

Cambridge University Press

978-0-521-04867-5 - Archaeological Typology and Practical Reality: A Dialectical
Approach to Artifact Classification and Sorting

William Y. Adams and Ernest W. Adams

Excerpt

[More information](#)

PART I

INTRODUCTORY

The fundamental problem of each science is the establishment of the identity of its phenomena. That the problem still awaits its solution, and that the science of culture still lacks real criteria of identification . . . will hardly be disputed by anyone acquainted with the controversies of anthropology.

Bronislaw Malinowski (1960: 69–70)

Cambridge University Press

978-0-521-04867-5 - Archaeological Typology and Practical Reality: A Dialectical Approach to Artifact Classification and Sorting

William Y. Adams and Ernest W. Adams

Excerpt

[More information](#)

BEGINNING POINTS

On a summer afternoon in 1983, two brothers – the authors of this book – went for a hike in the California mountains. As usual on the infrequent occasions when we get together, our conversation ranged over matters of common intellectual concern. On this particular afternoon we somehow got onto the topic of scientific typologies, and we discovered for the first time that we share a strong interest and closely similar views on the subject, although approaching it from nearly opposite directions.

Ernest W. Adams (hereinafter EWA) is Professor of the Philosophy of Science at Berkeley. Earlier work in the field of scientific measurement (EWA 1966; Adams and Carlstrom 1979) had led him, by natural extension, to a consideration of typologies, which have some of the attributes of measurement (see Chapter 7). William Y. Adams (hereinafter WYA) is Professor of Anthropology at the University of Kentucky, and for many years has also been a director of archaeological excavations in Egypt and the Sudan. The practical requirements of his work have led him over the years to construct a number of typologies (WYA 1962d; 1964a; 1965a), the best known of which is a classification of medieval Nubian pottery wares (WYA 1986a). This has become the principal instrument for calculating dates of occupation at Nubian archaeological sites, and has been adopted for that purpose by a number of different expeditions (see Gardberg 1970; Scanlon 1970; Säve-Söderbergh 1981).

EWA thus approaches the subject of classification from a wholly philosophic point of view, and WYA from a wholly practical one. Working respectively “downward” and “upward,” however, we had arrived at a common level of understanding about the relationship between theory and practice before either of us became aware of it. Yet our perspective is not one that seems to be widely shared by colleagues in either of our disciplines.

The common ground on which we meet is that of praxis: the belief that theory and practice must be interrelated and inter-relevant. By this we mean only that theory must be grounded in practical reality, and that

Cambridge University Press

978-0-521-04867-5 - Archaeological Typology and Practical Reality: A Dialectical Approach to Artifact Classification and Sorting

William Y. Adams and Ernest W. Adams

Excerpt

[More information](#)

INTRODUCTORY

everyday practice must in turn be relevant to some coherent theory. Later (Chapter 5) we will suggest that praxis in the field of classification is analogous to the relationship between language and speech. Here it is enough to point out that praxis is nothing more than the Greek noun from which is derived the adjective pragmatic, and we mean no more by it than that.

We find little of praxis or pragmatism in the literature on typology in our respective fields. Most of it is programmatic, doctrinaire, and far removed from practical reality, concerned with what typologies ought to be rather than with what they are. In this work we intend to consider both issues. We assume that all existing typologies must have been useful to someone for some purpose, and we want to discover how and why this is so.

Ellen and Reason (1979) have recently observed that

“Classification” is a key concept in contemporary Western thought, figuring prominently in such apparently diverse fields of enquiry as anthropology, artificial intelligence, mathematics, history, biology, sociology, linguistics and philosophy. In each case, “classification” provides a topic for study, a methodological device and an explanatory principle. Where a concept appears to be so generally employed (seems, indeed, so necessary) in such a disparate range of disciplines, there is a clear and pressing need to scrutinize that concept, to put it to the question and to explicate its various uses and usages. (*Ibid.*: vii; see also Ellen 1979: 7)

This is precisely our objective in the present work.

We encounter frequently the assertion that typologies should strive for maximum scientific “objectivity.” This does not strike us as a relevant or even a meaningful consideration, applied to what are essentially tools of communication. Useful typologies require intersubjective agreement (consistency), which is not the same thing as objectivity (correctness). We will never know, in many cases, how closely our type concepts correspond to some external reality, but we can discover and measure how closely the concepts of one person correspond to those of another (cf. especially Fish 1978 and Ziman 1978).

