The Crisis in American Archeology

An increase in site destruction and decreased funding for salvage has created an archeological crisis.

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The only sources of adequate information on 20,000 years or more of human occupation of the New World are those data that lie buried in the ground—data that are a nonrenewable resource. When found in their original context, artifacts, remains of houses, fire hearths, storage pits, burials of human beings, and even man's trash and garbage can be used to interpret the way of life of a particular group of people at a particular time and in a particular place. Any disturbance of the original context of these materials destroys the only clues that the archeologist has for interpreting these ways of life. It does not matter whether the disturbance is by a professionally trained archeologist, by a farmer, or by a bulldozer—the original context is destroyed by *any* digging or alteration of the land. The records, observations, and photographs made at the time of the disturbance make the difference between an ability to reconstruct past cultures and their environment and a total loss of information.

Archeological research has, in many respects, become interdisciplinary, calling upon geologists, botanists, zoologists, physicists, engineers, mathematicians, computer scientists, and others to aid in interpreting the past and, in turn, often providing them with data. The current crisis, then, involves not only the preservation of cultural data, but also data concerning the natural environment and how it was used in the past. All these nonrenewable sources of data are disappearing at a rate that has increased almost geometrically since World War II, while the potential for scientific recovery of adequate data, in terms of funds and personnel, has remained—after an initial federal surge—essentially static.

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The Nature of the Current Crisis

The current crisis has two parallel causes: (i) the rate of destruction and the absolute number of sites being destroyed is continuing to increase, and (ii) funds to salvage essential data are not increasing.

The nature of many federally funded activities and federally sponsored programs since World War II has been such that they increase the rate of land alteration; despite the government's publically stated policy of concern, federal funds for the recovery of the archeological resources being destroyed by these programs have not kept pace. Funds for salvage work in reservoirs and some other projects of the U.S. Army Corps of Engineers are available through the National Park Service. However, at a time when the Corps of Engineers is increasing the number and kind of its land alteration projects, the budgets for the Division of Archeology of the Park Service have been severely curtailed during fiscal years 1970 and 1971. Funds for salvage in areas where highways are being built come through the Bureau of Public Roads and individual state highway departments—in those states that have worked out a cooperative program. There are, however, 24 states in which there is no such cooperative program (*1*), principally because of state regulations or lack of local concern. In general, other federal agencies have ignored archeology altogether (although the Forest Service is making a beginning) or they have contended that they were not authorized to take any action.

Compounding the problem is the fact that the number of archeological and historical sites adversely affected by federally sponsored projects is equaled, if not surpassed, by activity initiated by states, private businesses, and individuals. By and large, state governments are not providing for the recovery and preservation of information that is being destroyed on state lands, by state projects, or by state-encouraged growth in industry and business. Twelve states provide essentially no funds for archeological research; another 22 spend less than $1000 per year and employ fewer than the equivalent of one full-time person for archeological research. Only 16 states budget state funds specifically for archeology, provide legislative recognition of the archeological program, and employ the equivalent of at least two full-time persons to do archeological research. Six of these 16 have what can be called adequate programs (*2*). Although 43 states have some form of legislation regulating the excavation of prehistoric sites and materials (either on state land or in the state in general), for the most part this legislation is unrealistic, unenforceable, and sometimes unconstitutional.

Finally, the number of individuals who collect prehistoric and historical objects as a hobby, and consequently dig in sites to obtain their objective, is steadily increasing. The resulting loss of information from indiscriminate digging is tremendous.

In the last decade, the amount of land alteration that adversely affects sites has increased at a rate far in excess of available resources for the rescue of the information; state and federal governments have not provided financial and other legislative support; and archeologists have not come up with programs or leadership to cope with the problem. The result is a crisis.

