1 The rediscovery of the ancient Near East: the physical environment

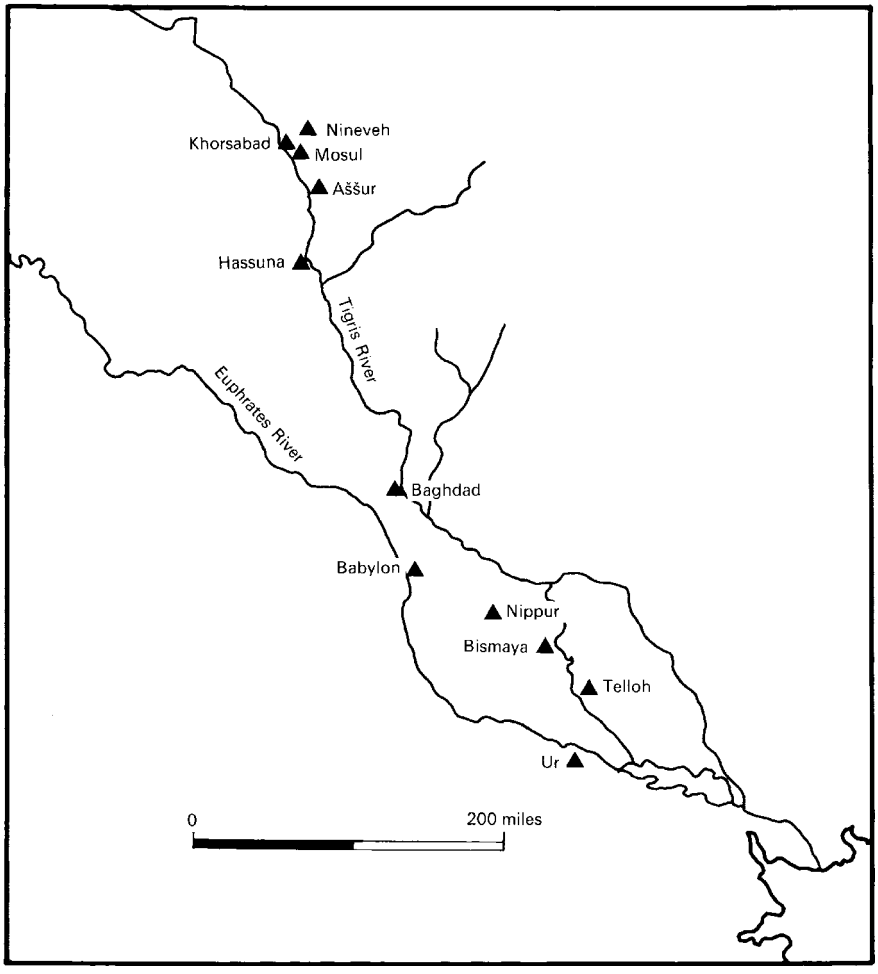
Ever since the advent of Christianity, the lands of the Bible have exerted a special fascination for the people of western Europe and America.

After the last crusade, English contacts with these countries[1] became somewhat tenuous. Although a few ships continued to ply between Europe and the Holy Land, reliable information about the region became very sparse and the stories increasingly apocryphal. The numerous editions of the travels of Sir John Mandeville remained a standard work for many years because there was nothing better on offer, even though the anonymous fourteenth-century author may never have left his own fireside having used other earlier works for his composition (Moseley 1983). It was only in the nineteenth century, when Britain established direct political relations with the Ottoman provinces as well as with Istanbul itself, that it again became possible for curious individuals to travel moderately freely in Syria, Palestine and Iraq. J. S. Buckingham, writing in 1827, claims to be the first European for a century to publish his travels in these countries, and he found it sensible to travel dressed as an Arab and to act as a Muslim. The dangers involved were many and real, coming from both men and beasts, as Austen Henry Layard found even fifty years later when he too adopted Muslim dress and customs for his journeys (Layard 1903).

