

THE UNIVERSITY OF CHICAGO

ARCHAEOLOGY AND HISTORICAL PROBLEMS OF THE
SECOND INTERMEDIATE PERIOD
VOLUME I

A DISSERTATION SUBMITTED TO
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INTRODUCTION

Tell ed-Dab^ca and Historical Problems of the Second Intermediate Period

In the summer of 1966, an Austrian excavation headed by Manfred Bietak began to excavate the site of Tell ed-Dab^ca in the Eastern Delta. The site had been selected, after some hesitation, as the Austrian concession received in return for the efforts of the Austrian Committee for the rescue of Nubian antiquities (in Egypt). The site, under the name of Tell el Birka, had long been known as the source of antiquities from the Second Intermediate Period. Both Naville and Habachi had excavated there, finding (Tell el) Yehudiyya ware and sculptures of that date.¹

In the first two seasons, tombs appeared that had features which were not yet well known in the Nile Valley. These were brick vaulted tombs with donkeys buried on one of the short sides in a "dromos".² While this feature had been found at Inshas some eighteen years before, it was not widely known.³ Further, the tombs contained large numbers of Palestinian juglets, many with the incised and punctate decoration.

¹Manfred Bietak, "Vorläufige Bericht über die erste und zweite Kampagne der österreichischen Ausgrabungen auf Tell ed-Dab^ca im Ostdelta Ägyptens (1966, 1967)," Mitteilungen der Deutsche Archaeologisches Instituts Abteilung Kairo, 23 (1968), 79-81.

²Ibid., p. 90; fig. 3.

³Bulletin de la Société Française d'Égyptologie, (June 1949) pp. 12-13, plate opposite p. 8. Habachi found over 70 graves, some of vaulted mud brick construction, many with Equid burials.

known as (Tell el) Yehudiyya ware.¹ Weapons were also of types known in Asia.² A scarab from one of the earliest tombs of this sequence gave the name of a man ^cAm, the Asiatic.³ The next report contained a door jamb, probably from Temple I, which had part of the royal titulary of the Hyksos King Apophis.⁴ The most logical hypothesis that explained the presence of these features in Egypt was that the tombs of Tell ed-Dab^ca (levels F - D2) were those of Asiatic invaders of the Second Intermediate Period, the Hyksos. For this reason, Bietak dated the lowest levels and earliest tombs of Tell ed-Dab^ca to about 1650 B.C., the date now generally given for the foundation of the Fifteenth Dynasty, the Hyksos Age.

This was, however, only a hypothesis. While many of the features of these tombs were Asiatic, there remained the possibility that they were not exclusively so. There was, moreover, no positive proof that the tombs were exclusively of the Hyksos Age; those of F contained some objects and juglets that have been assigned to the MB I (Kenyon) of Palestine.⁵ This phase had never been dated later than 1700 by anyone,

¹Bietak, "Vorläufige Bericht über die erste und zweite Kampagne" Plate XXIX, XXX B.

²Ibid., fig. 9.

³Ibid., p. 93 above, Plate XXXII c, second row center.

⁴Manfred Bietak, "Vorläufige Bericht über die dritte Kampagne der österreichischen Ausgrabungen auf Tell ed-Dab^ca in Ostdelta Agyptens (1968)," *MDIK*, 25 (1970), 15-42, Plates VIII-XXIII; Plate XXIII c, read by the author (3 R^c) (1) Bietak Oral communication 1973.