We find too that discussion often focuses on what to us are secondary issues, like the distinction between emic and etic types or between formal and functional classification. We will have something to say on these and a good many other questions, but they are not our primary concern. Our thesis is that the overriding considerations in any discussion of typology must be those of purpose and practicality. There is no right or wrong way

Cambridge University Press

978-0-521-04867-5 - Archaeological Typology and Practical Reality: A Dialectical Approach to Artifact Classification and Sorting

William Y. Adams and Ernest W. Adams

Excerpt

[More information](#)

 BEGINNING POINTS

to classify anything, but there are better and worse ways of achieving specific purposes, once we have decided what those purposes are. By better we mean not only more precise, but also more communicable and more affordable.

We had only a shadowy vision of what lay ahead when we returned from our hike in 1983. We had, however, agreed on a common point of view, and on what we saw as a need to communicate it to our colleagues in philosophy and in anthropology/archaeology. We envisioned two essays written in somewhat different language, addressed to the different interests of the two disciplines. That intention has led, after five years of reading and intermittent dialogue, to a relatively brief and theoretical article for philosophers (EWA and WYA 1987), and to the present much longer work, which is concerned specifically with the theory and practice of artifact classification in archaeology. (For a brief preview of some of our ideas in the present work see also WYA 1988.)

We had not originally intended quite so narrow a focus. It became evident on reflection, however, that artifact typologies have special qualities that set them apart from other archaeological typologies, as well as from typologies in other disciplines. The sheer volume of material that is often involved, as well as the ancillary nature of many typologies (see Chapter 18), make the issues of purpose and practicality especially critical. We believe nevertheless that much of what we have to say has wider relevance, both within and beyond the field of archaeology.

Basic orientations

This is a book about the formation and use of concepts, both in a generic and in a specific sense. Typologies are systems of concept-formation (see Chapter 4), and types are the concepts formed according to those systems, but the words “typology” and “type” are also concepts in themselves. That is to say, they are tools of communication. They are not facts, processes, theories, or laws, though at one time and another they have been mistaken for all those things. (Thereby hang a great many problems that will occupy us in Part V.) Properly understood, typological concepts have no fixed or inherent meaning apart from their use, which varies from typology to typology and from person to person.

It is therefore impossible to talk about types and typologies except in subjective terms. We cannot speak of *the* concepts; we can only speak of *our* concepts. What we are presenting here is our own comprehensive and, we hope, comprehensible view of typologies, based on years of practical experience, individual reflection, and dialogue. We hope through

Cambridge University Press

978-0-521-04867-5 - Archaeological Typology and Practical Reality: A Dialectical Approach to Artifact Classification and Sorting

William Y. Adams and Ernest W. Adams

Excerpt

[More information](#)

INTRODUCTORY

systematic expostulation that at least some colleagues will be won over to our perspective, not on the grounds of its truth but of its utility.

Consequently and necessarily, this book is written throughout in the first person. It is an essay, not a textbook, rule book, or proclamation. The first person pronoun is employed usually in the plural, but occasionally in the singular. In the latter instances, the speaker will be identified by the initials WYA or EWA.

Readers will find that our work reflects no particular school of thought, or ideological commitment. For better or worse we have always been mavericks, preferring to work out our own ideas without much regard for received wisdom. Our approach to classification bears some relationship to the general philosophy of language developed by Ludwig Wittgenstein (see especially Canfield 1981), but he was certainly not the source of our inspiration. We have not attempted to explore in detail the extent of our agreement and disagreement with Wittgenstein, because, unlike him, we are concerned only with one very restricted kind of language, in which the relationship between mental conceptions and physical objects is of primary concern.

Possibly our freethinking outlook was conditioned by our early residence among Navajo Indians, who believe that no one and nothing is all good or all bad, all right or all wrong (Kluckhohn and Leighton 1946: 216–38). We hold much the same view with regard to philosophies and theories. We take it for granted that all social science theories are at best situational truths; they are applicable and useful in some circumstances and not in others. We have to discover for ourselves what utility there is in any given theory in any given circumstances.