What Has Been Done

As early as the 1920's and 1930's, archeologists recognized that much information was being destroyed by collectors and others, for nonarcheological reasons (*3*). The first massive, coordinated effort to rescue information and material about to be destroyed came just before World War II with projects

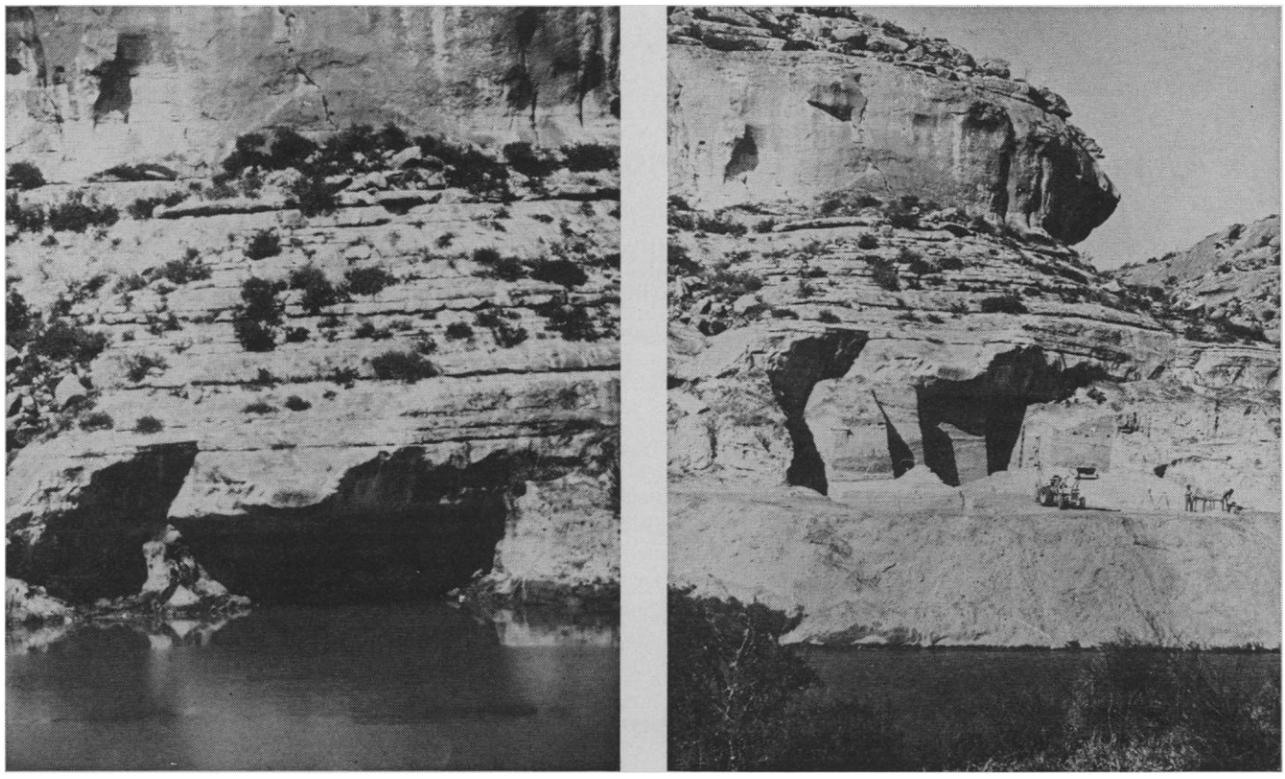

Fig. 1. The Arenosa Shelter contained cultural material from all known phases of postglacial human occupation in the lower Pecos River area of southwest Texas. At right, salvage excavations are in progress under the sponsorship of the National Park Service; at left is the shelter after the filling of the Amistad Reservoir.

in conjunction with the federal Work Projects Administration and the Tennessee Valley Authority programs.

After World War II, the Park Service, the Smithsonian Institution, the Corps of Engineers, and the Bureau of Reclamation developed an Interagency Archeological Salvage Program in response to the need to recover and preserve information about prehistoric and early historical sites that would be destroyed or inundated, or both, by federally sponsored reservoirs (Fig. 1). Through this salvage program, thousands of sites were located, several hundred were at least tested, and some of this work has been reported on in published papers (*4*). Although the program began in the early 1950's, the Reservoir Salvage Act of 1960 (Public Law 86-523) made this kind of salvage federal policy.

