

NOW IN ARCHAEOLOGY: THE UNDERGROUND REVEALED

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The philologist and art historian become engrossed with their texts, reliefs, tombs, palaces, tablets, seals, temples, and statues and soon neglect the work of the field archaeologist, who was instrumental in unearthing these treasures. Of course, the antiquities black market and inadequate excavation techniques or publication on the part of the archaeologist have diminished the contribution archaeology could have made had the objects and buildings been found in a context. While the philologist and art historian have been preoccupied, revolutionary changes have taken place in field archaeology, which should profoundly affect the relationship of the above and the archaeologist. Before considering these changes, one should be brought up to date.

The hunt for buried treasures to fill the museums and libraries and thereby inflate national pride motivated archaeology in Egypt¹ and Mesopotamia.² Strong traditions de-

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1. W. Stevenson Smith, The Art and Architecture of Ancient Egypt (The Pelican History of Art, Harmondsworth: Penguin Books, 1965); Jacques Vandier, Manuel d'archéologie Egyptienne (Paris: A et J. Picard, 1952-), Vols. 1-4; John Albert Wilson, Signs & Wonders Upon Pharaoh; a history of American Egyptology (Chicago: The University of Chicago Press, 1964).
 2. Viktor Christian, Altertumskunde des Zweistromlandes von der Vorzeit bis zum Ende der Achamenidenherrschaft (Leipzig: K. W. Hiersemann, 1940) Band I: Text, Band II: Tafeln; Henri Frankfort, The Art and Architecture of the Ancient Orient (The Pelican History of Art. 3rd. ed. revised. Harmondsworth: Penguin Books, 1963); A. Leo Oppenheim, Ancient Mesopotamia: Portrait of a Dead Civilization (Chicago: The University of Chicago Press, 1964); Andre Parrot, Archéologie Mesopotamienne (Paris: Albin Michel, 1946, 1953) I&II.

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veloped; Hogarth trained Wooley, and Wooley trained T.E. Lawrence to be an archaeologist-agent undercover, underground. Consequently, the context in which the object was found had little meaning in relation to the context in which it was exhibited or translated, namely in German, English, French, or American. The art historians and philologists have been kept busy trying to place the objects and texts in their original cultural and chronological contexts, and the archaeologist for lack of funds, technical ability, or interest has continued to neglect the wider context - the life of the larger population in towns, this particularly in Egypt. One must look to Palestine for a more democratic archaeology.

In Palestine some sort of religious impulse lay behind excavations in the "holy land," for the tablets have been looted in antiquity to fill the libraries of literary conquerors and the objects, apart from the fertility figurines and ladies at the window, prove quite uninteresting aesthetically, though the ladies' proper function was not primarily to arouse an aesthetic response. Archaeologists do find pottery in abundance--usually smashed completely--and the scanty remains of buildings buried within frightfully complicated tells, i.e. layer upon layer of town on ruined town--one or two occupied more or less continuously since 7,000 B.C.E. and built up to a height of sometimes more than a hundred feet. The most profitable preoccupation for the archaeologist in Palestine should have been the improvement of excavation techniques over the years; however, the technical challenge of disentangling tells has only within the last decade or so been adequately taken up seriously by more than a fraction of the archaeologists.

A hundred years ago Warren and Wilson mined out a remarkable amount of information about ancient Jerusalem by tunneling along Roman streets and city walls.³ In the early 1900's, F. Petrie laid the basis of stratigraphy and pottery chronology for both Egypt and Palestine;⁴ scholars continued to improve only his pottery chronology in Palestine. G. Reisner dealt particularly with the architectural remains at Samaria,⁵

3. Sir Charles Warren and Capt. R. E. Wilson, The Recovery of Jerusalem: A narrative of exploration and discovery in the city and the Holy Land, (New York: D. Appelton & Co., 1871).

4. Sir William Matthew Flinders Petrie, Tell el Hesy (Lachish), (London: Published for the Committee of the Palestine Exploration Fund by A. P. Watt, 1891); Gizeh and Rifeh (London: School of Archaeology in Egypt and Egypt Research Account, 1907).

