

Excavations at Tell Duweir, 1934-35

EXCAVATIONS at Tell Duweir, the Biblical Lachish, in the third season of the Wellcome Archaeological Research Expedition to the Near East, of which Mr. J. L. Starkey is director, carried on the further exploration and clearance of the cave-dwelling settlement of the Early Copper Age which lies to the north-west from the Tell, the clearing of the temple and shrine outside the city walls at the north-west corner of the Tell, which was discovered last year and then shown to be contemporary with the xviii and xixth Dynasties of Egypt, the completion of the examination of the Iron Age cemetery to the south-west, the further clearance of the gate at the south-west corner of the Tell, with its subsidiary works, and further work on the summit of the mound, which included the clearing of the Persian shrine of the Sun. A considerable amount of labour was also expended on retaining walls for terracing the west side of the Tell and other necessary work for the disposal of the material to be removed in the course of excavation.

The season's finds have more than justified expectations based upon estimates of the importance of the site, apart from its size; and interesting as were the finds of last year, especially the discovery of the shrine with its associated examples of a localised art, reminiscent of Tell el-Amarna, and the fragments of the ewer inscribed with a primitive script showing affinities with the famous Sinai script, the results of the season recently closed show no falling off in interest. Indeed in certain respects, more particularly in the importance and the immediate applicability of the epigraphic material to Biblical studies, they may even be said to transcend previous discoveries. In addition, the epigraphic material has provided direct documentary evidence confirming the identification of Tell Duweir with Lachish.

The evidence which comes from the area to the north-west of the Tell, including what has been termed the prehistoric suburb, continues to point to a surprisingly extensive settlement and relative density of early prehistoric population. Further excavation in the cave-dwelling area of the æneolithic period has produced additional examples of the characteristic red ware in a variety of forms. One remarkable example is a very large jar, approaching a metre in height, which now has been reconstructed. It shows the peculiar feature of a vertical fissure or gap, of which the worn edges point to the use of the jar in two separate halves for some considerable time. With a number of carefully and beautifully formed flint knives, hoes and sickle blades with serrated edge were implements of pure copper. Of these last one was a remarkably well-preserved copper dagger, which had been beaten to a high degree of hardness and is among the earliest known from Palestine.

On the whole, the pottery of the Copper Age is at its best in the earliest period. In common with other elements in the culture, it shows a progressive deterioration as time goes on. One example of such degeneration, to which attention was especially directed in the collection of pottery dating from 3000-2000 B.C. shown at the Wellcome Research Institution, was to be seen in the form of the characteristic ledge-handles on either side of certain types

of vessel. Throughout the period, from about 2800 B.C. onward, these dwindle away until they become the merest vestigial trace without apparent meaning. An interesting suggestion as to the purpose of these remarkable, if characteristic, ledge-handles has been put forward by Mr. Starkey, who thinks that they may have served as a grip to enable solid sediment, such as that which would be left by beer, to be shaken from the vessel.

In clearing the temple and shrine lying outside the walls at the north-west, evidence was found, strange to say, of a degradation somewhat similar in character to that deduced from the finds of the Copper Age. Three temples had been erected on the site. Between the erection of the earliest before 1400 B.C. and the destruction of the third in 1260 B.C., there is a progressive decline in the character of the temple and in material employed in the shrine and its appointments. It will be remembered that one of the most remarkable features of this discovery, apart from the character of the shrine as a whole, were the ivory carvings and carved inlays, which in style recalled the art of Tell el-Amarna, but were attributed to a local school of art. While the main characteristics of the cult appear to be constant, the inlays first change to bone, copying, but in a debased form, their ivory originals, and then, in the period of the third temple, clay figures appear. In like manner, in the last phase, the probable portable altar of the second shrine becomes a solid structure of brick, and the shrine itself is but mud lime-plastered.

Ivory rods of unknown use also appear in shortened form in clay. It has been suggested, however, that clay, which could be heated, would be a more suitable material, if these rods were, as conjectured, used for making the closely curled ringlets in hair and beard which adorn the inhabitants of Palestine in the Assyrian bas-reliefs.

Among the tombs of the Early Iron Age, or Solomonic period, an outstanding find was one which, there is reasonable ground for concluding, contained the mortal remains of a priest or minor official of the temple. This conclusion rests on the evidence of a remarkable three-pronged fork or trident of iron which lay at the entrance. It is some two feet in length and has a short handle. Its form immediately suggests a "flesh hook" for lifting meat from an offerings bin, such as that to which reference is made in *Samuel I, ii, 13-14*. Associated with this burial was an interesting collection of beads and a small ivory tablet, in which thirty holes in three vertical columns may have served as a memorandum or calendar to mark the feast days of a thirty-day month.

Before dealing with the finds which follow here in strict chronological order, a brief reference must suffice for the finds of the Persian period from the shrine of the Sun God. Among these were some striking zoomorphic figures in clay and some equally remarkable miniature altars of stone, on which were crude engraved designs of men, trees and animals.