In the 1950's also, the Bureau of Public Roads, interpreting the 1906 Federal Antiquities Act as applying to land over which it had control, developed a program to salvage archeological information that might be destroyed by construction of federally aided highways, particularly the then-burgeoning interstate highway system. The Bureau of Public Roads and the highway departments in approximately half of the states are now cooperating on this kind of salvage work.

Federal funding for preservation of information and materials from the past has been largely restricted (except for individual National Science Foundation grants) to areas in which reservoirs and highways were being constructed. Although federal support has remained relatively static or, in recent years, has been considerably reduced, concern in the form of policy statements has increased, particularly with the passage of the National Historic Preservation Act of 1966, the National Environmental Policy Act of 1969, and the President's recent Executive Order (*5*). An amendment to the Reservoir Salvage Act, now before Congress, would further implement this policy by authorizing all federal agencies to expend funds for archeological investigation, recovery, and publications where that agency's activities are adversely affecting sites or information, or both.

This broader federal concern comes at a time when archeological sites are being destroyed at an alarming rate by myriad forms of land alteration, for which federal agencies, private business and industry, power companies, municipalities, and individuals are all responsible. The resources and techniques of emergency salvage developed by the Interagency Archeological Salvage Program are no longer sufficient.

Examples of Destruction

Because of the size of much modern construction and farming equipment, and because of the needs of modern building and agricultural techniques, land usually needs to be level. Shopping centers, housing developments, airports, and roads are all built on flat land—land that is leveled rapidly by enormous machinery (Fig. 2). Farm land upon which eight-row planters or cultivators can be used must also be flat. Even the Mississippi River Valley, which to the casual observer is already flat, has little knolls and levees that must be leveled. These low eminences are precisely the areas in which archeological sites are often located, and the sites are totally destroyed by this land leveling (Fig. 3).

Hundreds of thousands of acres of

land have been cleared in the last 10 years to create "new" farmland in the Mississippi River Valley alone. But whereas the planning and construction of a huge dam may cover a 10-year period, planning and preparing fields for crops, preparing land for housing developments or shopping centers, and clearing new land may take only a few days or a few months. It is difficult, if not impossible, to plan for the salvage of sites under such circumstances.

A few examples give a vivid picture of the problem (*6*). Archeologists in Hawaii indicate that 65 percent of the known sites on the island of Oahu have been destroyed, largely because of urban and agricultural development; over half of these sites were destroyed in the last 10 years. Around the northern Great Lakes, resort development is increasing at a tremendous rate. It is in just these areas around natural lakes that Indians lived for several thousand years; many of these sites were destroyed before salvage was possible. When, as occasionally happens, developers actually capitalize on the presence of a site without providing for adequate scientific investigation, the expressed "public" concern for preservation seems a sham. The following is quoted from the *Detroit News*, 21 February 1971 (*7*): "140 acres, historical Indian grounds, stone carvings, lore, artifacts. Adjoins . . . Michigan's only known petroglyph site. Top-notch land development."

In the Illinois River Valley of Western Illinois, which prehistoric man occupied for several thousand years, industry and the population are both expanding rapidly. A "strip city" from Chicago to St. Louis is anticipated. Proper salvage of information from sites in such an area would take years and an army of archeologists. In Vermont a large prehistoric site, rich in information and artifacts, was "bulldozed into oblivion sometime between 1960 and 1965 for a housing development" (*8*). In Oregon and Florida, sites are being destroyed by the Corps of Engineers and state beach improvement, or "beach nourishment," programs. In Mississippi, a large prehistoric mound was recently removed for road fill. Such itemization could go on for pages, with instances in every state.

Running a close second as a cause of destruction of sites is the hobby of collecting Indian objects and, recently, old bottles and Civil War memorabilia.

Fig. 2. Huge earth-moving equipment works on Interstate Highway 10, Leon County, Florida, while an archeologist tries to salvage material from one of 22 circular storage pits on the disturbed prehistoric site.