5. George Andrew Reisner, Harvard Excavations at Samaria, 1908-1910 (Cambridge: Harvard Semitic Series 1-2, Harvard University Press, 1924) I&II.

where between 1909 and 1910 he and his architect, C.S. Fisher, established traditions of architectural and photographic recording so strong in American archaeology ever since. Reisner did appreciate the validity of stratigraphy and attempted to record the layers in conjunction with the buildings and objects.⁶ Again, through neglect in later years, stratigraphy did not come into its own. W.F. Albright,⁷ G.E. Wright,⁸ Paul Lapp,⁹ and Mrs. Ruth Amiran¹⁰ analyzed pottery and worked out the major archaeological periods in terms of pottery chronologies. Others have collected and studied coins.¹¹ Kathleen Kenyon at Samaria, since 1952 at Jerico¹² and later in Jerusalem¹³ brought in sophisticated stratigraphic excavation techniques. Others have initiated further innovations and working relationships, but one waits to see their published results.

This writer will deal with the often unexpressed basic assumptions and theories, as he interprets them, of stratigraphic digging, for the benefit of those involved in reading archaeological reports from various schools of excavation, those puzzled by the polemic among the various schools, and those contemplating joining a dig and who need some criteria for their decision.

Introductions to archaeology,¹⁴ descriptions of

6. George Ernest Wright, "Archaeological Method in Palestine--An American Interpretation," to be published in Eretz-Israel (Vol. 9, 1968).

7. William Foxwell Albright, The Excavation of Tell Beit Mirsim. Vol I: The Pottery of the First Three Campaigns. AASOR XII (1930-1), (New Haven: The American Schools of Oriental Research, 1932).

8. George Ernest Wright, The Pottery of Palestine from the earliest times to the end of the early bronze age (Ann Arbor, Mich.:Photo-lithoprint by Edwards Brothers, Inc., 1937).

9. Paul W. Lapp, Palestine Ceramic Chronology, 200 B.C. - A.D. 70 (New Haven: American Schools of Oriental Research, 1961), Publications of the Jerusalem School, Archaeology III.

10. Ruth Amiran, The Ancient Pottery of Eretz Yisrael; from its beginnings in the Neolithic period to the end of the First Temple. With the assistance of Pirhiya Beck and Uzza Zevulun, (Jerusalem: The Bialik Institute and the Israel Exploration Society, 1963).

11. For instance Fr. Spikerman at the Franciscan Monastery of the Flagellation, Jerusalem.

12. Kathleen M. Kenyon, Digging Up Jerico (London: Ernest Benn Ltd., 1958), Excavations at Jerico. I. The Tombs excavated in 1952-4. II. The Tombs excavated in 1955-8 (London: The British School of Archaeology in Jerusalem, 1960,1965).

13. Idem, Jerusalem: Excavating 3000 Years of History (New York: McGraw-Hill, 1967).

14. William Foxwell Albright, The Archaeology of Palestine (Baltimore: Penguin Books, revised ed. 1960); Don Brothwell & Eric Higgs, Science in Archaeology: A Comprehensive Survey of Progress and Research (New York:

excavation technique,¹⁵ and guides to reading archaeological reports¹⁶ have been written. Further, the situation wherein students in the past found it extremely difficult to get beyond the textbooks to actual dirt archaeology in the Middle East--a very serious deficiency which hampered the mature scholars in the field--should quickly be rectified.¹⁷

One can not emphasize enough the importance of practical experience with the right archaeologist. Soil layers prove extremely difficult to distinguish; Miss Kenyon's genius lies as much in her ability to see layers as in her monumental publications--their accuracy depends on this ability, for the layers form the basic units from which pottery chronologies and dating evidence derives. Without clean layers containing "pure" pottery uncontaminated by pottery from later layers, the context the soil layer conveniently forms against building remains and around objects gets misdated on the basis of the reading of intrusive later pottery and thereby gives a wrong date to the walls and objects associated with it. Everything hangs on first seeing and then separating each layer from its neighbors without contamination from any later layers.