Our position is thus a relativistic one. However, our instrumental relativism should not be mistaken for the kind of theoretical relativism that has recently become fashionable in archaeology and anthropology (cf. Bernstein 1983; Hodder 1983; Shanks and Tilley 1987; Wylie 1989). To argue that the utility of a classification can only be judged in relation to some purpose is something very different from arguing that the truth of a scientific observation can only be judged in relation to some theory. We will pursue this issue further in Chapter 26.

Our approach throughout the book is necessarily empirical. Since we are writing about practical typologies, and since, as Dunnell (1986: 150) has aptly observed, “The ‘theoretical’ literature has diverged from practice to such a degree that the two are now unrelated,” we have no recourse but to disregard the literature and concentrate on the practice. This is what we will mainly do in Parts II, III, and IV, where we will look at existing and

Cambridge University Press

978-0-521-04867-5 - Archaeological Typology and Practical Reality: A Dialectical Approach to Artifact Classification and Sorting

William Y. Adams and Ernest W. Adams

Excerpt

[More information](#)

 BEGINNING POINTS

functioning typologies to try and discover what their characteristics are, how they come into being, and how and why they work. Only in Part V will we enter fully into what has been called the “Typological Debate” (Hill and Evans 1972: 231–2; Hayden 1984: 81; Dunnell 1986: 154–90), comparing our ideas and observations with those of others.

If our approach is empirical, it is also necessarily eclectic. In developing and refining our ideas we have derived a measure of assistance from many sources, including the literature in biology, cognitive psychology, philosophy of science, structural linguistics, semiotics, and structural, functional, and historical anthropology. Each of these has been helpful, but none has provided a comprehensive, informed overview. Whatever overview we present has arisen from our examination of actual, practical typologies.

At the same time we are not suggesting that our perspective is a new one. It is “radical” only in the literal sense of that term, which has to do with getting back to the root of things. We believe that most typologies were created in the beginning to meet some practical need, and that this was fully recognized by the makers. It was only later, when they became aware of the shortcomings in their typologies, that the typologists began looking at their work with a more detached and critical eye. This in itself was originally pragmatic; it was undertaken in the hope of achieving more useful typologies. But what began as a means became, finally, an end in itself, a kind of intellectual parlor game of making and then dissecting typologies. It is this game which is largely responsible for the gap between theory and practice that Dunnell (1986: 150) remarked. But since our own orientation has necessarily had to be practical (at least in the case of WYA), our view remains close to that of the early typologists.

We do not even claim that any of our ideas is new individually. Probably all of them have been expressed before somewhere, by someone. In particular the idea that typologies must have a purpose is not new; it was expressed with extraordinary clarity by W. S. Jevons in 1874 (II: 348–50; see also Brew 1946: 65; Rouse 1960). But the practical implications of that observation have rarely if ever been fully considered. Typologists, it seems, have consistently failed to grasp the connection between the purpose of typologies and the meaning of individual types (see Chapter 24). They have acknowledged the possibility of variable purposes in typologies, while at the same time looking for inherent or “natural” meaning in the types themselves (cf. Griffin 1943: 3, 303, 334–40; Spaulding 1953: 305; Clarke 1968: 187–227).

What we hope to do here is to pull together, and put into sharp focus, a

Cambridge University Press

978-0-521-04867-5 - Archaeological Typology and Practical Reality: A Dialectical Approach to Artifact Classification and Sorting

William Y. Adams and Ernest W. Adams

Excerpt

[More information](#)

INTRODUCTORY

set of related ideas that have been more often stated than explored. Above all, we want to put the issues of purpose and practicality back where they belong: in the forefront of any discussions of scientific typology. Holsinger (1984: 304) has put the matter in the simplest and clearest of terms: “a systematist faced with a mass of information . . . must consider what is the most useful and practical way to organize this information.”