⁵Ibid., Plate XXII b, Bietak, "Ausgrabungen auf Tell ed-Dab^ca (1966, 1967)" Plate XXXIII a and b.

and was then generally considered earlier than 1750-1800.¹ A school has arisen since that would date its beginning at or near 2000 B.C.² In Egypt, Bietak's dating also ran counter to current thinking which often put Yehudiyya ware at least partially in the Twelfth Dynasty.³ Therefore, the bold assertion that these tombs were Hyksos went entirely against current trends in chronology. Further, it was contrary to a common historical opinion that regarded the Hyksos as merely the culmination of a long infiltration and that they were largely Egyptianized by the time of the Hyksos Dynasty.⁴ The most recent historical thinking, however, had tended to stress the differences between the Thirteenth Dynasty and the Hyksos Age, and to emphasize the stability of conditions in Egypt prior to the coming of the Hyksos.⁵ With this theory, Bietak's hypothesis was in full agreement. There was, however, no clear evidence for one opinion or the other. The question of whether the tombs in Tell ed-Dab'a F - D2 were Hyksos, the date and place of origin of the Hyksos, the nature of the Hyksos Age and the era of the expulsion as reflected

¹Helene J. Kantor, "The Relative Chronology of Egypt and its Foreign Correlations Before the Late Bronze Age" in Chronologies in Old World Archaeology edited by Robert W. Ehrich (Chicago: University of Chicago Press, 1965) p. 27, fig. 3 and pp. 21-22.

²Olga Tufnell, "The Middle Bronze Age Scarab-Seals from Burials on the mound at Megiddo," Levant, V (1973), 69-82; Miss Tufnell attributes MB II Group ii at Jericho to the time of Senwosret I on p. 82.

³W. F. Albright "Some Remarks on the Archaeological Chronology of Palestine Before About 1500 B.C." in Chronologies in Old World Archaeology edited by Robert W. Ehrich, p. 57.

⁴Torgny Säve-Söderbergh "The Hyksos Rule in Egypt," Journal of Egyptian Archaeology, 37 (1951), 53-71.

⁵Jurgen von Beckerath, Untersuchungen zur politischen Geschichte der zweiten Zwischenzeit in Ägyptens, Ägyptologische Forschungen Vol 23 (Glückstadt-New York: J. J. Augustin, 1965) 109-119; Redford, "The Hyksos Invasion in History and Tradition," Orientalia, 39 (1970), 1-51.

in archaeology were selected as the major problems for this dissertation.

A number of questions was crucial to resolving these issues. Was the date of Tell ed-Dab^a consistent with the dates given for the Hyksos Age? Were the customs and objects found there mainly Asiatic, or predominantly Egyptian? If the date was Hyksos and the objects Asiatic, were these Asiatics found in Egypt earlier, or did they appear suddenly? Were they settled in territories adjacent to Egypt for a long time before entering Egypt or did they come from farther away? Once in Egypt, did they maintain contact or dominion in Asia, or were they Egyptianized? In Egypt, did the coming of the Hyksos cause a sharp break with the Thirteenth Dynasty, or was it a continuation of trends developed earlier? These problems might be summarized as the question of whether the Hyksos Age represented the culmination of a long development, or was a sharp break in the history of Egypt.

The proposed topic was a test of "conflict history" against "consensus history". The method was intended to be primarily archaeological, so that one or the other of the major historical explanations for the Hyksos Age might be selected from the evidence given. Had one explanation been firmly selected from the beginning, the dissertation would have depended on it rather than standing on its own, or preferably offering evidence to select one or the other hypothesis.

As the series of questions indicated, the most important problem in the entire inquiry is chronology, in Palestine, Egypt and Nubia, as well as Syria and Mesopotamia. Having found materials that are chronologically comparable, we may then compare the materials of different areas to determine whether there is evidence to solve the problems outlined above. Throughout, we will be preoccupied by the problem of

time, thereafter that of culture and of regionalization to discover what we can about the coming of the Hyksos, the Hyksos Age and the era of the expulsion.