Despite the problems, the spate of travellers gathered momentum during the nineteenth century, spurred on by a great interest in the lands of the Old Testament and by a more practical need to find the least demanding route to the commercial El Dorado of India. Diplomats and military men, often distinguished scholars, contributed to the growing fever of interest in the lands of Assyria and Sumer, where the Garden of Eden was thought to have been located and the home which Abraham had left at the beginning of his wanderings.

Much of the activity generated by this interest centred on the British Residency in Baghdad after the appointment of Claudius Rich as first British Resident in 1808. The Turkish authorities, though capricious, were usually prepared, as part of the complicated give and take of diplomatic exchange, to allow enterprising Europeans to explore the great mounds of Mesopotamia, and the first spectacular results of their initiative began to appear in London

1 These include the modern states of Iraq, Israel, Jordan, Lebanon, Palestine, Saudi Arabia, Syria and parts of Turkey.



Map 1. The early explorations in Mesopotamia (after Seton Lloyd)

and Paris in the mid-nineteenth century. These men undoubtedly did much damage – they were licensed plunderers – but they equally certainly saved some magnificent pieces from destruction (Lloyd 1947; Postgate 1977). As yet Iraq has not demanded the return of the Assyrian reliefs from Nineveh, but such a request could generate a problem for the British Museum similar to that caused by the Greek request for the return of the Elgin marbles.

Each country began to stake out an archaeological territory for itself, the Germans at Assur and Babylon, the French under Botta at Khorsabad, and the British under Layard at Nineveh (Map 1). Although the acquisition of fine museum pieces remained a high priority, as it had to do in order to ensure future funding, more scientific methods of exploration and higher standards of recording began to gain ground towards the end of the century.

The Germans led the way in the development of techniques for the tracing of unbaked mudbrick walls, which earlier excavators had failed to recognise, and, by training workmen from the village of Shergat to use these techniques, founded a tradition and a 'closed shop' which lasted into the second half of the twentieth century.

Early explorations in the south of the country produced fewer spectacular finds and conditions were more difficult as the fragile and elusive unbaked mudbrick was the main building material, but the great classic sites of Sumer attracted a steady flow of explorers from the middle of the nineteenth century: Taylor, the British Resident, dug at Ur in 1853, in 1877 de Sarzec, the French vice-consul at Basra, began work at Telloh, while the first American expedition to take the field arrived for its disastrous first season at Nippur in 1889. Their camp was attacked and burnt to the ground by feuding tribesmen. Bad luck dogged several of the early American excavations and the following quotation about Banks's expedition to Ur has a fine nineteenth-century flavour to it:

> The work of raising the funds for the support of the expedition rested entirely upon myself. When I had succeeded in obtaining six thousand dollars, half of which had been pledged by Mr Rockefeller, President Morton, the best friend of the expedition, guaranteed six thousand more, making a total of twelve thousand, the sum deemed necessary for the work of the first year. I then purchased an extensive excavating outfit, consisting of everything which I thought could be of service in the desert, and shipped it to Busreh.
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> One of the most pleasant recollections of those busy days was a Babylonian dinner given by President Morton to the friends of the expedition. The cards at our plates were written in the language of Nebuchadnezzar; the bread was of the shape of Babylonian bricks; the great tray of ice-cream was the colour of the desert sand over which sweet icy camels bore burdens of other sweet ices; and there was a huge cake, like the Tower of Babel; about it wandered miniature Arabs with miniature picks, and concealed within its several stages was an art treasure for each of the guests. Then and there, as the Director of the Expedition, I opened the excavations, and from the ruins of the huge cake I rescued and distributed its buried treasures – antiquities fresh from Tiffany's. Finally the host proposed a toast to the expedition, but it happened by some chance that no glass was at my plate. Imagine my consternation when the guests were raising their glasses and were expressing wishes for my success, and I could not respond! Did it portend failure? Was it destined that success be denied me? (Banks 1912)

His foreboding was to some extent justified as he never obtained his permit to dig at Ur, although, eventually, several years later, he received permission to work at Adab/Bismaya.

