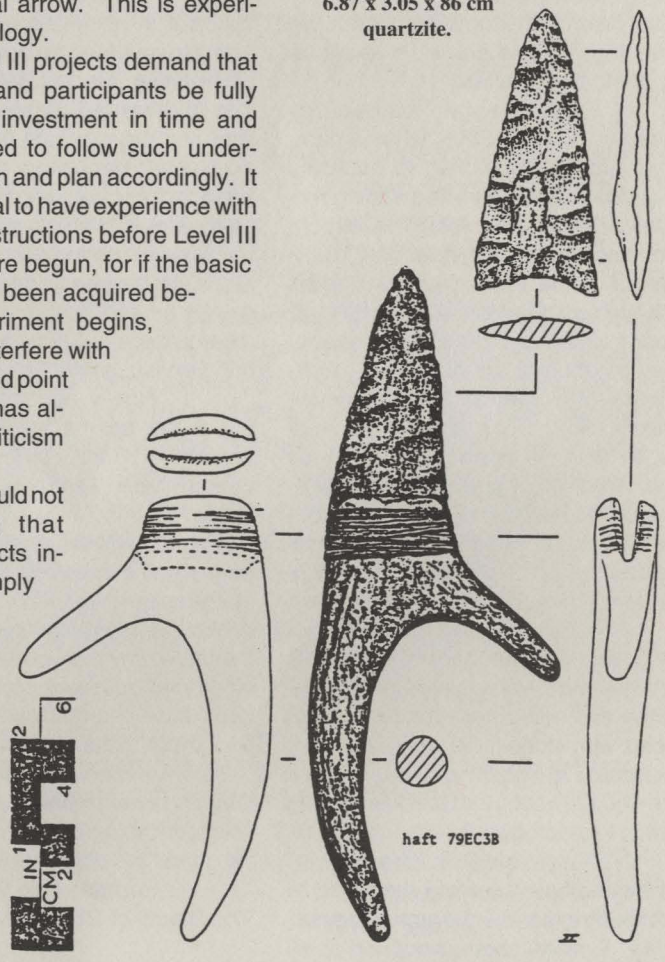
Level III: AUTHENTIC AND SCIENTIFIC (Experimental level). Reconstructions which are successful, functional units undertaken with the correct period tools, materials, and procedures and which are scientifically monitored. That is, objects are not just made, they are tested. An artifact example would again include the aforementioned arrow, still flying true. But this time it would be accompanied by data which documents its fabrication thoroughly enough that another could duplicate it. Without such documentation, there is no experiment. (Not only is data kept, but research reports, either in the form of lectures of publications, result so that others might have access to this information). The data might be supplemented with further information concerning the arrow's performance and/or damage patterns, which is then applied back to the relevant archeological situation so as to answer questions concerning the original arrow. This is experimental archeology.

Level III projects demand that the designer and participants be fully aware of the investment in time and energy required to follow such undertakings through and plan accordingly. It is also essential to have experience with Level II reconstructions before Level III experiments are begun, for if the basic skills have not been acquired before the experiment begins, learning will interfere with research, a valid point to which Thomas alluded in his criticism (1986).

It should not be forgotten that Level III projects include not simply the building of a dwelling or whatever, as physically exhausting as that may be, but the monitoring and the analysis of the associated data as well as the drafting up and presentation of a report. The latter task is the burden of the scientist. Unless the results of a test are made available so that it may be repeated by others, that test was an experience (Level II) not an experiment (Level III). Without such monitoring, however, there is no science. This is not to say that undocumented experiences with authentic reconstructions are not of intrinsic worth. They may indeed be. But they should not be passed off as science, as was all too often the case in the past.

While in the narrow sense, reconstructive experimental archeology is usually concerned with the re-creation of authentic and scientifically monitored technological projects, in the broader

Shannon Knife Replica from the Pamunkey Project.. 6.87 x 3.05 x 86 cm quartzite.



sense, the field embraces all types and levels of serious reconstructions. Therefore perhaps our discipline should provide models by which anyone interested in understanding that part of ourselves amenable to re-creation, which we feel has been lost in the past, may turn for guidance. If the new experimental archeology can help in this search for truth, then perhaps the time has come when it should be resurrected.

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Excerpts from the Introduction and Conclusion to *Archaeology By Experiment* by John Coles, 1973

The term experimental archaeology is a convenient way of describing the collection of facts, theories and fictions that has been assembled through a century of interest in the reconstruction and function of ancient remains. By definition the words suggest a trial, a test, a means of judging a theory or an idea, and this is exactly so; experimental archaeology provides a way, one way, of examining archaeological thoughts about human behavior in the past. It deals almost entirely with elements of subsistence and technology, and does not therefore encompass the whole range of human culture; yet it treats exactly those ancient features that form the backbone of archaeology as a study, the surviving aspects of material culture. In pursuing these aspects beyond mere recovery and recording, experimental archaeology leads easily and perhaps inevitably into further stages of archaeological work involving more complex and more theoretical models of human patterns of behavior.

The use of experiments in archaeology is a logical outcome of the subject itself, man's interest in himself and in his past. It represents no more and no less than a channeling of intelligent curiosity towards an explanation of human behavior in essentially practical terms. Such curiosity was no doubt present from the beginning, from the time that ancient relics were recognized to be ancient, and experiments with archaeological material began over 150 years ago.

Following the recognition by the scientific world of man's great antiquity, attention was focused upon stone tools recovered from ancient geological deposits, and experimental work was carried out on reproducing and testing flint implements from about 1860. Nilsson, Lubbock, Evans, some of the founders of archaeology, all professed interest in experimenting with stone, and some of Evans's work has never been surpassed.

All experiments, or almost all, have common features. All represent problems in archaeological material, through incomplete survival, through loss of understanding of purpose, through doubts about presumed function. All begin with reconstruction, and all go on to tests for function or for suitability. **All represent a series of steps: problem-idea-procedure-result-assessment.** ...the main source of criticism leveled at experimental archaeology, [is] that it is generally inconclusive. It cannot demonstrate that ancient people did something in a particular way and only in that way; it does not prove anything beyond a shadow of doubt, and this may account for the fact that experimental archaeology tends to be a highly individualistic and generally neglected field. Observations of ancient cultural phenomena are not possible because they have passed without record, but the same difficulty exists for any archaeological exercise that deals with aspects of human behavior that are not fully represented by material culture.

Confidence in experimental results generally cannot be expressed with precision, and the range of verdicts about the feasibility of a particular method as used in the past tends to include only one specific word 'impossible', and others less dogmatic such as 'unlikely', 'possibly', 'likely', 'probably', presenting an opinion, highly subjective, of the experimenter or commentator on their confidence in the project.

It is important, however, to establish the necessity for some basic procedural rules that are applicable to all experiments, in order that a general measure of reliability can be at least considered if not universally adopted. Most of these rules are observed in most experiments, although they may be unacknowledged as such, because they are basically common sense.

1. The materials used in the experiments should be those considered to have been locally available to the ancient society that produced the problem.

2. The methods used in the experiment to reproduce ancient materials should not exceed those presumed to have been within the competence of the contemporary society. This presupposes a detailed knowledge of ancient technology, and environment as well, so that measures of expertise can be deduced and accepted. There are two sides to the coin here, because sometimes, in the absence of adequate consideration of ancient technology, experimental work is conducted with 'primitive' tools handled in an inexperienced and therefore inefficient way...the need for practice before recording efficiency tests is clear.