What is beyond question the most important discovery of the season is epigraphic and historical, rather than purely archaeological in interest. A fragment of pottery inscribed in the same primitive script as that of the inscription on the fragmentary

ewer found last year has added three characters to those previously known. Even more important, however, to the historian and Biblical student, is a series of letters which belongs to the period immediately before the destruction of the city by Nebuchadnezzar in 598 B.C. The letters, mostly complete, and in some instances running to some length, are on seventeen ostraka which were found among the debris of the guard-room of the gate giving access to the fortress at the south-western corner of the Tell. They are written in ink in an early form of Hebrew, and according to a decipherment and translation made by Prof. Harry Torczyner, of the University of Jerusalem, were addressed to the commander of the garrison of Lachish from a subordinate command. One letter is much concerned with the observation of signals and suggests that it refers to a system of

smoke signals by which communications were maintained between Lachish and the supreme command. This letter also refers to Lachish by name.

In a list of names of individuals in the correspondence a form compounded with *yahu*—a form of invocation of Yahweh (Jehovah)—predominates; but one among the names of the fathers of the individuals cited is given, not as a *yahu* compound, but as an El-compound (El-Natan). This points to a change from El to Yahweh worship within the lives of father and son, probably a result, it is suggested, of the reforms of Josiah. Of even greater interest to Biblical scholars is a reference to a prophet who had been the cause of disturbance, and the passing of a commander-in-chief, Akhboryahu, son of El-Natan, on his way to Egypt, which is clearly a reference to persons and incidents mentioned in *Jeremiah* xxvi, 20–22.

Scientific Management

THE papers given at the Sixth International Congress for Scientific Management held in London during the past week have been available in print for members since early in May (Secretary of the Congress, 21 Tothill Street, London, S.W.1). They are published in six volumes corresponding with the six sections of the Congress and are grouped under subject headings relating to the particular themes to be considered at the four sessions held by each section. Nearly all the 200 papers have a certain scientific interest, so that any selection from them is difficult.

Dealing with the subject of preliminary education for management, Mr. A. P. M. Fleming points out that at present provision is seldom made in industrial concerns to ensure continuity of good management beyond a single generation. The methods of selection of staff are discussed by competent authorities from the German, French, British, Dutch, Italian and Swiss points of view, so that a comprehensive picture of modern thought on this subject is available. When summarised, the information should be of great importance to educational advisers who have to help to place young men in life.

Opinion is hardening in business circles that the entrants from school should receive a good deal more vocational training than at present. The recruitment of personnel suitable for high administrative positions is likewise discussed in several papers. The National Institute of Industrial Psychology is responsible for a communication which deals with the vexed question of promotion versus engagement from outside on the basis of the experience gained by the Institute, and schemes are put forward showing how to discover men within a company for training and how to select from outside. The Dutch authors regard personnel selection as a profession in itself; the Italians would invoke a psychotechnical criterion.

It is widely said that there is a shortage of men to-day for the senior posts, probably because of the toll taken by the War of the more enterprising. It is clear that there is world-wide concern with regard to leadership: hence the numerous suggestions as to the form of training. The volume containing the educational and training section papers deserves to be read as a whole both by executives who have the choice of their successors and by the educationists.

In the development section the bulk of the papers discuss the correct methods of inculcating modern management principles and practices. They come from many lands and cover a variety of problems. Thus C. G. Renold describes the steps taken in the merging and subsequent rationalisation of a group of companies employing 5,000 people; he attempts to assess the costs involved and the benefits resulting; this is a most valuable contribution. H. J. Mitchell discusses the methods adopted by Imperial Chemical Industries, Ltd., of which he is a leading director, in the management of its many activities, the general desire being to have a stable organisation where stability is essential but a high degree of flexibility in other directions where research and development require it. Whereas management of the groups is decentralised, finance is fully centralised. The Company's whole-time directors are relieved of direct executive duties, and a considerable amount of authority and responsibility is delegated. This account of the management of our largest undertaking contrasts with one, describing the methods used in a small tapestry factory, which follows it.

The account of the I.C.I. scheme of management will be widely studied, the more so as it is realised both that the problem of the successful management of so large an organisation is one of very great difficulty and that the difficulties have been largely overcome by I.C.I. along the lines outlined.

A second series of papers in this volume deals with the rôle of institutions, trade and other associations in relation to management problems. A thoughtful summary contributed by a committee representing the Federation of British Industries analyses the association movement as affecting efficiency, and makes some constructive suggestions as to the manner in which trade associations can be of assistance.

In the manufacturing section the subject of budgetary control attracts first notice. An important review representing the accumulated experience of some of the leading firms in Great Britain is contributed by Roland Dunkerley. The idea indicated by the term is to substitute considered intention for opportunism in business; it has been much discussed and studied during recent years, and the theories of