The archaeological momentum increased with the setting up of the British Mandate in Iraq after the end of the First World War and the next

step forward was taken when Iraq, with the help and advice of Gertrude Bell, oriental secretary to the British High Commissioner, and first director of the Iraq National Museum, enacted its first antiquities law. This provided that all archaeological exploration had to be licensed, all foreign expeditions had to be staffed to certain standards, unique objects might not be taken out of the country, and all other finds were to be divided on an agreed basis between the excavators and the Iraq National Museum, which opened in 1926. Gertrude Bell was also one of the driving forces behind the foundation in 1932 (after her death) of the British School of Archaeology in Iraq, a body whose name is associated with many of the major excavations in the country during the twentieth century, such as those at Nimrud and Tell Rimah.

The antiquities laws have now been updated: no antiquities may be exported at all, the National Museum has expanded and been rehoused, and a major government department is now responsible for all matters relating to the national heritage, including rescue work, long-term major research projects, and the care and restoration of monuments and artefacts. The success of these measures can be judged by the rate at which new information came out of Iraq in the 1970s and 1980s, making the revision of many of our old ideas a recurrent theme. The assimilation of this new information, available often only in specialist journals, sometimes in languages other than English, posed real problems and meant that textbooks needed frequent updating. Sadly, the flow of information was cut short by the Gulf war which broke out in 1991, and great damage was done to many of the provincial museums in the uprising which marked the end of the war. Sanctions imposed by the victorious allies have also had serious consequences for the archaeology of the country. Fieldwork has been drastically curtailed, chemicals are unavailable for even the simplest conservation work in the museums, and great economic hardship has led to an upsurge in the looting of archaeological sites and the smuggling of antiquities out of the country. Much irreplaceable information has been lost for ever and the only winners are the smugglers and the auction houses.

Excavators and fieldworkers all over the world today are also faced with economic problems, notably an astronomical rise in the cost of mounting a field expedition; the mammoth expeditions of the past, employing hundreds of workmen, are now themselves historical curiosities and financially unthinkable, even if enough skilled supervisory staff could be found to meet modern requirements. Today, most expeditions, unless involved in rescue operations, tend to concentrate on the solution of specific, well-defined problems with a much smaller and very professional team, including specialists such as photographers, conservators and surveyors as well as archaeologists

and epigraphers. Scientists, such as palaeobotanists and physical anthropologists, are routinely involved in fieldwork and sampling, as well as in post-excavation analysis. Ethnographers, too, can provide valuable data for example by studies of traditional methods of farming and industrial production, in areas where such information is still accessible.

Computers are used with increasing frequency to process large bodies of data; digital cameras and the use of geographical information systems software to produce plans and distribution maps are now commonplace. Modern methods mean that more and more information can be extracted from smaller and smaller excavations, although at considerable expense. The cost of processing the data, and of publishing them, is sometimes considerably more than the cost of the fieldwork. At the same time academic sources of funding are shrinking and many archaeologists today find themselves developing unexpected skills in fund-raising and public relations!

The emphasis on the solution of particular problems, mentioned above, has in turn meant an increasing reliance on survey techniques in order to pinpoint in advance the place that offers the best prospect of solving a particular question. These surveys may cover a large geographical area or be concentrated on the internal geography of a single site, using surface scraping, resistivity surveys and surface collecting. Sadly, it is often impossible for strategic reasons to obtain aerial photographs in the Middle East, a marvellous tool for survey work, but satellite photographs are now providing an interesting new source of information. Some of these photographs can even show remains a short distance below the ground surface in light soil or sand. Despite the political and practical difficulties, much work has been done.