Digging simply for objects left by Indians or early European settlers destroys the context, of course, and digging by relic collectors has reached alarming proportions (Fig. 4). This is partly because it is more difficult to find "nice" pieces on the surface, and partly because there are more people with leisure time to dig. Since most relic collectors and dealers know that the late prehistoric Indians often buried objects with their dead, cemeteries are a prime target. In the Mississippi River Valley, dealers in "Indian relics" (*9*) from Memphis and St. Louis will locate a cemetery, hire laborers, and promise to pay them for each pot they find. Graves are located quickly with a probe, and each is looted of the associated objects, the skeleton itself (and any incomplete vessels or objects) generally being crushed or scattered, or both, in the process. The looting of tombs in the Mediterranean countries

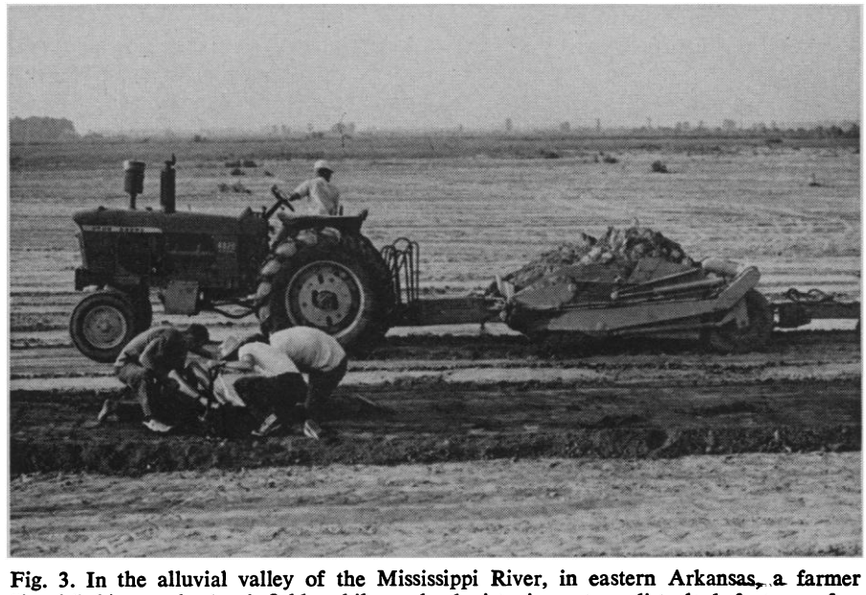

Fig. 3. In the alluvial valley of the Mississippi River, in eastern Arkansas, a farmer "levels" his nearly level field, while archeologists inspect a disturbed feature of a prehistoric site.

Fig. 4. On the coast of California, collectors look for relics, completely churning up and destroying the information contained in this prehistoric site.

is a comparable and equally nefarious activity.

The planned, systematic vandalism described above generally occurs in areas that are known to have rich sites. Perhaps most destructive, simply because of the number of people involved, are the "innocent" collectors—those who find arrowheads or dart points on the surface and dig to find more, without realizing that they are destroying irreplaceable information in the process. Other relic collectors, not so innocent, dig to get objects for their collections, but are simply too lazy to make any record.

Again, some examples may help. From New Mexico comes this statement (*10*).

> Confining ourselves strictly to the field of historic preservation, we must place at the top of the list of destroyers the artifact hunter. Armed with detectors, trowels, picks, shovels, whiskbrooms, and even backhoes, these unrestrained agents of destruction have riddled scores of New Mexico sites, ranging from early man hunting camps to nineteenth century ghost towns and military installations, and have almost eliminated any possibility of a thorough archeological investigation of the Mimbres branch of the Mogollon Culture. The principal stimulus is, of course, financial gain.