Perhaps the most important and difficult problem to be faced here is that of the Babylonian Chronology. No clear picture of relations and movements between the two great Near Eastern chronological systems of Egypt and Mesopotamia can be drawn without settling it. Within the Mesopotamian sphere, the internal chronological evidence has been exploited to the utmost, with no clear result.¹ The history of Anatolia has been analyzed, with no direct evidence produced for one chronology or the other.² The historical synchronisms between Mesopotamia and the West are ambiguous.³ If our understanding of the events of the Old Babylonian Period and their chronological relation to Egypt of the Second Intermediate Period is to improve, then these systems must be linked.⁴

¹Benno Landsberger, "Assyrische Königsliste und 'Dunkles Zeitalter'," Journal of Cuneiform Studies, 8 (1954), 31-73 and 106-132; Wm. F. Albright, "Stratigraphic Confirmation of the Low Mesopotamian Chronology," Bulletin of the American Schools of Oriental Research, 144 (1956), 26-30; Wm. F. Albright, "The Eighteenth Century Princes of Byblos and the Chronology of Middle Bronze," BASOR, 176 (1964), 38-46, see p. 43; Wm. F. Albright, "Further Observations on the Chronology of Alalakh," BASOR, 146 (June 1957), 26-34; F. Cornelius, "Die Chronologie der vorderen Orients im 2. Jahrtausend v. Chr.," Archiv für Orientforschungen, 17 (1956), 294-309; F. Cornelius, "Chronologie, eine Erwiderung," Journal of Cuneiform Studies, 12 (1958), 101-104; M. B. Rowton, "The Date of Hammurabi," Journal of Near Eastern Studies, 17 (1958), 97-111; K. A. Kitchen, "Byblos, Egypt and Mari in the Early Second Millennium B.C.," Orientalia, 36 (1967), 39-54.

²H. G. Guterbock, "The Predecessors of Shubuiluliuma Again," JNES, 29 (1970), 73-77.

³See note 1, especially Albright "The Eighteenth Century Princes of Byblos and the Chronology of Middle Bronze" and Kitchen, "Byblos, Egypt and Mari in the Early Second Millennium B.C."

⁴von Beckerath, Untersuchungen zur Politischen Geschichte, p. 114

The chronological systems have their own problems, as absorbing as the overall relations. One of these, the question of Palestinian Middle Bronze Age chronology, was the starting point of this work. Questions of wider relations have always been present, often brought up by those objecting to the results obtained from admittedly rather startling new evidence. Indeed the ambiguity of the evidence from stratified sites and the confusion in the interpretation of materials from tombs has been so great that it has been necessary to question every judgment in chronological matters.

The Problem of Chronology in Archaeology

No one analytical method suffices to solve the problem of chronology in one place, let alone several or several regions. So in order to obtain a chronological method, we must go back to the beginning, where the archaeologist first confronts his material.

Whatever method we devise must take into account the variable value of the material available for study. The damage already done to the evidence cannot be undone. It cannot be replaced, nor can it be completely re-explored, as has been attempted in the recent Gezer excavations. The material can only be re-evaluated and reused.

In the following pages, the judgment of the archaeologist is criticized much more than the methods used to report the material. For our purposes, the judgments have caused more difficulties than the inadequacies of the reports.

Time and Experience in Archaeology

An archaeologist experiences time in different ways from the way historians experience it or the way it is experienced in everyday

life. It is neither an uninterrupted stream of consciousness as in waking life, nor the succession of points as in history. Instead, archaeologists experience time points, groups of points, spans of time and groups of spans, sometimes in an order very different from the occurrence of these points and spans in real time.

While a single burial, foundation or other deposit will contain pottery made perhaps months before the deposition, and other objects years or perhaps centuries older, the deposit is a point in time and the perishable materials, pottery, are closest to the point. The cemetery of single burials or groups of deposits is experienced as a group of points, but often perceived as a span of time. This perception of the evidence is inaccurate in any case, but damaging where there are no clear limits, such as stratigraphic evidence. Materials will thus be grouped together with no evidence for the grouping save the geographic location.

The cemetery of multiple burials is a group of points which cannot be fully separated. Within a tomb, subgroups of points may be discerned by various means, but they are never fully separable.

Occupation levels have the advantage that up is later than down, so to speak, but it is often forgotten that this vertical distribution refers only to the time of final deposition. The contents of the deposit are not affected by this rule. Occupation levels have the disadvantage of being experienced as spans of time. Further, a series of levels is most often perceived as a continuous span of time without break unless obviously controverted.