3. Modern technology should not be allowed to interfere with the experimental results, but should not be neglected in furthering our understanding of the materials and the methods used to alter them. Yet modern technology provides analysis of materials, such as copper, before, during and after experimental work, and can add beyond measure to our understanding.

4. The scope of the experiment should be assessed before work begins. Some tests, such as that of rates of erosion and weathering, cannot be accelerated by any known means, and patience is ever-virtuous. Other tests, such as building operations, can be rapidly completed by modern equipment, but in such cases the experiment suffers through the loss of estimates of time, of observable wear on implements, and perhaps of confidence in the finished product itself. The decision rests with the aim of the project.

5. The experiment should be repetitive if possible, each building on the results of the previous test. ... 'it is impossible to profit by a lucky accident unless the mind has been prepared by a long course of thinking and experimenting'.

6. The experimental work will be undertaken with a desired result in mind, but there should exist a genuine uncertainty that the method adopted will succeed, and improvisation should be constantly considered...'disciplined use of the imagination is the highest function of the archaeologist'.

7. The results of the experiment will consist of a series of observations that lead the archaeologist to certain suggested conclusions. Proof absolute should not be assumed or claimed. Although it is possible to sail an ancient type of boat across the Atlantic, the claim that it actually happened in ancient times is not proved. Corroborative evidence is always required to give confidence to experimental results. A field of corroborative evidence that is useful if carefully employed is ethnography. Both experimental archaeology and ethnography will provide ranges of possible solutions to specific problems; neither will prove any particular answer, but both will indicate degrees of probability for the archaeologist to consider.

8. The experiment should be assessed in terms of its reliability, that it asked the right questions of the material, that the procedure adopted was appropriately conceived and honestly applied, and that the results were observed and assessed fairly. Errors in the experiment, in selection of materials, in processes, in observations, should be openly stated. And in the final analysis, the reliability of experimentally-derived conclusions must not be assumed. Experimental archaeology then cannot and does not pretend to prove anything. It provides a tool by which some of the basic economic activities of ancient man, those concerned primarily with subsistence and technology, can be assessed for their development and their competence. As such it can and should lead on to further considerations of patterns of human behavior, the concern of archaeology as a science and as a humanity.

The value of experiments...must surely be recognized by all who are concerned with the basic data of prehistory, the surviving traces of man's materialistic past.

All manner of his remains can be tested by experiment, by constructing models for examination and assessment, and almost all of the work noted here has contributed some thing to our understanding of past behavior, some experiments much more than others, but in no case can proof absolute be claimed. The failure of a piece of equipment to perform an essential task is probably a good measure of its past failure if used in the same way, but the same stamp of certainty cannot be applied to the reverse; the success of a test can only show a possibility, a likelihood perhaps, that an artifact did in fact perform the same function in the past. Yet by such trials and experiments, by such failures and successes, archaeology can profit in great measure in its task of recreating ancient events, in recovering and deducing information about past human behavior.

Experimental archaeology contributes several elements to any study of the past, an alignment to and familiarity with material culture of all kinds, a range of possible solutions to archaeological problems of interpretation, and an awareness of the many achievements of ancient man. That it lacks the clear ring of truth, of absolute certainty, only aligns it with all other aspects of prehistoric or early historic studies, that archaeologists can do nothing but deal with opinions, with the possibilities and probabilities of past unrecorded events. To this situation, true experimental work can bring an understanding of basic problems that have always taxed mankind, food, shelter, and aids and comforts of all kinds.

Excerpts from *Experimental Archaeology* by John Coles, 1979

Experiments can be broadly grouped into three levels. The lowest level is that of simulation, wherein a copy is made of an original artifact with attention paid only to its visual appearance for display purposes. The materials used may vary from the original, the technology employed in making the copy can be modern, and the copy itself is not tested for its function or purpose. Museum displays are a fair description of this level of experiment, and some scientists would totally exclude the category from experimental archaeology. Yet visual effects can be useful, essentially to give a third dimension to material culture, to provide a scale, and notably to lead on to further consideration and work. Above this, such experiments cannot rise, and their greatest value at the moment must be their public appeal which brings appreciation and support for further work.

A second level of experiment, to which all work should in theory aim to reach, is concerned with testing for the processes and production methods used in the past. Here the experimenter is involved not only in making a copy or replica which looks like the original, but also in manufacturing it correctly. Appropriate materials must be used, and here the value of analysis of ancient objects, to determine their composition, cannot be exaggerated.

To erect an impression of an ancient building, on the basis of the ground-plan alone, and to call it a reconstruction, is theoretically wrong. In similar fashion, to copy an ancient tool or weapon and call it a re-creation is also wrong. The words reconstruct, re-create, reproduce, replicate, give a false impression of authenticity and the word simulation is perhaps more accurate. In this book the word reconstruction is used, by tradition, but we should not forget that the results are approximations of what might have been, not what was.

A second element in experiments concerned with the production methods is that of an appropriate technology. The greatest care may be taken in collecting the raw materials, but the working or assembly of such materials should be entirely in keeping with a level of technological ability appropriate to the society which made the original objects. We do not know how much effect a bulldozer will have upon a copy of an earthwork, or an electric drill upon a wooden framework for a Roman gate.

The problem of technology is perhaps the most difficult for experimenters to solve because there is a limit to the degree of our knowledge about prehistoric or early technology and beyond this experimenters are in dangerous territory where subjective unsubstantiated opinions are rife. The experiment must obviously be conducted with as close all approximation to ancient techniques as may reasonably be assumed and expected; and as long as the reported results clearly signify the procedures used, appropriate assessment may be made by others as to their suitability and significance.

A third level of experiment is concerned with the function of the artifact, that is the use or uses to which the object is presumed to have been put. This level is a logical step up from that dealing with the production methods and there are few experiments that can proceed directly to function testing without the necessity for accuracy and relevance in manufacture. It would be worthless to test an earthen bank for erosion and weathering if it has been heaped up by an earthmoving machine...The visual appearance of a wooden boat might not be affected by the use of modern technologies in its making, but its handling and possibly its seaworthiness might be altered in ways that could combine to affect the conclusions drawn from the experiments. The general point, however, must be clear, that for function testing the object must be made in an appropriate manner.

There are two aspects in this functional work which are vital, yet sometimes ignored or neglected. The first is that of manipulation and operation; the second is environment. The actual methods by which objects are used to carry out certain functions require more thought than untutored volunteer labor is likely to give. The reason why stone axes sometimes compare badly with steel axes in chopping trees, for instance, is in their mode of use because the angle of blow and back lift of a stone axe is totally unlike that of a steel axe to which modern man is accustomed.

The results are conspicuously successful as experiments because of the care taken in recording and publishing the observations and problems.