In Michigan, the archeologists decry the "growing army of treasure hunters armed with metal detectors that are rapidly chewing up every historic site in the State" (*11*). In Texas, archeologists can enumerate dozens of specific examples of misguided salvage efforts and out-and-out, wanton destruction. One group of incorporated treasure hunters removed tons of invaluable and unique mid–16th century Spanish antiquities from a shipwreck on the Texas-owned tidelands. The chamber of commerce and the historical society in a small town in west Texas persuaded a landowner to donate the site of an early Spanish mission to the town for preservation and development. On a weekend, they gathered at the site and, with county road-building equipment, proceeded to bulldoze the ruins to ground level. They then stacked the rocks and broken adobe bricks, collected what objects they saw, and were ready (they thought) to begin "restoration" of their mission, with local volunteers designing and constructing the buildings.

In undeveloped areas, prime targets of vandalism are rock carvings and paintings. Adding one's own graffiti to such spots is common, but the areas also serve as targets for rifle practice (particularly tempting, I would imagine, when there are buffalo or deer depicted). Sometimes, a diamond saw is used to cut away the face of the rock. Archeologists and Forest Service personnel in Nevada have recently salvaged a petroglyph site by this method, in order to save it from further destruction by vandals.

There are other causes of destruction. The Park Service indicates that sonic booms over parks in the Southwest are crumbling pueblo stone and adobe buildings that have stood for thousands of years. In the Midwest and West, strip mining does as much damage to sites as it does to the natural environment.

The market for relics and prehistoric art objects provided by private collectors, both large and small, and by many museums as well, is causing an increase in wanton destruction. In the opinion of many archeologists, the buyers or receivers of such objects are as much to blame for the destruction of information as are those who actually do the digging.

These causes of destruction, as well as many others, add up to the loss of massive amounts of information that can never be recovered or replaced. Without this information, we must remain in ignorance of a significant portion of the human past in the New World.

How the Crisis Is Being Met

Some archeologists do little more than wring their hands in despair at the situation, while others try not to think about it. Many, however, are looking for feasible, positive ways to alleviate the crisis.

An obvious way of decreasing the amount of destruction is to enforce the existing state and federal laws that ostensibly were designed to protect and preserve the past. These laws must be examined to see if, when, and how such regulatory measures can be effective. But in point of fact, preservation of information about the past is not something that can be legislated. Laws can be a deterrent, but even strictly enforced regulatory legislation is only an aid, not a solution in itself.

Archeologists speak most often of inadequate funding for the job facing them. The amendment to the Reservoir Salvage Act would go a long way toward providing funds to salvage information destroyed as a result of federal programs. Recent cuts in funds have severely crippled the Park Service's archeological salvage program; a marked increase in the budget of the Division of Archeology is vital. A few states are finally providing realistically for the preservation of information and materials within their boundaries, but nearly 90 percent of the states are doing

nothing or have inadequate provisions for archeological research.

Other sources of funds for archeological research, such as foundations and educational institutions, are feeling financial pressure from all angles, and the amount of money available from these sources for archeology is not increasing in proportion to the amount of destruction. The result is a widening gap between financial need and supply. As the public becomes aware of what is happening, it is likely that sources of funding may increase. If no one makes the public aware, and if funding is not increased, the crisis will be over, for there will no longer be enough sites remaining to tell us anything about the past.

Many professional archeologists are turning for help to "amateur archeologists"—those persons who study the past in their leisure time. These individuals are in marked contrast to the relic collectors, who simply destroy the past. While the terms "amateur" and "professional" have sometimes been a bone of contention, and while relations between amateurs and professionals have sometimes been strained (with occasional justice on both sides), both groups are beginning to realize that only if they work together is there any hope for American archeology. Almost every state has an organization of amateurs—some with professional leadership, some without. These organizations all have some kind of publication and often sponsor excavations, but turning them into an army of trained allies is almost a full-time job and one that is of concern to an increasing number of professional archeologists. In those states where the amateur organizations and professionals work together, the results have been tremendously encouraging.