Under conditions imposed by a narrow sample or where there are large public buildings, it is easy to see that the vertical succession

might be interpreted as continuous though there is no evidence of continuity (Table 1). If the definite evidence of discontinuity is not sufficiently prominent in the sample to intrude upon the consciousness of the interpreter, then continuity is likely to be assumed in error.¹

¹The question of stratigraphy has been considered from two directions other than those that apply to all groups. Both continuity and duration are qualities that require special consideration in the discussion of stratified deposits.

Continuity has to do with the question of whether strata immediately succeed one another. This cannot be determined at first glance. It is often a problem in the theory of relations (below, pp. 17-21). We can only be sure that levels are continuous by horizontal examination. If building A is replaced by building C while building B is still in use, but which in turn gives way to D during the lifetime of C, the levels interlock. Some of the better recent excavations may permit us to do this with areas of fill. If, however, a level is completely destroyed or dismantled and replaced, even on a similar plan, we have no stratigraphic evidence of continuity. There is, therefore, a discontinuity between the levels. Thus the levels of Hama J interlocked, except between 5 and 4; the phase comes to an end at once. H replaced J with a different plan; there is a discontinuity between them. H had interlocking levels and was therefore continuous. It was, however, replaced at once by G, so there is another discontinuity. G 3 was burned, so there was still another. E. Fugmann, Hama: fouilles et recherches de la Fondation Carlsberg, 1931-1938; L'Architecture des périodes pré-hellénistiques, Nationalmuseets Skrifter; Større Beretninger IV (Copenhagen: Nationalmuseet, 1958), 52-134.

The question of duration is similar to that of concentration of materials. There is as yet no effective method of estimating the lifetime of a level by internal means. The heroic attempt of Delougaz to determine the duration of Sin Temple VIII does not apply to materials known from Syria. At Megiddo, in the MB, the comparatively well-constructed buildings were in about five levels between about 1725 and 1500, or about fifty years per building (below, Table 39--J, K-L, M, N-O, P). This was determined by the overall chronology however. Flimsier structures would be more short-lived. Temples and palaces are an entirely different problem, as their duration depends more on wealth or politics than occupation.

It has rarely been observed, but is probably true that levels that exist only in one ceramic phase of a culture probably did not begin or end with that phase. - Where there is no replacement of the population, levels should end at some point other than the precise end of a ceramic phase. It is therefore assumed here that a level that begins in MB II B, for example, did not begin at the beginning of that phase. One that ends in MB III B did not end with that phase.

TABLE 1
 MAJOR STRATIGRAPHIC FEATURES OF A HYPOTHETICAL SITE

Broad Sample			Features	Remarks
	Narrow Sample			
			Upper Level Group	Interlocking Architecture
			Ash	Overall Destruction
			Middle Level Group	Interlocking Architecture
			Discontinuity	Abandonment? Erosion Surface
			Lower Level Group	Interlocking Architecture

The second major error in perception again involves confusing a level with a point. All of the objects made and deposited within a level's lifetime did not occur at the same time, but at different times within the life of the level. Because MB III C and LB I A pottery is found in one level and presumed to have been manufactured during the life of that level it does not follow that they are contemporary.

More importantly, much of the town deposit in the Middle Bronze to Late Bronze Age is fill from earlier levels. Thus the perception of a level is further confused by the fact that the archaeologist is experiencing several other spans of time at once. These spans cannot be fully separated. The level is a deposit made in a span of time, but made up partly of deposits from earlier spans. A level is thus experienced as a mixture, to a completely uncertain extent, not only of materials from its own time, but of all earlier materials from the site.¹