Ethnography is one of the most neglected fields of experimental archaeology. Societies today which are totally isolated from the main technological advances of the world are rare, and becoming rarer, but much has already been recorded. Detailed records of stone tool manufacture, iron smelting, forest clearance, house building, pottery firing and many more such activities, provide unique guides to the technologies of the past. They are unique because the people who practiced them knew no other ways and were entirely familiar with their materials and their procedures and the precise reasons for selecting them all. Craftsmen in modern industrial societies are unlikely to be familiar with ancient tools and processes, and it is to be regretted that ancient crafts and technologies are being lost at an alarming rate throughout much of the world today. The criticism often leveled at ethnographic records is that they represent situations far removed in both time and space from the milieu of the ancient society under examination. The criticism is legitimate yet it cannot totally serve to dismiss the use of such an information source. In certain instances it may be possible to overlook environmental differences—iron working may be a case in point. In others, differences in environment will have had a major effect; simple forms of agriculture in tropical or subtropical regions should not be used as guides to prehistoric practices in northern latitudes. With care the experimenter will find a vast source of "experimental" data already available, and one might hope for a compilation of such material from an ethnographer or archaeologist rather than a social anthropologist.

The Society of Primitive Technology and Experimental Archaeology:

Who Are We ?

By David Wescott, Editor

David Wescott

Passing along the tradition: Student and teacher explore the fine art of finger weaving natural fibers into sashes.

Introduction

The question, at this point, is still "who are we"? Is what we do limited to experimental archaeology, or is EA only a part of what we do ? For much of the membership the answer would be "who cares?...I don't need more politics, I just want to have fun doing what I like." Others, who are aware of the need for accuracy in materials, tools, procedures and context, would say "I've heard the arguments of the "scholars" and their goals have merit. I've also watched their infighting and petty battles to be at the top of the pig-pile and tear each other down. I've listened to their criticisms of what I do ("playing indian"), and for people who have "created" entire cultural scenarios based on a single point type, they have no room to judge me for speculating. At least my suggestions are based on practiced skills. " And then there are those pioneers who have braved the slings and arrows of the traditional scientists in trying to bring the field to a respectable level of precision. Their response may be "we have the capacity to offer far more than well practiced skills. What we do has interpretive value for a field (understanding mankind) that, in many ways, shares goals that are common to us all. By emulating the techniques of science and refining the outcomes of our projects, we can provide solid foundations of experience, insight and theory, upon which the entire field may build."

These responses represent much of the membership of the Society of Primitive Technology. To support one stance in favor of the others would be in direct opposition to the goals and intent of the Society. In order to foster communication at the broadest levels, we have to provide a forum for including a variety of involvements, not a bully pulpit for those with the loudest voices or an axe to grind. Our membership represents a spectrum of participants ranging from trained professionals to the man in the street, and in the past five years with the SPT we have learned that everyone has something to offer.This,above all, is our strength. Membership in the SPT is not exclusive to any one agenda.

Science paints in shades of gray what is then converted to black and white
Dick Hernstein

The Problem - Definition and Reality

According to Brian Fagan, anthropology is the study of humankind's interacting social life, culture and natural environment. Archaeology is the study of human cultures and technologies , and is a subdiscipline of anthropology. Errett's definition of experimental archaeology - "that branch of archeology which seeks to interpret material culture, technology, or lifeways of the past by means of replication, reconstruction or theoretical modeling" - does not to stop at the artifacts, but strives to also understand the intangible elements behind the artifacts.

In most of the world, the projects and theories of experimental archaeology have a long and respected tradition as being a complementary component of archaeological field work and research. It provides a solid experiential and scientific foundation for the assumptions and conclusions created from evidence unearthed through survey and excavation. These "two distinctly different means of data collecting", when merged at the level of interpretation, cross the sacred boundary between social and physical science, creating anthropological archaeology (read *Lightning Bird* by Lyall Watson for a better understanding of this relationship).

archaeologist - interprets evidence from sites, artifacts and features

technologist - interprets evidence from reproductions, testing and experience

During the late 60's and through the 70's, EA in the U.S. had a popular following. It wasn't until the early 80's that heavy criticism was leveled against the claims of EA. Whether warranted or not, the field of EA was illprepared to respond to the criticism, and to this date has yet to mount an adequate response. The foundation was weak, the guidelines were not widely accepted or adhered to, and the body was too busy playing the "ladder climbing" game to work together to create what was needed to move forward. The result - guerrilla technology and splintered efforts.

At this point, and accepting the above definitions, the problem takes on two separate facets; those criticisms from without, and those from within the field.

Criticisms From Without: After collecting and reading all of the articles included in the references on page 5 and many of the references in those works, 5 common criticisms need to be addressed. Some of them we can do something about, others should be recognized as concerns, but there is little we can do

A PROPOSAL

other than learn from them..

1. Claims of being more than we are - How can we expect others to respect what we do when we have been unwilling to establish definitions and guidelines, and, either through ignorance or ego, ignore the writings of those (Coles, Kelterborn, Anderson, Callahan, etc.) who have tried to set models for us to adhere to. Until we accept guidelines to work within, we will always be susceptible to this criticism.

2. Claims are too sweeping - Science reduces the variables and at the same time focuses the results toward more refined interpretation by narrowing the field of speculation, however , the results are no less speculation. Heed Coles admonition that nothing can be proven with a certainty. This applies to both the technologist and archaeologist.

3. Too many liberties are taken on possible solutions - All we can present are possible or optional solutions to problems or questions. Controls are needed to narrow results to only those options that have a solid technological foundation, and a realistic possibility of working.

4. Too obscure testing - To avoid criticisms technologists are moving to more and more obscure projects. Callahan proposes that until we establish a solid foundation we focus on method more than theory, upon the experiment not the meaning. With solid guidelines and definitions we should be free to pursue both.

5. Jumping from applied to social science - The eggheads say that it is impossible for technologists (those who "play indian") to recreate how people thought or acted, nor can we explore the "why". Yet they are merrily engaged in creating computer models to explore those very questions. We need to be very careful what we claim, and we need to present our results in a very professional manner...or we need to be willing to blow off their criticisms and go about our business...or we need to seek a middle ground.

Those skilled in production and analysis of stone can make a vital contribution toward understanding extinct hunter-gatherer societies. Although advances are being made in this direction, contemporary lithic studies seem in danger of chasing rainbows rather than providing archaeology with the theory so obviously lacking.

That lithic studies fail to live up to advanced billing is not news; several observers have lamented the strongly empiricist, atheoretical character of recent lithic studies. The subject could be skipped entirely were it not for recent publications touting the supremacy of "anthropological" or "cognitive" approaches to stone tool technology. My boo of the year goes to the latter day school of "anthropological" flintknappers, some of whom seem consumed in a game of macho rockmanship..... "Anthropological" flintknappers are out of synch with contemporary archaeology.... [but] Let me emphasize in the strongest possible terms that this is not a blanket indictment of lithic studies....Lithics specialists do themselves and their field a disservice when they try to focus on isolated and largely irrelevant objectives.

David Hurst Thomas
Contemporary Hunter-Gatherer Archaeology in America. In American Archaeology, Past and Future, 1986.

Criticisms From Within:

1. Until the rules are clear, we don't want to play the game - Critical review is necessary to improve and monitor quality, but review should be done against established criteria and not lowered to personal attacks. Both active technologists and archaeologists alike are unwilling to put forward many neat ideas because of their fear of criticism. This is a real blemish on the entire field, and an indictment against those who have let it become the norm and participate in its practice.

2. Guidelines and models to date are too limiting and exclusionary - **Science, experience, and simulation are not above or below one another, they are simply different.** Guidelines and models shouldn't be used to stifle the field or individuals, but better define where on the matrix you happen to be (by choice) involved. No one should be able to criticize where anyone else chooses to participate, so long as we all understand the model.