It is my opinion that, in the current crisis, the hope for preserving any significant portion of the information about the past lies in cooperation among *all* of those people interested in preserving it. The general public must be made aware of what kinds of things destroy information about the past and, for that matter, that saving some shreds of the past is to their benefit. For each archeologist there are hundreds of individuals who know nothing of what is involved in archeology and probably, at this point, do not care. But just as people have learned about ecology within recent years and have been made aware of the environmental crisis, they can, with effort and organization, be made aware of the archeological crisis. Public education and public relations are full-time jobs; in the case of the archeologist, who generally spends the major portion of his time teaching and doing research, or in the case of the nonprofessional, who generally has some other full-time job, the thought of the time required to educate the public is indeed staggering. Yet, unless more people can be made aware of the fact that archeology is "relevant" and that this nonrenewable resource must be preserved now or never, full interpretation of ways of life in the past and full understanding of our human situation now and in the future will be impossible.

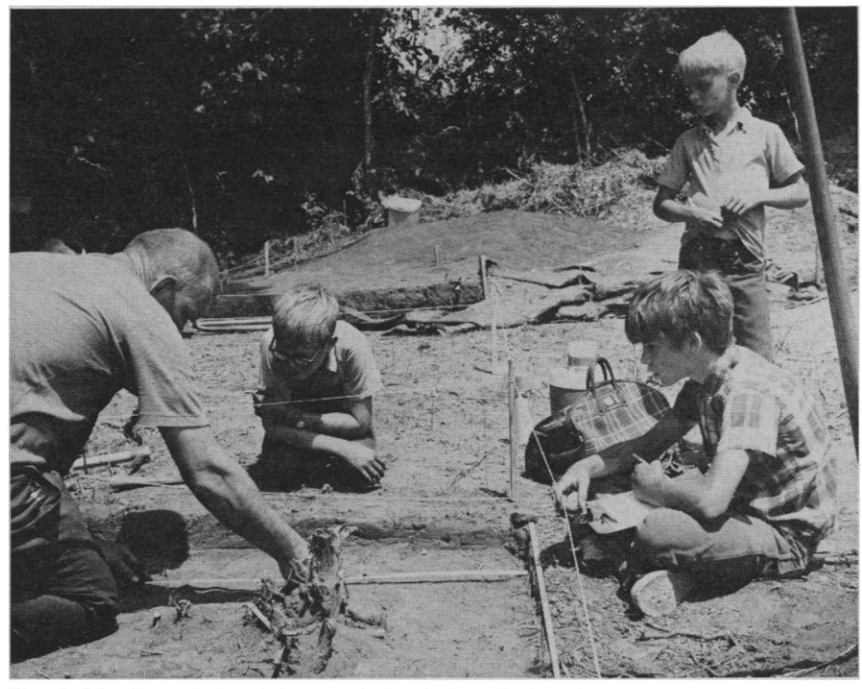

Fig. 5. Members of the Arkansas Archeological Society learn proper excavation and record-keeping techniques in a professionally sponsored training program.

Archeologists must begin and then guide the education of the public. Although most professionally trained archeologists have involved themselves but little in practical politics or the communications media, some of them must learn about practical politics and others must write and speak knowledgeably about archeology. Most important, the public must become actively and intelligently concerned and involved.

In addition to arousing and involving the public, archeologists themselves must develop new techniques, new areas of cooperation, and new concepts to deal with the present crisis. It is not realistic to try to salvage sites solely because they are endangered—that is like furiously putting out brush fires while the forest is burning. Archeologists need to review the status of their knowledge of an area, develop regional overviews, formulate research plans to fill existing gaps in information on particular time periods or cultural contexts, or both, and then excavate those sites that will provide the information.

More efforts should be made to preserve some sites and even some large areas (just as has been done with the environment), both for the purpose of interpreting the past to the public and for having these sites or areas available for investigation in the future, when new questions will need to be answered and when new techniques can provide even more precise and specific interpretations of the ways of life in the past.