¹Maurits van Loon, "The Excavation at Koruçutepe, Turkey 1968-70, Preliminary Report; Part III, Statistical Description of Significant Groups of Pottery," by Marily Kelly-Buccellati *JNES*, 32 (1973), 357-444; fig. 17, p. 437. At Koruçutepe, this mixture of materials occurred with no sign whatever of disturbance in the areas excavated. In the area excavated by this writer, U 12, there were Early Bronze Age materials in the Middle Bronze deposit which was sealed from below by a thick clay bank of glacis type. In the wash above the heavily burned destruction of this fortification, there were both Middle Bronze and Late Bronze Age sherds. In the Late Bronze occupation levels above there were Early Bronze and Middle Bronze sherds in considerable numbers with the Late Bronze sherds. Again, there was no way to account for this by vertical disturbance in the area excavated. It was due to the fact that most earth had fill taken from elsewhere on the mound. Since the floors were only the surfaces of fills, they also contained Middle Bronze and Early Bronze sherds. There was more Early Bronze Age material in the Late Bronze deposit than there was in the Middle Bronze Age deposit. There was much less material of Early Bronze Age date from the wash between the Middle and Late Bronze levels that there was in either occupation. There is thus no a priori means of predicting how these sherds will occur.

Ever since the excavations at Jericho and especially Shechem, this problem has received attention in Palestinian archaeology, without, however, full admission of the result. One still reads assertions by

This fact is generally recognized by scholars but honored in the breach. It is sometimes asserted that this problem can be avoided by carefully separating individual layers of debris. Since these are themselves mixtures, the attempt defeats itself. Normally only obviously earlier sherds are removed from the sample before comparisons and correlations are undertaken. The error is often compounded by the statistical analysis which treats all sherds and sites as chronological equals. Yet they cannot be equal, since no two sites are alike.

For example, in site A on Table 2, the sherds that do not belong to the MB II B level group in which they were found are far easier to detect than the various earlier Middle Bronze Age wares found in the contemporary level of site B. At site B the sorting of materials from the corresponding level would be impossible. The Middle Bronze II B level from site A will thus appear later than the MB II B level of B, since it is less contaminated. If, for the sake of some argument, the sherds are not separated, then the sample from site A will appear much earlier. In any case, the chronological equality of materials required

advocates of the "balk--debris layer" method of excavation (clearly the most effective) that debris layers will be "uncontaminated" if they are "cleanly separated". If debris is fill by definition and thus contamination itself, how can any debris layers be uncontaminated? (W. J. Dever, "Two Approaches to Archaeological Method, the Architectural and the Stratigraphic," Eretz-Israel, II [1973], *1-*8, p. *3.)

Since by their own assertion, all debris is fill and fill is generally made up of previous fills, debris, including occupation levels, is contamination by definition.

It should be clear that stratigraphy has its limitations. A structure or level does not contain a group of objects from a single time. If we wish to find such groups, we will have to be more critical. In Israel, whole pots found on floors are frequently used as groups. Unless the destruction of the building was violent, however, these will be few in number. In our period, there are many tombs in the mounds which can be used to reconstruct the repertoire of pottery from a given time.

TABLE 2
 THE GENERAL STRATIGRAPHY OF TWO HYPOTHETICAL SITES

	Site A	Site B
Upper Level Group	MB III B	MB III B
Second Level Group	E B I B	MB III A
Third Level Group	E B I A	MB II C
Fourth Level Group	Chalcolithic	MB II B
Lowest Level Group	Pottery Neolithic	MB II A

for any statistical or quantitative comparisons will never be present. It is clear that the Hegelian-Marxist doctrine that quantitative change leads to qualitative cannot be validly applied in archaeological chronology since we have absolutely no way of making experimental groups equal and thus quantitatively comparable.

Even chronologically similar groups will never contain similar materials in all cases. Our own judgment must therefore be qualitative.

We have noted the further error associated with levels that changes in the materials that take place during the life of a level will be perceived by the excavator as contemporary rather than consecutive. This problem is especially likely to be introduced into the study of one type of point group, the open tomb group. All open tomb groups in the Near East are to some extent intermixed beyond anyone's powers of separation. This type of burial is commonly free of the problem characteristic of occupation levels, that of outside admixture. In this case, fifteen or so burials may be confused with a span or an occupation level with a limited life, rather than a group of temporal points, originally unrelated, whose remains cannot be fully separated. Different events are again often considered simultaneous.