Theory without practice is empty;
Practice without theory is blind.
Immanual Kant

A Proposal

I would like to propose the following as a model for how our field can proceed to define itself, and technologists can participate at a chosen level of commitment compatible with their skill, knowledge and interest.

1. As a body we accept the levels of experimentation (Callahan, Coles) as: Simulation, Experiential, and Scientific. These levels can also be applied to the educational overlay of affective (coming to an appreciation of), psycho-motor (coming to a higher mental/physical ability), and cognitive (coming to a higher understanding and application).

2. In order to provide a broad and level playing field, we avoid a hierarchal model in favor of a spectral view of our field, based on a matrix of options rather than a pyramid (pyramids have limited space at the top, and invite a "king of the hill" attitude). The foundation for classification is based on materials, tools, techniques, templates and objectives of the experiment.

3. We establish guidelines, definitions and

TABLE 1

** *Box numbers are for information only. No hierarchy is implied.*	DEVELOPMENTAL TECHNOLOGY	PRIMITIVE TECHNOLOGY	EXPERIMENTAL ARCHAEOLOGY
BASIS	**Adaptation - Model**	**Model - Artifact**	**Artifact - Evidence**
SIMULATION "What" Product - Visual Appearance	1	2	3
EXPERIENTIAL "How" Process - Production Methods	4	5	6
SCIENTIFIC "Why" Application - Theory	7	8	9

models clearly enough that participants can "judge" themselves against criteria, and progress along a continuum as they feel the need, thus avoiding personality clashes and judgmental posturing.

Possessing a small, side-notched, and basally concave arrowhead does not make you a Ute any more than owning a Volvo makes you a Swede.
Payson Sheets, 1975

Using the numbered boxes on the matrix (Table 1), levels of commitment can better be explained individually. The model not only strongly supports the efforts of experimental archaeology and allows for precision, but also provides an opportunity for involvement of technologists practicing at a variety of levels without getting caught up in politics and science.

1. Developmental Simulation - *the spirit of what we do...the starting point for most people, especially kids.* I see a picture of an atlatl in a book. So, I run out into the garage and build one. Since I have no wood or tools, or by choice, I make one from scraps of any material that may be on hand. I am interested enough to try it out and attempt to come to a better appreciation of the thing.

2. Primitive Simulation - *the point where many of us are now.* I want my new thing to look a little more like the "real thing", so I read more, find more pictures and a simple diagram on how the thing works. I gather some wood and a saw, and try again.

3. Archaeological Simulation - *the place where most displays and educational programs are now.* I go to my local museum and see an atlatl that was discovered in a cave just up the road from where I live. I go home and whip one out on the band saw.

4. Developmental Experience - *the motivational point for many of us.* I want better performance from my atlatl, so I can set a world distance record. I do some research to get a better understanding of the mechanical workings of the system, obtain materials that are best suited for the job, practice, and then call Guinness.

5. Primitive Experience - *the heart of what we do...where most of us want to be.* I want to live for awhile like the prehistoric residents of my backyard. I want to do it the way they did it. Total "abo". I have to learn about wood, tool making and use, hunting, and more. If I choose to follow a specific culture, everything I do is based on what I can learn about them. I train myself to "think" and perform just like they did.

6. Archaeological Experience - *the beginning of scientific experimentation.* I want to know more about what I find in the field or behind museum glass. ...what's it made of, how is it made, and what does it take for me to reproduce it. I can really do it the way I think it must have been done before.

7. Developmental Experimentation - *the realm of the thinker.* I have an understanding of scientific process and a calculator, and I want to know the engineering and theory of what makes an atlatl propel its missile (Developmental Experimentation must have a subject and foundation that are directly related to Primitive Technology and Experimental Archaeology, otherwise, it has shifted into the realm of modern technology).

8. Primitive Experimentation - *where wise men fear to tread.* I want to explain to the academic that his diagram and explanation of how an atlatl works is incorrect, but just showing him doesn't always cut it. Of course, while I was jotting down notes and tables, my dinner got away.

9. Archaeological Experimentation - *the soul of the process.* I want to reproduce enough tangible evidence that I've got a real good foundation from which to venture into the implications that suggest that "how to fling a stick with a board" is only part of the question.

***In the broad sense, an experience and a simulation can be an experiment. In the narrow sense, there can be no true experiment without science (structured, monitored, reported).**

....the modern day flintknapper is unduly influenced by his personal knowledge of how artifacts are made...He interprets prehistoric artifacts in terms of his own production code, which does not ecompass the total range of possible cross-cultural tool manufacturig procedures.
David Young and Robson Bonnichsen
Understanding Stone Tools:
A Cognitive Approach, 1984

Developmental Technology

-- Levels I-III based on a **generalized model or experimental design** that may be part of or derived from the prehistoric/ethnographic record.
-- Levels I-III use **applicable** materials and procedures. The process of manufacture (the tool) is not important. The application of the design is as important as the product.
-- Objective is to produce a **functional** replication/reconstruction/reenactment of the original template or new design.
-- Level III requires the application of the scientific method, as well as documentation and reporting of the process, and provides theoretical insight into direct applications to the fields of experimental archaeology and primitive technology.

Primitive Technology-

-- Levels I-III based on an **artifact or generalized model** that may be part of or derived from the prehistoric/ethnographic record.
-- Level II uses **appropriate** materials and procedures, may use modern tools during learning stages. Level III stresses accurately researched material, tools, and procedures.
-- Objective is to produce a **plausible** replication/reconstruction/reenactment of the original artifact/template, and gain insights and make inferences to related fields.
-- Level III requires the application of the scientific method, as well as documentation and reporting of the process, and provides insight into possible applications to the many fields of social and applied sciences including: archaeology, anthropology, sociology, living history, recreation and others.

Experimental Archaeology -

-- Levels I-III based on a **specific "artifact", features or evidence** from the prehistoric/ethnographic record. The weakness of Level I is in poor research or interpretation of the record.
-- Level II uses appropriate materials and procedures, may use modern tools during learning stages. Level III limited to **accurately researched** material, tools, and procedures.
-- Objective is to produce a **precise** (Level II and III) replication/reconstruction of the original artifact/evidence. Level II and III imply a broader understanding of the field. "Controlled creativity" can be applied "only in the absence of archeological fact".
-- Level III requires the application of the scientific method, as well as documentation and monitoring/reporting of the process, and relates directly to the field of anthropology.

Some Suggested Definitions *

simulation - honest, failed attempts to blatant forgeries.
experiential - focus on training and insight more than experimentation.
scientific - meets Ketlerborns 7 criteria. Don't just make things, test things.

intangible - never a physical object...understanding of mankind.
tangible - actual evidence is present; measurable. Replicas can be made.
non-tangible - formerly tangible, but disintegrated. Reconstructions can be made.

template - mental image created by tangible, nontangible and intangible information.
model - design generalized or created from a template, artifact, or feature/evidence.
evidence - tangible information.
artifact - complete is tangible, incomplete is non- tangible.
feature - non-artifactual material evidence - post molds, hearths, etc.

reconstruction - *dictionary-* from given or available information.; falls within *what is the inferred* range of variation of the original, based on non-tangible materials; does not imply complete accuracy..one of many ways it could have been done.
replication/replica - *dictionary-* close to or exact copy or reproduction; falls within *what is* the range of variation of the original, based on tangible materials.
simulation - only *approximates* attributes of the original; does not fall within the range of variation of the original.
reproduction - *dictionary* - to make a copy duplicate, or representation; through reconstruction, replication or simulation.
recreate - cannot be done; anything beyond actual/tangible or non-tagible evidence is speculation.