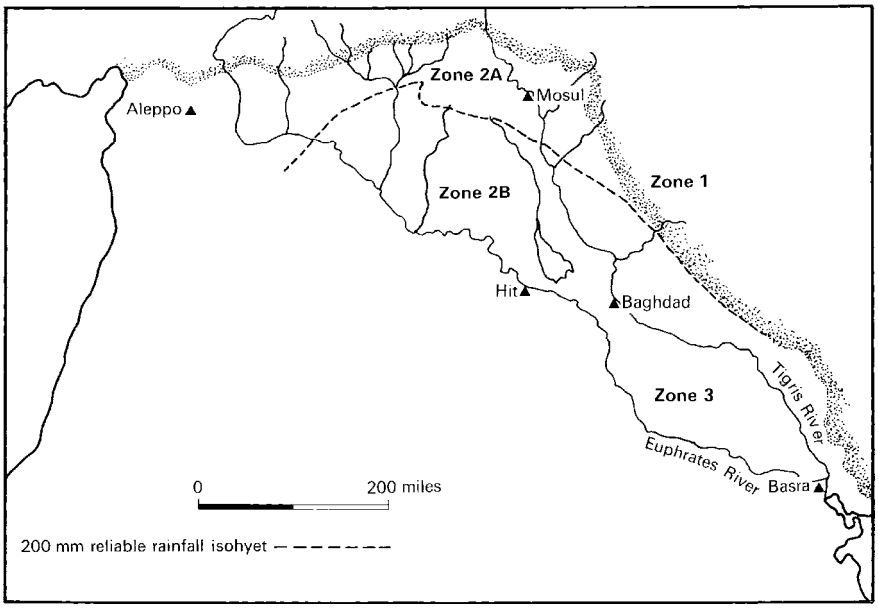
The most important contribution of the twentieth century to survey work in Mesopotamia was undoubtedly made by R. McC. Adams and his colleagues in the 1970s and 1980s (for example, Adams 1981). They refined techniques of surface collection and interpretation so that, in spite of the accepted limitations of the method, it is now possible to begin to map out the distribution and scale of settlement from the earliest times into the historic period. It is possible too, from survey work, to make at least relative estimates of fluctuations in population based on the numbers and sizes of sites attributed to each phase, even if absolute numbers are still difficult to assess. Their survey work has also enabled Adams to make valuable attempts to reconstruct some of the physical characteristics of prehistoric Mesopotamia, notably the shifting courses of the major rivers and the controversial matter of the position of the head of the Arabian Gulf. The courses of a number of the major canals can also be traced, linking groups of sites, and thus sometimes helping to define ancient political units (Adams 1981).

The physical background

It is impossible to study the archaeology of Mesopotamia without a thorough knowledge of its physical characteristics because in pre-industrial societies the environment is one of the major constraints on people's way of life. Unfortunately, we cannot assume that the conditions we see today are in every respect the same as those in earlier millennia, while our evidence is not always complete enough to be able to reconstruct past conditions; fluctuations in climate, for example, which have almost certainly occurred in the nine millennia or so since the area was first inhabited, are not always easy to detect. However, there seems to be a measure of agreement among the experts that there have been no drastic or fundamental changes in the physical geography or the weather patterns, although people themselves have undoubtedly modified their environment, usually for the worse! Deforestation and overgrazing have both had their effect on precipitation and on the degradation of large areas of land through soil erosion, while in marginal areas even a minor shift in the amount of rainfall can have economically disastrous effects. Even irrigation, which made much of this area habitable, has, ironically, rendered vast tracts of land today, at least temporarily, uncultivable through salinisation.

Despite this, we have enough evidence to begin to reconstruct the environment of the first settlers in the area with which this book is primarily concerned. This region is sometimes called Greater Mesopotamia and is in no way a geographical unit. Its boundaries cover parts of the modern states of Syria and Iran and all of modern Iraq (see Wagstaff 1985 for a useful introduction). Climatically and geographically it divides roughly into three main zones (Map 2). The most northerly of these comprises the foothills of the Taurus and Zagros mountains in the north and east of modern Iraq, the area which has produced the earliest evidence of settlement. It is an area of sheltered intramontane valleys with plenty of water, grazing, game, fruit, nuts and wild cereals, in many ways an ideal spot for the first attempts at settlement in the late Palaeolithic and pre-pottery Neolithic periods. However, winters are harsh and communications are difficult between valleys or across mountains. Some limited cereal cultivation is possible though the soil is not rich, and there are lavish supplies of stone and timber, as well as isolated deposits of resources such as copper and bitumen in the north-east. Various pigments, galena, malachite and ochre, also occur.