Progress

Actually, progress is being made in many of the areas discussed above. Some federal agencies, particularly the Forest Service, are hiring archeologists to inventory the archeological resources on their land, to do research, and to educate other personnel in the recognition and preservation of sites and

materials. Some private businesses are realizing that it is good public relations to provide for the salvage of information before they destroy a site. The El Paso Natural Gas Company was one of the first to provide funding for survey and salvage along the routes of its pipelines in the Southwest, and other companies are beginning, at long last, to follow suit. In Florida, where resort and housing development are a way of life, the Marco Island Development Corporation is altering all of Marco Island. For the past 4 years, the company has been aiding the Florida Department of Archives and History and local historical societies in the salvage of information related to the long human occupation of the island.

In Arkansas, the state with which I am most familiar, the Arkansas Archeological Society, an organization made up mostly of nonprofessionals, was largely responsible for the creation of the Arkansas Archeological Survey, a state-supported, statewide research program that coordinates the archeological work of all institutions of higher learning and other concerned agencies in the state. The Survey has provided training sessions in excavation techniques for members of the society for several years (Fig. 5), and is inaugurating a program of certification for members as they achieve certain levels of competence in various aspects of archeological research. The societies in Missouri, Texas, and Oklahoma, among others, also are providing members with professionally led training in excavation and research techniques.

Finally, the Society for American Archaeology, the foremost professional archeological organization in North America, has recently created the committee on the public understanding of archeology. This committee, made up of one representative from each state, was originally conceived of as a means of providing the public with reliable information about archeology. Its role now is to acquaint all archeologists, the general public, nonprofessional archeologists, and local, state, and federal governmental agencies with the crisis in American archeology, and to suggest ways and means of alleviating the immediate problem of site destruction. The task is an overwhelming one, but one that cannot be postponed.

Summary

The current crisis in American archeology has been brought about by a combination of the greatly increased rate of destruction of unique, irreplaceable archeological information and material, and the lack of adequate funding for salvage of what is being destroyed. Since World War II, land alteration has increased almost geometrically. Land leveling, urban development, inexperienced or ignorant diggers, commercial dealers in Indian relics—these and many other agents of destruction are obliterating traces of the past. Anything that disturbs the ground where people once lived destroys forever whatever information is left about them and their way of life. Interpretations of man's cultural development through time, of his ability to cope with and use the environment wisely, and of a long, fascinating, and irreplaceable heritage are only possible if the evidence left in the ground is undisturbed and is properly recorded when it is excavated.

The problem of the destruction of archeological sites and information is a complex one, with no single solution. A combination of increased support for archeological research through increased funding, and development of a knowledgeable, interested public will go a long way toward assuring this country that a significant portion of the past will be available for the benefit of future generations. If solutions are not sought and found now, it will be too late—we will have committed ourselves, irretrievably and irreversibly, to the future, without benefit or knowledge of the mistakes and the lessons of the past.

References and Notes

1. C. R. McGimsey III, *Public Archeology* (Seminar Press, New York, in press).
2. ———, "The present status and future needs of archeological legislation on the state and federal level" (paper presented at the 36th annual meeting of the Society for American Archaeology, Norman, Okla., May 1971).
3. M. R. Harrington, *Indian Notes* **1** (No. 2) 37 (1924).
4. J. E. Petsche, *River Basin Surveys* (Publications in Salvage Archeology No. 10, Smithsonian Institution, Washington, D.C., 1968).
5. "Protection and enhancement of the cultural environment" (Executive Order No. 11593, 13 May 1971).
6. Information about specific problems in American archeology was obtained from the members of the Committee on the Public Understanding of Archeology, Society for American Archaeology. Quotations and details are from personal correspondence with these individuals, and acknowledgement is made here of their contribution to this article.
7. C. Cleland, personal communication.
8. W. Haviland, personal communication.
9. In my own thinking, a "relic" is an Indian artifact or a historic object that has been stripped of its historic or scientific significance by having been taken out of its original context without an adequate record having been made or kept. It is an object of interest or curiosity for itself only, not for what it might have told us about the culture from which it came.
10. *Historic Preservation: A Plan for New Mexico* (State Planning Office, Santa Fe, N.M., 1971), p. 13.
11. C. Cleland, personal communication.