

Field Surveys of Ancient Mesopotamian Irrigation and Settlement Patterns

IN CHARGE: ROBERT MCC. ADAMS, PROFESSOR OF ANTHROPOLOGY, FIELD DIRECTOR

In some ways, the relationship between man and land in the Mesopotamian plain has been a relatively changeless and enduring one. The main crops and domesticated animals are of great antiquity, and for the most part irrigation and cultivation techniques still continue in a tradition established, and even formally recorded, by the Sumerians. On the other hand, the assumption that every aspect of the past can be reconstructed on the basis of continuity with present patterns would be seriously erroneous. Topographic survey of ancient settlements and irrigation systems provides one means of establishing empirically what the major changes have been in the riverine geography, the rural economy and the demography of the area.

Ancient sites in the Mesopotamian plain, like their modern counterparts, are built largely of unbaked mud bricks. As buildings fall into ruins they are leveled and built over, gradually giving rise to mounds of superimposed remains. The period of use of these mounds can be established from the broken fragments of pottery and similar materials on their surfaces, and from these dated sites dates can also be established for the ancient canal and river levees which—in a semi-arid to arid landscape—they must always have adjoined. This is the essential basis on which surveys of settlement patterns proceed, albeit increasingly refined in respect to the use of aerial photographs and methods of statistical sampling.

The main findings of surveys to date fall into three conceptual categories. First, it has become possible to trace the major courses of the ancient Euphrates in considerable detail, add-

ing information on many hundreds of previously unknown sites ranging in size from small villages to true urban centers. Secondly, the increasingly full understanding of the natural landscape in its historic dimensions has also made us more aware of the instability that accompanies progressive human modifications of it. This supplements the traditional historical emphasis on dynasties, wars and religions with an account of an ongoing process of adjustment and flux in which peasants, nomads and natural forces are the main protagonists. Finally, we have learned something of what the abstruse process of urbanization actually has meant, at least in the Mesopotamian context where it first occurred, and of the sequence of steps which have led at various times to the disappearance of cities and then again to their re-emergence.

Surface reconnaissance techniques that were applicable under Mesopotamian conditions were first worked out by Professor Thorkild Jacobsen, formerly of the Oriental Institute staff, during excavations in the Diyala area east of Baghdad in 1936/37. Twenty years later they were applied by Dr. Adams on a wider scale in the area of ancient Akkad, the northern part of the alluvial plain between the Tigris and Euphrates Rivers. A much more comprehensive study was undertaken by Jacobsen and Adams the following year, again of the Diyala area, under the sponsorship of the Iraq government. This was concerned in part with understanding how the ancient inhabitants dealt with chronic agricultural problems such as salinization and the need for drainage, problems which could be elucidated through the study of great numbers of Sumerian and Akkadian economic and administrative texts. It was also partly concerned with mapping and explaining the detailed demographic changes in a now-disused area that was once made fertile by the great Nahrwan Canal.

There have been a number of further campaigns of survey in the decade or so since the completion of work on the Diyala plains. Brief periods of reconnaissance have been devoted to still incompleting portions of the

study of ancient Akkad, and a re-study of part of it by Mr. McGuire Gibson, a graduate student in the Oriental Institute, has intensified and refined its original methods. Another former graduate student, Dr. Henry T. Wright, extended the coverage of the survey into the region around ancient Ur, in the extreme south, pioneering in the use of controlled surface sampling methods and in tying together surface reconnaissance with small-scale archeological soundings. Dr. Adams also conducted one season of surveys on the upper Khuzestan plains, in southwestern Iran, again working under the sponsorship of the host country in an effort to aid modern irrigation planning with some account of both the mistakes and lessons of the past.

The most recent campaign was undertaken in 1967 in the hinterlands of the great Sumerian city of Uruk. It was conducted jointly by Dr. Adams, at that time Annual Professor of the Baghdad School of the American Schools of Oriental Research, and Dr. Hans J. Nissen, then on the staff of the German Archeological Institute team that for many years has been excavating in Uruk itself. Dr. Nissen more recently has joined the staff of the Oriental Institute, and he and Dr. Adams are preparing their materials for publication while formulating plans for further fieldwork.