This task proves more difficult to achieve than one might think, for without considerable experience, distinguishing and separating layers one from off the top of the other horizontally, is quite problematic. On the other hand, a vertical section through the layers shows them up much more clearly--after they have been cut through! Then one can see that the layer dipped off at a much steeper angle than was followed. A trial trench answers this difficulty, for after looking at the section in its side, one can move over and start over again from the surface to dig another meter or two, correcting previous mistakes. At a particularly difficult site like Jerusalem, the process can be repeated three or four times if necessary. Vertical balks and section drawings of them in-

Basic Books, 1963); Kathleen M. Kenyon, Archaeology in the Holy Land (London: Ernest Benn Ltd., 2nd edition 1965); Liam de Paor, Archaeology: an Illustrated Introduction (Baltimore: Penguin Books, 1967)

15. Kathleen M. Kenyon, Beginning in Archaeology (New York: Frederick A. Praeger, 1952).

16. H. J. Franken & C. A. Franken-Battershill, A Primer of Old Testament Archaeology (Leiden: E. J. Brill, 1963).

17. Recently the Ford Foundation has made available grants in archaeology for students to gain field experience; airlines have been reducing fares - a Columbia student can get to Israel and back for \$400 by Columbia Charter and a special El Al student rate available in Europe. The Hebrew Union College has an exciting program at Gezer in Israel, where eighty American students per three week session learn to excavate under good supervision.

dicade in the published reports the archaeologists' concern for stratigraphy. While excavating, one has to constantly look and feel for differences of color, consistency and texture in the soils. And as the soil loses its moisture through exposure, these change kaleidoscopically from day to day, and it is sometimes weeks before one draws one's conclusions in the master sections. After years in the field, Miss Kenyon has proven her ability to see, excavate, and record layers; to work with her is to try to see with her eyes, to anticipate what she will see. A few Americans have bothered to gain this experience.¹⁸

Once seen, each layer should be recorded as to its horizontal and vertical extent. The recording system has to be simple enough to remain mistake-proof in extremes of heat, dust, sweat, frustration, and exhaustion encountered in the field, indicate three dimensionally precisely from where one is excavating at any given moment, and remain complex enough to record layers 1 cm. thick and 1 sq. meter in extent, plus, of course, the exact location of any objects found. The layers, the pottery, and the objects are each assigned a number when found, perhaps all the same number if they come from one layer. One should be able to reconstruct three dimensionally these layers and their contents; thus the sequence of events which make up a period or stratum is visualized in the section drawings of the layers. Analysis of the pottery will indicate the periods and therefore the strata. The basic strength of trenching lies in having three or four balks forming the sides of the square, which one draws as sections. Anything found of significance in the middle of the square can be tied to the sides with a subsidiary section. The architect, of course, plans all architectural features and takes elevations.

Trenching records the layers as they are best revealed--in section. Usually only a small portion of the site actually gets excavated, but where the excavation is carried out it penetrates to bedrock or virgin soil. In the process later evidence has to be removed to reach the earlier, lower material. As it usually happens, only a section of a building of any one period gets exposed. The architect's drawings provide the best link-up, if and when the remaining portions are unearthed; he must plot on the most insignificant stones for fear they extend into the balk and represent

18. These include from Jerusalem since 1961: Dr. George Dales, Director of the dig at Mohenjo-Daro, Pakistan; Dr. Lambert-Karlowski, Director of an excavation in Kirman, Iran, and Dr. Joseph Calloway, Director of the Joint Archaeological Expedition to Ai and Bethel. Several others have dug at Jerico.

only the corner of a palace to be excavated a hundred years hence.

As the area excavated by a trench is limited, so also is one's time in the field. Priorities have to be set. For the stratigrapher this usually means highest priority goes to studying the balks and drawing the sections. Close study of the pottery, coins, objects, and strata can wait, even years, for they can all be placed in their original three dimensional layer-context on the basis of the sections. By no means does this devalue the usefulness of a comprehensive knowledge of pottery. Rather, a keen knowledge of pottery helps tremendously in digging to detect intrusive pottery, which means either a pit or sloppy digging. Immediate washing and reading of pottery enables one to read the balks with a preliminary knowledge of the contents of each layer. The didactic value of this procedure recommends it where students are learning archaeology in the field for the first time and want to know at all times what period they are digging.