Thus we arrive at a point where the temporally vague information given by levels of the chronologically confusing data offered by mixed tomb groups and unstratified cemeteries requires clarification and ordering. Surely the stratified sites can offer some order, while the tombs give us the sharpest detail. We need a method. Since quantitative techniques are ruled out, we require a qualitative method of comparison between sites and one for ordering unstratified groups. Our method must further account for the variables we encounter, individual preference,

culture and regionalization within a culture that potentially interfere with analysis for the most important variable, time. Further, we must leave room for the vagaries of publication. The material requires treatment as historical documents, individual and critical.

Four Major Variables in Archaeology and Their Control

In historic ages, persons who used pottery more often selected than made his pots. That is, person A would select five from ten forms available, while B might take four and C seven; person D might have them all. Some of these must be the same from three groups and a few in all four. We obtain a portrait of the repertoire by their sum.

The function of the potter is more complex. He lived in a world without molds and generally without physical models, even in Egypt, where ceremonial container types were made in more precious materials. He could never repeat the same form in exactly the same way twice. Innovation was thus a constant. On the other hand, he and his clients were as much creatures of habit as we are, so that continuity and revival of types were also constant. However, no revived type would ever be precisely the same as the model. The result was constant changes which allow us to separate the objects of one age from those of another in a field of familiarity that allows us to group materials into a culture or a phase, stratigraphically or geographically.

In the Middle Bronze Age, it is fairly easy to prevent the variable of culture from interfering with analysis for time. Most of the cultures in Asia were literate and have been identified by language, often even by political affiliation. In Egypt, the non-literate peoples of Nubia are identified by outstanding archaeological characteristics;

distinguishing one from the other is no difficult task. We prevent the interterence of the factor of culture with the solution for time by making separate sequences for each identified culture (or "assemblage"); comparing the sequences is a problem in the theory of relations.

Regionalization within the various cultures is a difficult question in theory. It does not follow from the admission that materials may vary from place to place in a culture that their variation cannot be chronologically controlled. It may be assumed that people with similar habits will prefer similar pot forms, and people with similar tastes, similar decoration. Peoples within easy reach of each other, who have similar habits and tastes and access to the same markets, should have similar pots. Where these markets are within reach of people from more than one culture, as in Nubia, or in borderlands between cultures in Asia, they will provide some of the key cross-trading necessary to the construction of a comprehensive sequence. Within cultures which spread over large areas, such as Egypt, and the Proto-"Canaanite" culture of Asia, the problem was dealt with by the construction of sequences in different regions. The purpose was less to prove that these regions exist than to establish areas within which no cultural relationship between sites needed be proved. It was admittedly a practical solution to a theoretical problem. It must be pointed out, however, that many of the same pots could be traced in the Proto-"Canaanite" area from the Egyptian Delta to Ras Shamra. In Egypt, similar pots have been found from Kerma to the Delta. Clearly, the problem of regionalization can be overstressed.

Our three major problems will require two different types of operations; chronology requires a theory of series; regions and cultures

require a theory of relations, which will also serve within a single region between sites.

A Theory of Series

The theory of series used here rests upon two propositions. First, Reisner formulated the statement that two or more entirely different schools of potters whose products do not occur together and are different cannot have existed in the same place at the same time.¹ This is particularly true in a single culture. A corollary is that since no two forms of widely separated times in a single place are alike, all forms must change constantly, though not at a constant rate. The remarks made above on the inability of a potter to reproduce the same shape exactly twice apply here. It is asserted here that pottery making is a manual-visual tradition. Types cannot be transmitted precisely from one generation to the next, nor can they even be repeated by the same individual. Change is therefore constant and increased by the relative instability of ancient populations and the humility of the craft. Save for Egyptian ceremonial vessels, it did not matter that pots be the same through time.