*Many of the term definitions and explanations of the levels are from 5 different Callahan papers on experimental archaeology (see references on page 5, plus *Living Archeology: Projects in Subsistence Living,* 1975, and *The Maturation of Experimental Archeology: A Critical View,* 1981). In writing this paper, much of my attempt has been to allign Errett's thinking about experimental archaeology (using excerpts and quotes from these papers) with what I feel to be the broader scope of the entire field. I take no credit for anything that sounds intelligent. I feel that we should embrace experimental archaeology as a major aspect of what we do, and work toward moving the entire field in new and exciting directions.

Compete Execution of All Basic Activities
Seven points of complete projects.

1. Conception of the whole project.
2. Build-up and analysis of the available data base - lieterature and experts.
3. Preperation of the infrastructure for the experiment.
4. Procurement of raw materials - original and authentic
5. Procurement of gadgets, fixtures, tools, and instruments.
6. Running the experiment - analyze the results and draw conclusions along the way.
7. Completion stage - write the report and conserve and store the data.
Strict Obedience to Scientific Standards - to deserve and defend its name, scientific experimetation has to be recognizable as such:
- it should be measurable
- it should be repeatable
- it should be executed with expert manual skill by people with experience in the field.
- it should be professionally desiged and supervised throughout all seven basic points.

By Peter Kelterborn
Preconditions and Strategies for Experimental Archaeology, 1990

Crabtree defined a flintknapper as: "One who forms stone implements by controlling the fracture of material. An artificer. A stone worker using material exhibiting conchoidal fracture." On the other hand, a replicator is a skilled craftsman who can recreate consistently, with the same lithic materials, the same reduction technology and end products as the prehistoric counterparts or experimental controls. Prehistoric flintknappers created the flaked stone tools and debitage studied by replicators: modern flintknappers have limited technological skills and technological world views. Hence the problem, a flintknapper and a replicator must not be confused even though they both employ flintknapping as a means to arrive at their specific ends: potentially effective flaked stone tools and anthropological data, respectively...[Crabtree] was the first replicator of flaked stone tool technologies...He used and taught flintknapping as a method to understand and interpret prehistoric reduction techniques which are, contrary to popular archaeological tradition, the most relevant tangible remains of that specific prehistoric behavioral process.

J. Jeffrey Flenniken
The Past, Present, and Future Of Flintknapping: An Anthropological Perspective, 1984

My apologies for making the type so small in this issue. When you're on a budget, space becomes very valuable. The Ed.

Netmaking: A Booklet Reviewlet

By Steve Watts

With all the attention netting has received in the last few issues of the Bulletin (Kochanski, Kidder, Watts, Gotlieb, etc.) the publication of Networking by James Andal seems timely indeed. Almost exactly 50% words and 50% clear-and-clean line drawings, this fifteen-page booklet serves netmakers on several levels. For the beginner, the basic instructions are complete and easily followed. For the slightly more advanced netmaker there are techniques that can take you further. James covers the basics of tools, materials, and knots—then goes on to discuss and illustrate enlarging and reducing, reinforcing borders, and netting to a rail, rope, or hoop. Making circular nets and netting around an object are also covered. This is not the ultimate, complete, master netmaking book. . . It's a small, good, solid, straightforward primer that may be just what you're looking for. Home published and home dealt direct from James at "Netmaking", 39 Westpark Dr., Gloucester, Ontario, KIB 3G6, Canada. The cost is five dollars (American will do I assume).

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We need to know what's up. Please forward any information about new products, events, publications, videos, etc. of interest to the membership to the Bulletin editor. We try to include new listings in each Bulletin. The only way for this network to remain fresh is for you to participate...that means everyone. The Society is a living entity and requires input from you to grow and improve. For every new idea you gain or contact you make, try to send an additional one back to the Society. Expand the network. We want items that address our theme of Primitive Technology, so try to retain a focus to our goals. Send in your favorite brochure, catalog , or flyer so that we can list it in the Resource Directory. SPT membership is not required for listing. If you know of any unique or worthwhile resources, let us know !

CONFERENCES, EVENTS AND GATHERINGS

TREADING IN THE PAST: Sandals of the Anasazi - Display at the Utah Museum of Natural History, thru Oct. 22, 1995. Over 300 specimens of ancient Anasazi sandals from the textile collection of the museum. Outstanding display. Book available, see publications below.

PRIMITIVE SKILLS CAMP - Hosted by Ernest Wilkinson near Del Norte, CO, 2nd week in July. Hands-on skills instruction. Learn to be self-sufficient in the wilderness. For information and a complete schedule for next year, contact: Ernest Wilkinson, 3596 West Hyw. 160, Monte Vista, CO 81144. Or call (719) 852-3277.

PRIM. ARCHERY RENDEZVOUS - Hosted by the Wilder Creek Conservation Club in Marshall, MI., Memorial Day weekend. Includes all-Michigan Atlatl championships. Contact Steve and Debbie Fleisher, (517) 767-3328.

PRIMITIVE SKILLS GATHERING - Hosted by Bart and Robin Blankenship of Earth Knack Stone Age Living Skills. Top national instructors, daily workshops. Mid-June. $385 includes meals and camping. For free brochure write: Earth Knack Stone Age Living Skills, PO Box 19693, Boulder, CO 80308. Or call: (303) 938-9056.

NORTHERN LIGHTS GATHERING - Hosted by Glenn Charboneau of Wilderness Awakening Primitive Lifeskills School. Largest gathering of instructors and artisans in wilderness living skills. Mid-June. $200 includes camping, meals and instruction. For information contact: PO Box 120, Slocan, B.C. V0G-2CO Canada. (604) 355-2393, Beep 756.

RIVERCANE & FALLING LEAVES RENDEZVOUS - Hosted by Unicoi State Park. Held last week in April and 2nd week of October at Unicoi State Park. Contact Bob Slack, Unicoi State Park, Helen, GA 30545. (706) 878-2201 x282.

WINTER COUNT, SWEET GRASS & RABBITSTICK - Sponsored by BOSS. Held in AZ , OK & ID. January 24-29, May 9-14, Sept. 17-23 These are regional gatherings sponsored by BOSS for those who can't make it to Idaho. Call (208) 359-2400 for information about gatherings near you.

COYOTE HILLS REGIONAL PARK OLDWAYS KNAP-IN - Hosted by Norm Kidder. "Northern Calif Chapter of the SPT Bunnystick Rendezvous." Coyote Hills Regional Park, 8000 Patterson Ranch Rd. , Fremont, CA 94555. (510) 797-9385 for information.

WOODLAND INTERPRETERS CONF. - Hosted by John and Ellie White, teaching traditional woodland skills. Early May each year, $115 full package, $85 w/o food. Contact: Ancient Lifeways Institute, Michael Hollow Rd, Michael, IL 62065. (618) 576-9255.

THE TRIBE GATHERING - Send for Newsletter ($10/yr - $14 foreign) and information on events and Spring gathering to: Ben Pressley, 1403 Killian Rd., Stanley NC 28164. (704) 827-0723.