Because of our concern with practicality, we will have less to say about epistemology and about logic than have other recent commentators (Dunnell 1971b: 43–86; Watson, LeBlanc, and Redman 1971: 126–35; Whallon 1972; Whallon and Brown 1982; and various individual contributors in the latter volume). It is not that we don’t understand the issues involved (EWA is after all a teacher of these subjects), but we question their practical relevance. As we will argue later (Chapter 6), logical typologies are not always useful, and useful typologies are not always logical. We agree with Kaplan (1984: 25) that “The *logic-in-use* of a science is not to be confused with the *reconstructed logic* of the philosophy of science” (emphasis in the original). It might be appropriate also to recall the words of Nils Bohr at this point: “[He] never trusted a purely formal or mathematical approach. ‘No, no,’ he would say, ‘You are not thinking, you are just being logical’” (quoted in Margolis 1987: 1).

We want to make it clear, in sum, that our concern throughout this essay is with practical typologies – a category that may or may not include the complex formulations of Spaulding (1953), Whallon (1972), Read (1974), Christenson and Read (1977), and a host of others. A practical typology in our definition is one that achieves some clearly stated objective with a reasonable economy of time, effort, and resources.

Readers will have no difficulty in recognizing that Chapters 12, 21, 26, and the concluding part of this chapter were written by EWA, and the remainder by WYA. However, the ideas expressed in all the chapters were developed through a continuing dialogue between the two of us.

The validity and value of archaeological typologies

We consider that typologies are tools made for a purpose, and as long as they can be shown to work for that purpose they require no more abstract justification than does a crowbar. Their validity lies ultimately in their value. The point of departure for our analysis will therefore be to recognize that, whatever theoretical literature may assert, there are literally hundreds of practical archaeological typologies in effective daily use. They were and are the backbone of prehistoric archaeology, as Chang (1967: 4) has rightly observed. The reasons for this are worth recalling, for they will not be

Cambridge University Press

978-0-521-04867-5 - Archaeological Typology and Practical Reality: A Dialectical Approach to Artifact Classification and Sorting

William Y. Adams and Ernest W. Adams

Excerpt

[More information](#)

BEGINNING POINTS

immediately evident to non-archaeologists, and they may have been forgotten by some archaeologists as well.

Before it can be useful to the social scientist, human behavioral data must be placed in defined contexts of time and space. For the ethnologist, the sociologist, or the political scientist this is usually a matter of simple observation. For the prehistoric archaeologist it is not. Sites and artifacts do not date themselves, and chronological ordering is always the archaeologist's first problem. His data must be located in time before they can be used to reconstruct cultures, to reconstruct history, or to test theories. The majority of artifact typologies were developed to meet that elementary but fundamental need. James Ford (1954b: 52), speaking of artifact typologies, put the matter perfectly thirty-five years ago: "This tool is designed for the reconstruction of culture history in time and space. *This is the beginning and not the end of the archaeologist's responsibility*" (emphasis added).

What archaeologists in the present, radiocarbon age often fail to recognize is that the entire time–space grid of North American prehistory was erected almost entirely on the basis of artifact typologies. Architectural remains and burial types also played their part, especially in the Southwest, but only to the extent that it was possible to classify them in the same way as artifacts. The same has essentially been true in the study of prehistory on every other continent.

Spatial and temporal ordering of data is not, is not intended to be, and should not be mistaken for, explanation (*contra* Fritz and Plog 1970: 407–8). It is wholly pre-theoretical (see Chapter 25). It is the necessary preliminary step which brings the archaeologist to the point where the ethnologist, the sociologist, and the political scientist all begin. Failure to recognize this elementary fact has probably introduced more confusion into the Typological Debate than any other single factor.

One of the most persistent critics of conventional typologies has been Lewis Binford (e.g. 1972: 195–207, 252–94). It seems appropriate, therefore, to illustrate our point about temporal ordering with examples from his own writing. The following is a conspectus of chapters from his *An Archaeological Perspective* (Binford 1972):

"Archaeology as anthropology" (pp. 20–32) makes its point with reference to implements of the *Old Copper Complex*.

"Smudge pits and hide smoking: the use of analogy in archaeological reasoning" (pp. 33–58) discusses pits found in a small *Mississippian* farmstead.

"Some comments on historical versus processual archae-

Cambridge University Press

978-0-521-04867-5 - Archaeological Typology and Practical Reality: A Dialectical Approach to Artifact Classification and Sorting

William Y. Adams and Ernest W. Adams

Excerpt

[More information](#)

INTRODUCTORY

ology” (pp. 114–21) critically assesses a theory about the *Classic Maya*.