These propositions operate in a syllogistic pattern. That is, if pottery in one group differs somewhat from comparable pottery in another, they cannot be precisely contemporary. Or if A equals B, but B is unequal to D, then A is unequal to D in time. Cultural or individual differences are ruled out. If D is unequal to C, E is unequal to C and C is earlier than F (determined by other means), D resembles F more than E

¹G. A. Reisner, Excavations at Kerma Parts I-III, Harvard African Studies Vol V (Cambridge Mass., Peabody Museum of Harvard University, 1923), p. 80.

our series is E, C, D, F. Our canons of similarity are set by the wide latitude of any humanistic discipline, however. But since all forms in a repertoire must change, we do not need to analyze a full repertoire to determine change. We only require comparable objects from the repertoire.

Thus the best sequences used here have been built as far as possible upon the history of major types rather than the presence or absence of types. The most effectively constructed of these sequences, that of Lebanon and Palestine in the Middle Bronze II and III, is built on the history of the juglet and the carinated bowls. In Egypt, the British School of Archaeology in Egypt corpus was too vague to achieve comparable results. The series there has resulting ambiguities not present at Kerma or in the "Proto-Canaanite" culture area.

Finally, it must be understood that nothing in the theory of series will detect chronological gaps in the sequence, whether at a single site or in one region. This is purely a problem for the theory of relations.

A Theory of Relations

We hope that the theory of relations has transformed the series at one site into regional sequences and that it can transform the regional and "national" sequences into a chronology of materials for this work. The theory of relations rests on the following propositions.

Adjoining regions or sites within regions are chronologically linked. That is, markets in this period were not arbitrarily limited by geography or politics at most times. A corollary is: a common object of major importance in one region of a culture will not be substantially different in date in the next.

Imports must be of the same date or later where found than in the metropolitan country. Combined with the proposition of continuous change, this has the corollary that exports of a given type from one country to several countries will be simultaneous.

Various similarities and comparisons occupy an ambiguous position in the theory of relations. Their value in correlation is as varied as their type and must be assessed on an historical-critical basis in individual cases. The boundaries of cultures, especially in Asia, do not preclude a good deal of influence from one area to the next. These influences may not have the chronological certainty of imports, but where several features are held in common, they are of great importance. Nevertheless, the use of influence for correlation has been avoided where possible in this chronology, since these comparisons have great interpretive value. Using them for correlation would destroy their value for interpretation, as such use would be circular reasoning.

The three major features of our argument so far, the theory of time, experience and perception, the theory of sequence and the theory of relations, would operate to correct a confused chronology, as in Palestinian Middle Bronze as in Tables 3 and 4. First, the sequences in the four regions or sites are not necessarily continuous, where continuity is not proved. Similar materials are likely to be contemporary and unlike materials are not. This is the theory of series and relations together. Third, imports of a given type must be simultaneous, if they are of the same type. Thus the confused and meaningless Table 3 chronology is corrected to simpler and far more usable Table 4.

The fact that there are site-to-site or region-to-region differences, say A 1, A 2 and A 3, does not detract from the fact that

TABLE 3

THE RELATIVE CHRONOLOGY OF FOUR HYPOTHETICAL REGIONS OR SITES
 BASED UPON THE ASSUMPTION THAT MATERIALS ARE CONTINUOUS

Possible Definition of Materials	I	II	III	IV
A - B		[A]	B*(?)	[A?]
A - D	A	B*	[D]	C
D - E	B*	C	E**	D**
C - F	C	D**	F	E
E - F		E		F
F		F		

[] = material present, but generally or often ignored.

* = first import.

** = second import.

TABLE 4

THE RELATIVE CHRONOLOGY OF FOUR HYPOTHETICAL REGIONS OR SITES CORRELATED
WITHOUT THE ASSUMPTION THAT MATERIALS ARE CONTINUOUS

Possible Definition of Materials	I	II	III	IV
A	A	[A]		[A]
B	B*	B*	B*	
C	C	C		C
D		D**	[D]**	D**
E		E	E	E
F		F	F	F

[] = material present, but generally or often ignored.