Preoccupation with pottery in the field should never compromise the exact recording of layers, which can never be put back in situ once they have been removed. The "locus" can easily cause this. The basic fallacy in the definition of a "locus" as, "... not invariably to be equated with homogenous deposits of debris," instead of, "so long as a certain amount of pottery can be brought into logical relationship to various architectural features, and that pottery can be closely analyzed typologically, then it will provide a means of determining connections between those features"¹⁹ lies in trying to do in one step what should take two, and in the process losing the primary evidence. The layers or debris form the basic units of primary evidence, and if they are not dug and recorded individually, they can not be separated later. Secondly, pottery typologies have not been refined to exactness greater than for periods of a hundred and a hundred fifty years. Only when the layers are kept separate and their contents analyzed into precise pottery chronologies will a locus define a precise unit. Thirdly, relationships and connections of pottery to architectural features can be established only through the configuration of the layers containing the pottery. Balks and sections provide for the most objective recording of these relationships. To not publish sections leaves far too much to the subjective judgement of the excavator, for then there exists no way to check his conclusions.

19. G.R. H. Wright, "A Method of Excavation Common in Palestine," Zeitschrift des Deutschen Palastina-Vereins 82 (1966) pp. 113-124.

Stratification can be found on any site in any country; one has only to look for it. Today the advantages of trenching, or digging a restricted area through all the periods represented beneath that particular spot, outweigh the disadvantages, except at a one period site like Early Bronze Arad where one can simply brush the surface to expose the buildings. Trenching permits the archaeologist to deal in the best way with stratification.

Unless one sinks trench after trench, one will expose only a section of a building or other installations; all comes up bits and pieces. In digging deep, one descends through many periods--far more than any one person can claim to have mastered. Not only does one not bring to light the broader aspects of one period, but he also gets pushed beyond his specialization. The only common denominator remains stratigraphy. Team archaeology has tried to deal with this by letting each member of the team specialize in a different period and by having a full compliment of specialists for a particular site. Under no circumstances should a person with a narrow interest go at tells with a bulldozer or back hoe to find material from his period only, and do not think this does not happen even today.

Despite these drawbacks and despite its tremendous cost, stratigraphical trenching has advantages to recommend it. The basic question that has to be answered is whether everything should be excavated meticulously, or whether once the fundamental facts have been learned things can proceed apace. Trenching provides the limited, exact context in which intensive research can be carried out. Trenching extracts a sort of core sample from a tell. In areas where no proper pottery chronology, as for instance Lebanon, has been established, trenching could provide the series of layers necessary for the sequence of pottery types of the various periods that become the chronology, provided most periods are represented. By excavating a small area, evidence is also left for the future when new techniques and procedures will have been discovered--particularly in the laboratory.

At the present time so many new fields of study wait to be applied in the Middle East. No dendrochronology has been established for Egypt. No pollen analysis has determined the types and distribution of trees prior to and during the Early Bronze Age, when the heavy forests were destroyed, presumably by man. Plaster had not been invented at this early date; cisterns were therefore not used, but we do not know anything about the Early Bronze water systems. There were at this time, intimate connections with Egypt²⁰ just at the time when hieroglyphs were being invented. Could there be some cause to be found in the relationship between the highly or-

ganized city states in Palestine and Pre-and Early Dynastic Egypt which led to the use of writing and the possibility of history?

Just as these questions can best find answers through most careful excavation, so also pottery chronologies can be refined and objects pinned down to specific periods. Perhaps far fewer objects will be found when using intensive archaeology. Already the growing nationalism of Middle Eastern countries is putting sharp limits on what art objects may be exported. The whole emphasis of archaeology may, therefore, shift to a more anthropological interest in the remains of the common man. This would mean finding his ancient cities. According to one pessimistic art historian, "Medieval Baghdad, another important (ceramic) center, lies beneath modern Baghdad, and thus probably will never be excavated."²¹ Trenching in people's backyards plus the use of pumps to depress the water table should permit the excavation of Medieval Baghdad, and who knows but that like the jinni coming out of the lamp, Akkad itself might be revealed only a few feet below.

20. Ruth Amiran & Yohanan Aharoni, "Arad: An Early Bronze City and a Biblical Citadel," The Archaeological Institute of America. Archaeological Discoveries in the Holy Land. (New York:Thomas Y. Crowell, 1967) pp. 89-99.

21. Marilyn Jenkins, "Muslim: An Early Fatimid Ceramist," Bulletin: The Metropolitan Museum of Art, XXVI, no. 9 (May 1968), pp. 359-369.