C.R.O.W. RENDEZVOUS - Held on the last weekend of July in central NY state. Host or participate in primitive skills workshops and more. For info and Newsletter contact: Jim Spina, PO Box 187, Bogota, NY 07603. (201) 488-0446.

EARTH CIRCLE GATHERING - Hosted by Chris Morasky. Last of August. Contact: PO Box 742, Grangeville, ID 83530. Message phone (208) 245-5124.

HOLLOWTOP PRIMITIVE SKILLS GATHERING - Hosted by Tom and Rene Elpel. Contact: Hollwotop Outdoor Primitive School, PO Box 691, Pony, MT 59747-0691. (800) 685-3202.

THE OLDWAYS GATHERING- regional Great Lakes wilderness encampment during 4th of July weekend. Theme is Sharing-primitive skills, feasts & rituals, natural healing. Info from: Gathering, 7124 Military Rd., Three Lakes, WI 54562. (715) 546-2944.

GREAT LAKES PRIMITIVES - atlatl and bow and arrow competions. George Hedgepeth, G4606 Beecher Rd, Apt K-6, Flint, MI 48532. (810) 230-1872.

PRIVATE SCHOOLS & PUBLIC PROGRAMS

WEST

SURVIVAL SERVICES - Christopher Nyerges. Teaching appreciation for nature through respect and understanding. Talking Leaves Newsletter, PO Box 41834, Los Angles, CA 90041. (213) 255-9502

RIVER SPIRIT SCHOOL OF NATURAL LIVING - workshops in wild foods, building, gardening, primitive skills. PO Box 173, Mad River, CA 95552.

COYOTE HILLS REGIONAL PARK OLDWAYS WORKSHOPS - Norm Kidder. Still available this summer, wet-scrape tanning, Quest for fire, games and toys. Coyote Hills Regional Park, 8000 Patterson Ranch Rd. , Fremont, CA 94555. (510) 797-9385 for information.

HEADWATERS OUTDOOR SCHOOL - Tim Corcoran. Survival and Earth Living skills. PO BOx 1698, Santa Cruz, CA 95061-1698. (408) 423-3830

NORTHWEST

PACIFIC CREST PRIMITIVES - Brad Peterson. Workshops in primitive skills. PO Box 1594, White Salmon, WA 98672. (503) 352-7188

WILDERNESS AWARENESS SCHL. - Jon Young. Classes, travel workshops, lectures, "The Alien Test", Kamana Certification Program. 16625 Redmond Way, Suite M447, Redmond, WA 98042. (800) 340-6068. EMail: WASnet@aol.com.

ABORIGINAL LIFE SKILLS AND PRIMITIVE TECHNOLOGY - Jim Riggs and Ron Macy. High quality instruction and hands-on application of predominently Great Basin skills. 14 and 18 days, July-August. Jim Riggs, 72501 Hiway 82, Wallowa, OR 97885. (503) 437-1895.

RESOURCE DIRECTORY 95

WILD FOOD ADVENTURES - John Kallas. Workshops, seminars, training and publications. 5036 SE Mitchell St. Portland, OR 97026. (503) 775-3828

SOUTHWEST

PRIMITIVE PROCESS POTTERY - **Woodsmoke** series video on pottery. From digging clay to primitive firing. On of a kind. Classes are available. Wayne Brian, 824 West Kiva, Mesa, AZ 85210.

REEVIS MOUNTAIN SCHOOL - Peter Bigfoot. Classes, treks, self-sufficient farm, herbal catalog. HC02 Box 1534, Roosevelt, AZ 85545.

PUEBLO GRANDE MUSEUM AND CULTURAL PARK - Classes, workshops, tours, etc. 4619 E. Washington St., Phoenix, AZ 85034. (602) 495-0901.

TURLEY FORGE BLACKSMITHING SCHOOL - Frank Turley. 3 week courses and 2-day workshops with renowned instructor Frank Turley. Rt. 10 Box 88C, Santa Fe, NM 87501. (505) 471-8608.

WEEDFEED - Classes offered by Scooter Cheatham through the Useful Plants of Texas Project. Contact them about classes or becoming a member of the Useful Wild Plants newsletter, $25/yr; 2612 Sweeney Lane, Austin, TX 78723. (512) 928-4441.

CROW CANYON ARCHAEOLOGICAL CENTER - Archaeological research and cultural explorations. Contact - 23390 County Road K, Cortez, CO 81321. (800) 422-8975, ext. 142.

INTERMOUNTAIN

HEATHEN ARMS - Hari Heath. Bowmaking workshops, supplies and tools. Hari Heath, Box 126, Santa, ID 83866. (208) 245-5124.

NATURE KNOWLEDGE PROGRAMS - Learn To Return with Mountain Mel Deweese. 1825 Linden St, Grand Junction, CO 81503. (303) 242-8507.

WHISTLING ELK WORKSHOPS - Andy & Kathy Miller. 2 and 5-day primitive skills workshops. Contact: Highway Rt. #43, Dewey, MT 59727. (406) 832-3195.

HOLLOWTOP OUTDOOR PRIMITIVE SCHOOL - Tom and Rene Elpel. Contact: PO Box 691, Pony, MT 59747-0691. (800) 685-3202.

BOULDER OUTDOOR SURVIVAL SCHOOL - 1996 catalog at new address and phone: PO BOX 905, Rexburg, ID 83440. (208) 359-2400 Voice and FAX.

EARTH CIRCLE SCHOOL OF OUTDOOR LIVING - Chris Morasky. Write for a copy of his "Tail of the Wolf" course catalog. Box 742, Grangeville, ID 83530. Message phone (208) 245-5124.

MIDWEST

WILLOW WINDS - Jim Miller. Native American tanning and primitive skills workshops. Hides, pelts, and woodland baskets for sale. 962 F 30, Mikado, MI 48745. (517) 736-3487.

TEACHING DRUM OUTDOOR SCHOOL - Tamarack Song. Classes, gatherings, books. 7124 Military Rd., Three Lakes, WI 54562. (715) 546-2944.

MEDICINE HAWK, WILDERNESS SKILLS - Tom Cartwright. Tracking, useful plants, kids programs. PO Box 07482, Milwaukee, WI 53207. (414) 482-8722.

EAST

NATURE AWARENESS SCHOOL - Del Hall. Offers 3-day and week-long courses in primitive living skills, nature observation and awareness, wild edible plants, tracking, bow making, tanning and Native philosophies. Free brochure: PO Box 219, Lyndhurst, VA 22952. (703) 377-6068.

E.A.R.T.H. (Earth Awareness: Rediscovering Tribal Heritage) PROGRAMS - Hawk and Ayal Hurst. Summer youth camps and adult programs onprimitive living skills. . Contact: 6068 3 Top Rd., Todd, NC 28614. (910) 385-1401.

ABORIGINAL LIVING SKILLS WORKSHOPS - Steve Watts, Director of the Southeast Indian Studies Center. Short but exceptional workshops on a variety of topics. Schiele Museum of natural History, PO Box 953, Gastonia, NC 28053. (704) 866-6912.

CLIFFSIDE WORKSHOPS AND PILTDOWN PRODUCTIONS - Dr. Errett Callahan. Classes with master flintknapper and experimental archaeologist. 2 Fredonia Ave., Lynchburg, VA 24503. (804) 528-3444.