* = first import.

** = second import.

they are all A and dissimilar from B and so on. Whatever time lag involved is not sufficient for A to equal C anywhere on the chart, or A and B could not be distinguished: some clear evidence would indicate the correspondence in well defined groups. If for some reason we were able to put an arrow leading from left to right on the chart, representing the flow and time of cultural influences, then placing A at the right earlier than A on the left would be improbable.

Whether the processes indicated by Table 4 are applied to sites within a region, regions within a culture, or cultures within the artificial bounds of this inquiry, the results are the same. To the extent that these propositions are ignored, confused and almost certainly false results will be obtained.

A Theory of Absolute Dates

At present, the most often used method of absolute dating is to rely on either direct "evidence" such as carbon dates or even scarabs from a given site or on an attempt to "peg" a site or phase to historical conditions known or thought to have existed in the area. Thus the supposed absence of towns in the EB IV - MB I led scholars to "peg" the Middle Bronze II to the Middle Kingdom at Shechem by means of the Sekmem references in the Khu-Sebek stele and the Execration Texts. This ignored the fact that there is Early Bronze IV - Middle Bronze I nearby, though not on the mound of Shechem itself, and the fact that Sekmem was explicitly referred to by Khu-Sebek as a country, not a town. Further, the Execration Texts do not explicitly distinguish between countries, and settled towns. Despite the weaknesses of this method pointed out above, the attempt to build a sound relative and absolute chronology by

conventional means such as the use of "termini post quem" has been abandoned.

The first taught and the first ignored of all archaeological principles is "The latest object in the context gives the earliest possible date for that context." It must, of course, be extended to include all contexts that can be correlated with it. That is, if in Table 4 the A contexts contained dated pieces of B.C. 2000, 1850, and 1800; B contained 1850; C 1900, 1750, 1700 and 1650; and F, 1575 and 1550, we must date all of A after 1800, B later, regardless of the "earlier" object; C should be dated 1650 and F at 1550. This applies whether the chart be sites within a region, regions within a culture or cultures in an inquiry.

The critical points raised above were those used to construct the chronology that is the major point of this work. One of the most important procedures used was the evaluation of groups. Before any effort could be made to combine the various items and groups of materials into a sequence, the items or groups had to be evaluated in terms of criteria that would determine their importance.

It was important to discern the span of time covered by a given group or level. These spans ranged in time from surface collections through rapidly dug or spit-stratified, (dug in arbitrary horizontal levels) through carefully excavated occupation debris through open tomb groups to closed tomb groups. It was more important to evaluate the groups in terms of concentration, than any other. Yet this was the most difficult part of the evaluation, since it often required the application of judgment unaided by any simple or obvious evidence. Generally some variant of the statement that follows was used: A large

group with a restricted repertoire of types is more concentrated than one of the same size from the same area with a much larger number of types or wares.

Many groups which were highly concentrated were nevertheless somewhat contaminated by isolated sherds from other times. The relative freedom of a group from these isolated occurrences is integrity.

Groups whose concentration could be assessed and in which contamination was limited will be referred to here as well-defined groups.

Groups were evaluated for stratigraphic definition, which refers to their being above and/or below other definable groups that are more or less continuous. Alternatively, groups could be continuous in time to others in the same place, where their temporal order was determined by means other than typology.

Contents of groups were assessed on the basis of depth, the variety of materials found in the group. A related factor, intensity, referred to the number of groups in a time span.

All of these factors affected the quality of evidence to a certain degree, and thus the clarity of the result. Even the lowest quality evidence however was useful in a framework based upon the higher quality of evidence. The chronologies presently in use are generally based on evidence of medium quality, stratified deposits of occupation debris. Certain investigators, especially Miss Kenyon, have tried to refine this rather weak chronology, but, to my knowledge, there has been no overall assessment of the types of evidence needed for maximum definition.