“Hatchery West: site definition – surface distribution of cultural items” (pp. 163–84) discusses *Embarrass Simple-Stamped* and *Embarrass Cordmarked* pottery types.

“Archaeological systematics and the study of culture process” (pp. 195–207) discusses containers of the *Havana tradition* and the *Scioto tradition*.

“Model building – paradigms, and the current state of Paleolithic research” (pp. 244–94) is about *Mousterian* remains.

“‘Red ochre’ caches from the Michigan area: a possible case of cultural drift” (pp. 295–313) is about *Late Archaic* cemeteries.

“Indian sites and chipped stone materials in the northern Lake Michigan area” (pp. 346–72) discusses flint artifacts from four *Late Woodland* and *Upper Mississippian* sites.

“An analysis of cremations from three Michigan sites” (pp. 373–82) and “Analysis of a cremated burial from the Riverside cemetery, Menominee County, Michigan” (pp. 383–9) bring us back again to *Late Archaic* burials.

“Galley Pond mound” (pp. 390–420) was of “*Late Woodland affiliation*” (p. 391).

In the above list, every one of the italicized terms is employed routinely and uncritically by Binford, and every one of them designates a culture or culture period that has been defined largely or wholly on the basis of artifact types.

Robert Adams (1984: 14), partially echoing Binford, has written that “except for remote corners and unusual circumstances, the need for descriptive inventories of the remains of human activity during successive epochs is long past.” This may be true, but it does not mean that the old-fashioned artifact typologies that brought us to this happy pass are no longer needed. Each new find must still be located within a time and space grid before the data can be used for any other purpose, and that is still being done, and done successfully, with the same old typologies.

Another peculiarity of archaeology is worth noticing at this point. At least in prehistoric archaeology there is a longstanding tradition that recovered data should be published in their entirety. This is emphatically not the case in ethnology and other social sciences, where raw data are usually presented (if at all) only in summary and condensed form. The problem of describing a mass of highly diverse material within a finite

Cambridge University Press

978-0-521-04867-5 - Archaeological Typology and Practical Reality: A Dialectical Approach to Artifact Classification and Sorting

William Y. Adams and Ernest W. Adams

Excerpt

[More information](#)

 BEGINNING POINTS

number of pages is a very real one for the archaeologist, and a good many typologies have been designed just for this purpose (cf. Krieger 1944: 273; Taylor 1948: 126; Everitt 1974: 4). As we will see in Chapter 13, archaeological typologies may also serve quite a number of other purposes, and for the majority of them they appear to be working satisfactorily. This constitutes, we suggest, the ultimate proof of the pudding.

ISSUES IN THE PHILOSOPHY OF SCIENCE

Thus far we have been concerned to provide a context for our work within the discipline of archaeology. It remains here to say a word about connections between our views on archaeological typology and some general issues in the philosophy of science. We will begin by briefly sketching trends in the subject that have developed in the past seventy-five years.

Theoretical trends

The dominant concern of philosophy of science from the late nineteenth century through the 1950s was with epistemological questions, i.e., with the meaning and justification of scientific claims like “Force equals mass times acceleration,” “Biological evolution is determined by natural selection,” “Price is a function of supply and demand,” and the like. As will be more fully explained in Chapter 26, there was also a dominant epistemology, namely sense empiricism, which held that what distinguishes scientific claims from mere speculation and matters of faith is that they are capable of being justified by appeal to objective observational and experimental data. Though this view has come under severe criticism in recent years, as we will note a little later, it is fair to say that in some form it is still accepted by nearly all working scientists today, especially in the natural sciences. This epistemology also goes along with the view that the fundamental objective of scientific research is to discover and if possible explain the laws of nature, where nature is what the senses reveal to us.

Attempts to clarify the empiricist philosophy of science led to many difficulties, and disagreements about how to deal with them gave rise to different versions of empiricism. One difficulty concerns what really are and are not objective observational data. Some “radical empiricists” like Ernst Mach (1893) and Bertrand Russell in some of his writings (cf. 1919) maintained that the only things we can be perfectly certain of are private sensations. Naturally, few working scientists can accept the demand that scientific claims may be based only on data that are ultimately subjective, and more moderate empiricisms like that of Carnap (1956) only demand