NORTHEAST

PATHWAYS SCHOOL - Anthony Follari and Barry Keegan. 24 hands-on classes covering all aspects of primitive living skills. Send catalog requests to: 3 Grandview Ave., Stockholm, NJ 07460.

CENTRAL JERSEY WILDERNESS TRAINING CLUB - Joseph Lau. Workshops covering a wide variety of primitive living skills. "Tracker" oriented. For information contact: 5 Boxwood Rd., Piscataway, NJ 08854. (908) 463-1775.

WORKSHOPS FOR KIDS AND EDUCATORS - Jeff Gottlieb. 57 Westgate Rd., Massapequa, NY 11726. (516) 736- 3984.

PRIMITIVE INDUSTRIES WORKSHOPS - Jack Cresson. Introductory to advance knapping workshops. 40 E. 2nd t., Moorestown, NJ 08057. (609) 234-3286.

SOUTHEAST

HOFUNEE: Southeastern Indian Programs - Scott Jones. Classes, lectures, video tapes. PO Box 2446, Athens, GA 30612.

HEARTH MASTER - Paul Kiene. Historic cooking instruction, fireplace design, culinary antiques. Orange Grove Plantation Store, 11039 N. River Rd, Port Allen, LA 70767. (504) 343-7567.

DETECTIVE OF PREHISTORIC INDIAN ARTIFACTS - Virgil Hayes. Researcher, technologist, experimenter. 505 Webster St., Chillicothe, MO 64601. (816) 646-2514.

INTERNATIONAL

WOODLORE: LIVING SKILLS FROM THE PAST - Workshops and publications by Raymond Mears. 1 Beechcroft Ave., Kenley Surrey Cr 8 5DW, England. 081-668-2081.

FINNISH ADVENTURE CENTER - Harjattulante 80, 20960 Turku, Finland. 358-21-587946.

NORTHERN WILDERNESS SURVIVAL SCHOOL - Jan Karlson. Elfstromsgatan 16, S-341 38 LJUNGBY, SWEDEN.

LEJRE EXPERIMENTAL CENTER - Ongoing projects in experimental Archaeology, and sponsor of the Lejre Seminars, held every 2 years (last one May 95- $500). Located 45 km west of Copenhagen, Denmark. Historisk-Arkaeologisk Forsogscenter, Slange Alle 2, DK-4320 Lejre.

NORTHERN BUSHCRAFT - Summer and winter living skills. Mors Kochanski, RR 1, Peers, Alberta T0E 1W0, Canada. (403) 693-2428.

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RESOURCES, VIDEOS & PUBLICATIONS

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FLINTKNAPPING: Making and Understanding Stone Tools - by John C. Whittaker. $24.95 paperback. University of Texas Press, PO Box 7819, Austin, TX 78713.

IN SEARCH OF HUMAN ORIGINS - NOVA production aired on PBS. $59.95 for 3 vol. set. The Video Catalog, PO Box 64267, St. Paul, MN 55164. (800) 733-2232.

ISHI: THE LAST YAHI - from PBS's American Experience. $19.95 +$2.50 S&H. Call 800-497-1043. Shanachie Entertainment, Box 3144, Newton, NJ 07860.

FLINTKNAPPING TEACHING MATERIALS - training manuals, flashcards, videos. Also comics, flutes and occarinas. Chas. Spear, 278 w. 8th St., Peru, IN 46970.

NATIVE SEEDS/SEARCH - catalog of products, books, and seeds from traditional planst sources. Memberships available. Native Seeds/SEARCH, 2509 N. Campbell Ave. #325, Tucson, AZ 85719.

HIDE TOOLS - fleshers, awls, and hide scrapers by Darry Wood. For information, send SASE to Buck Creek, Haysville, NC 28904.

NATIVE AMERICAN POSTERS - ethnobotanical food and medicine sources. Publications Division, National Museum of American History, MBB 66, MRC 646, Smithsonian Institute, Wash., DC 20560.

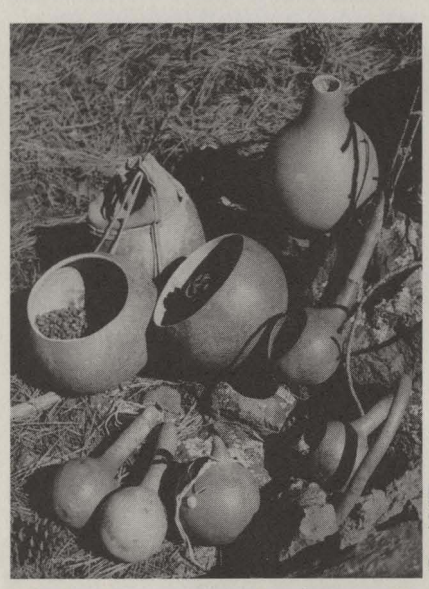
INIDIGENOUS PEOPLE OF B.C. - The Royal Museum Of British Columbia is reprinting (1 per year) a 3 part series on useful plants of BC by Nancy Turner. The first will be "Food Plants of the Coastal First Peoples". Titles also include "Plants in BC Indian technology. #1 will be available Fall of 1995. Royal BC Museum Publcations, 675 Bellevue St., Victoria, BC V8V 1X4 Canada.

PUBLIC ARCHAEOLOGY ON THE COLORADO PLATEAU - A 30 page guide to hands-on experiences in Archaeology. Contact: The Grand Canyon Trust, Rt 4, Box 718, Flagstaff, AZ 86001. (520) 774-7488.

WOODSMOKE PRIMITIVE SKILLS VIDEOS - Dick and Linda Jamison. 6 how-to videos on firemaking, pottery, shelters, and cooking. 30 min, $35 -$45 each. Woodsmoke, PO Box 1384, Sandy, UT 84091.

THE MAN IN THE ICE - By Konrad Spindler. "The official text on the iceman" from Harmony Books. Color photos and scale drawings of all artifacts. For cost and details contact: BOSS- PO Box 905, Rexburg, ID 83440. (208) 359-2400.

ORIGINS OF MUSIC AND MUSICAL INSTRUMENTS - A 42 min. video ($14.95 + $2.95 SH) by Ed Pores on the history of music and instruments beginning with the Upper Paleolithic. AIA/Long Island Society, c/o Ed Pores, 16 Dorchester Dr, Manhasset, NY 11030. (516) 627-4694



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CUTTING EDGE ARCHAEOLOGY - Univ. of Utah announces the limited availablity of copies of anthropological papers from excavation reports of Utah projects conducted and written by Jess Jennings -ie. *Prehistory of Utah and the Eastern Great Basin* - $24.95. Also listed is the publication *Behavioral Archaeology* by Michael Brian Schiffer ($50,)and Treading in the Past: Sandals of the Anasazi - $29.95. . Contact Max Keele, Marketing Manager, U of U Press, 101 Univ. Services Bldg., SLC, UT 84112. (800) 444-8638, ext 6771.

THE JOURNAL OF PREHISTORIC HUNTING - Published 3x each year (only 1 -Jan. 94-has shown up to date, but we expect more to come soon) by Ben Walker. 8 pages of articles and resources, $10 subscription. PO Box 1018-K, Mistassini, PQ G0W 2C0 Canada.

