aromatic dicarboxylic acids, and of allied derivatives of the oxycarboxylic acids, polyphosphate complexes, thio derivatives, interaction of metal salt solutions with dyestuffs, the study of heterogeneous chain reactions and the question of inorganic-organic polymer formation are all topics which are discussed by reference to much graphically illustrated experimental data.

This is the most authoritative compendium of heterometric research investigations which has so far been published, and will, undoubtedly, prove of the greatest utility to the research worker studying heterogeneous phase systems, as well as to the analytical chemist and the university teacher. This is a modern technique which may have much future application, and it is pleasing to note that heterometry forms one of the subjects to be presented at the eighteenth International Congress of Pure and Applied Chemistry in Montreal next August.

D. T. LEWIS

ARCHÆOLOGY IN ISRAEL

Hazor II

An Account of the Second Season of Excavations, 1956. By Yigael Yadin, Yohanan Aharoni, Ruth Amiran, Trude Dothan, Immanuel Dunayevsky and Jean Perrot. With a contribution by S. Angress. (The James A. de Rothschild Expedition at Hazor.) Pp. xxiv+174+210 plates. (Jerusalem: Magnes Press of the Hebrew University; London: Oxford University Press, 1960.) 178s. 6d.

THANKS to the efforts of Dr. Yadin and his army of assistants, Hazor must be one of the most widely known of ancient Palestinian sites. Its importance lies not only in the outstanding interest of its excavated remains, but also in the fact that sufficient was known about the history of the city before the excavations ever began to enable these remains to be related to historical events, and to be dated accordingly with a fair degree of accuracy. In the second season of excavations work was concentrated in two areas on the *tell* proper, and two in the lower 'enclosure', which has now been proved conclusively to have been the site of the Canaanite town of the Middle and Late Bronze Ages, finally destroyed some time in the middle of the thirteenth century B.C. by (so Yadin thinks) the invading Israelites. In this lower city, the most important discovery has been that of a Canaanite shrine, with cultic objects (including a mask and a bronze standard) of outstanding importance for the history of Semitic art and religion, and also of other buildings which Dr. Yadin interprets (not very convincingly) as cultic. On the *tell* the chief buildings excavated were a fine pillared store-room, attributed to Ahab; the Israelite citadel destroyed by Tiglath-pileser III of Assyria in 732 B.C.; and a casemated fortification wall probably built by Solomon. Individual objects from the *tell* included a beautiful marble incense ladle in the form of a hand, and several highly important Hebrew inscriptions. Space does not permit us to record here any more fully the discoveries of the archaeologists. They are all now published lavishly, in this magnificent volume full of drawings, photographs and data, so that students in future will have no excuse for not knowing what has been found at Hazor.

They will, unfortunately, have far more excuse for not knowing exactly where it has all been found. In a review of the first volume of this report (*Nature*, 183, 951; 1959) I questioned the validity of the methods used by Dr. Yadin to unravel and interpret the complicated series of superimposed building remains at Hazor. The appearance of the present volume has, if anything, strengthened my belief that the analysis of the remains is not nearly as accurate and as detailed as it could be. This is the result both of a faulty method of excavation and of a faulty system of interpretation. The method is faulty because too much attention is paid to the levels of individual structures and surfaces, expressed in actual heights, and not enough to true stratigraphy. Where the floors are relatively and consistently level over a wide area, and the succession is regular, this may not matter too much; but such conditions are the exception rather than the rule. Where the ground slopes, and the ancient inhabitants have built on terraces, as they have in area *F*, for example, Dr. Yadin's method of excavation is fraught with danger. The confusion in area *F* is indeed great, and the reader (and, one suspects, the excavator) is quite at a loss to know which structures belong to stratum 1A and which to 1B. These uncertainties are, admittedly, openly acknowledged by the excavators, and Dr. Yadin is, no doubt, to be highly commended for allowing a member of his staff to publish a 'minority report' expressing serious differences of opinion, as M. Perrot does in a long footnote on p. 128ff.; but such differences of opinion do not inspire the reader with much confidence in the interpretation elsewhere.

This brings me to another point. For all the lavishness of illustration and documentation in this report, the record is still not full enough to allow the reader to form his own judgment about the meaning of the evidence presented. Prof. De Laet has well said (*Archæology and its Problems*, p. 52) that the test of a good excavation report is that the reader "ought to be in a position to reconstruct the whole excavation, almost every turn of the spade, in such a way that he can scrutinize most critically the conclusions reached by the author". The Hazor report fails this test. It is just as important that the reader should see for himself that one floor is higher or lower, and therefore later or earlier, than another, as it is that he should be given illustrations of the forms of Hebrew letters, to judge them for himself. The only way to illustrate stratigraphy is to publish accurately drawn and objective sections; and there is not one in this book. Without them, many of the fine plans are almost useless.

Finally, with regard to the faulty system of interpretation: does Dr. Yadin really want us to believe that all over his site the succession of superimposed floors and 'strata' is regular and orderly; that there was no local destruction and rebuilding; and that the structures under, for example, 'Stratum VI' always belong to 'Stratum VII'? Such is the general impression obtained from this report; though on p. 165 it is admitted that "certain layers in sub-areas which looked at first like real strata are in fact only local phases", while, in his footnote already mentioned, M. Perrot recognizes the presence, in area *F*, of "intermediate" strata, which, however, find no place in the neat synchronization table on p. 165. Such over-simplification is unrealistic, and detracts from the undoubted merits of the Israeli excavations at Hazor.

PETER J. PARR