ARCHAEOLOGICAL FIELDWORK OPPORTUNITIES BULLETIN (AFOB) - A comprehensive guide to excavations, field schools, and special programs. $11 from Kendal-Hunt Publishing, 4050 Westmark Dr., Dubuque, IA 52002. (800) 228-0810.

PERIODICALS

WILD FOODS FORUM - bi-monthly newsletter. Provide and share information with fellow wild food enthusiasts. $15 ($16.50 international) $2 sample. PO Box 61413, Virginia. Beach, VA 23462.

BOOMERANG NEWS - Published by Ted Bailey. From primitive sticks to modern returners, latest issue was #13. For information, contact PO Box 6076, Ann Arbor, MI 48106-6076. (313) 971-2970.

BACKWOODSMAN MAGAZINE - Published by Lynn and Charlie Ritchie. General primitive and backwoods skills. PO Box 627 Westcliffe, CO 81252

WILDERNESS WAY & PRIMITIVE ARCHER - Published by Steve Hulsey. 2 good publications for the primitive technologist. WW-$20, PA-$16 per year, 6 issues. PO Box 209, Lufkin, TX 75902-0209. (409) 632-8746.

THE CAST - publication of the Michigan Atlatl Association. Lou Becker, Pres., 5940 Urban Dr., E. China, MI 48054. (810) 765-4623.

THE ATLATL - publication of the World Atlatl Association. PO Box 56, Ocotillo, CA 92259-0056. $10 per year.

THE UNDERGROUND - publication of the United Archaeological Field Technicians, professional archaeologists. HCR 71, BOX 11, Westport, PA 17778.

ARIZONA CACTUS NEWS - published by Arizona Cactus and Succulent Research, Inc. Monthly newsletter ($15) . 8 S. Cactus lane, Bisbee, AZ 85603. (602) 432-7040.

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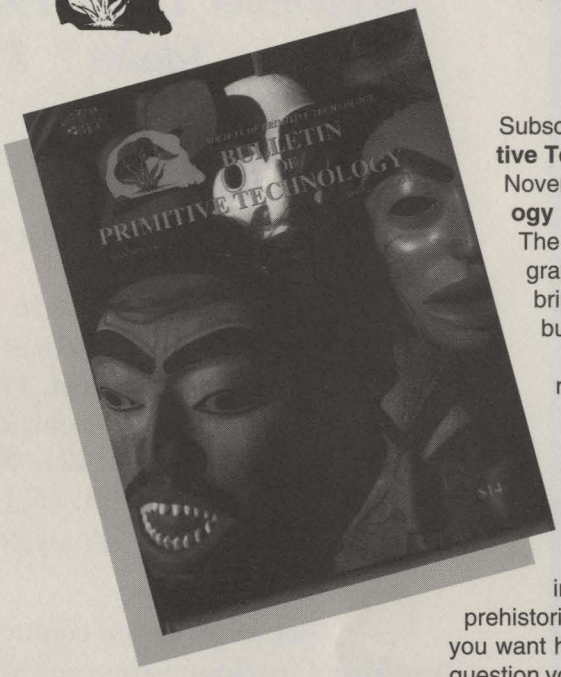

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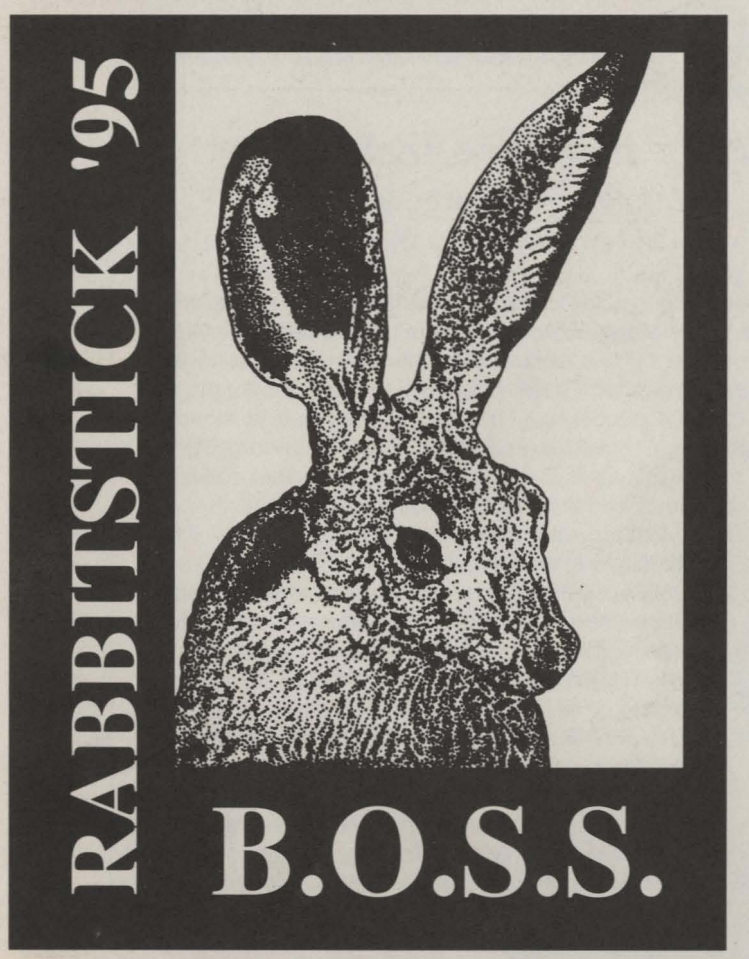

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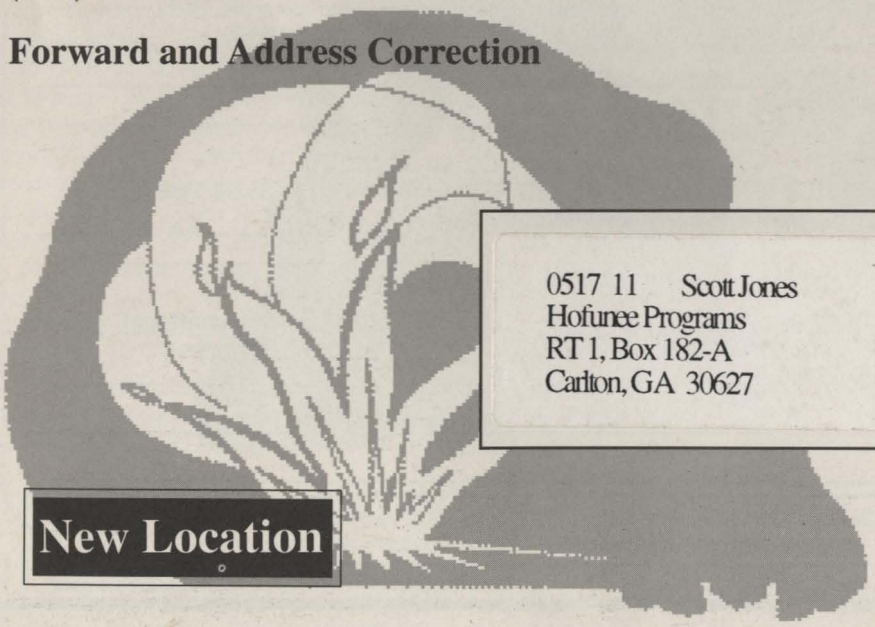

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