The second zone covers the plateau which lies between the Tigris and the Euphrates south of the Taurus foothills, and north of a line from Hit to the Tigris at Samarra, as well as the plain east of the Tigris. The former area is roughly similar to the Roman province of Jezirah, 'the island', and the name is still used. It includes the range of hills known as the Jebel Sinjar



Map 2. Greater Mesopotamia, showing climate/ ecological zones

and is subdivided into two uneven parts by the 200 mm isohyet, north of which rain-fed agriculture is conventionally said to be possible. At present this line lies south of the Jebel Sinjar, but its exact position in prehistoric times almost certainly fluctuated and the evidence of heavy settlement in the area south of the Jebel Sinjar in the Hassuna period, which covered much of the seventh millennium, suggests that at times the boundary may have run considerably south of its present position.

Rain-fed agriculture is not reliable between the 200 and 300 mm isohyets, and Oates and Oates have put forward a persuasive case for the 300 mm isohyet being a much more reliable indicator of the boundaries of rain-fed cultivation. This second boundary, which today lies considerably north of the Jebel, is perhaps the one we should look at (Oates and Oates 1976). Wherever the exact dividing line fell, it is clear that at least half of our second geographic zone lies in the region where reliable agriculture is only possible with the help of irrigation.

The natural resources of this area are varied, but less extensive than in the foothills of the mountains. Good alluvial land is limited, but with irrigation yields can be high and there is relatively plentiful grazing. There is stone; there is some timber; there were herds of deer and onager in the Jezirah, while wild pig and a number of predators can be found in the thick scrub on the banks of the rivers. Mineral resources are non-existent, but there are important deposits of bitumen at Hit and sulphur in the Wadi Tharthar depression. Bitumen was widely used for waterproofing and as an adhesive,

while sulphur has important medicinal applications, and was used in tanning and as a pigment from very early periods. As we shall see later, the pattern of early settlement in the Jezirah contrasts sharply with that in the south, and typically consisted of a scatter of villages interspersed with larger settlements which might be described as market towns and provincial capitals. The huge urban sites of the south were not present. Recent research has shown that development in the region followed a trajectory which was rather different to that in the south and this will be discussed in chapter 6.

The most productive land in this second zone lies between the Tigris and the Zagros mountains and formed the heartland of the Assyrian empire. It is rich corn-growing country, where irrigation is not necessary to produce heavy yields, and the plain is dotted with the tells of the Assyrian capitals. Some of them have proved to have been inhabited from the earliest prehistoric periods, but the earlier levels are deeply buried and difficult to reach except by sondage; Mallowan's sounding at Nineveh is a classic example of this type of excavation (Thompson and Mallowan 1933). Two rivers, the Greater and Little Zab, bisect the plain and underline its links with the east. The finds from this area often show characteristics which suggest a wide range of contacts with Anatolia to the north-west and Iran to the east, as well as with Sumer and Akkad to the south. A major route runs from the north-east corner of this plain up onto the Iranian plateau via the Rowanduz gorge and seems to have been an important artery of communication from Neolithic times on, while a number of routes lead westwards (see below).

South of the Little Zab the diagonal range of the Jebel Hamrin interposes itself between the Tigris and the mountains proper, running north-west/south-east and defining the western edge of the Hamrin plain. This area was extensively surveyed and sampled in advance of a new dam, giving us an unusually detailed picture of the use of the region through time. Such explorations underline the importance of these more peripheral areas which have tended to be ignored in the past. The valley was an important highway linking the major centres of south-western Iran, southern Mesopotamia and Assyria and provided grazing for large herds as well. The southern end of the Hamrin valley is loosely defined by the Diyala valley, another important route onto the Iranian plateau. In much later times this was the route followed by one branch of the Silk Route to Cathay, the great Khorasan road.

The third zone consists of the flat alluvial plain between the two rivers, the Euphrates and the Tigris. It comprises the ancient kingdom of Akkad in the north and Sumer in the south of the plain which, according to tradition, was the site of the Garden of Eden. Looking at it today it is hard to understand why this featureless waste, exposed to every extreme of heat, flood and storm, should ever have been identified with the original land of plenty and ease. Yet, in spite of its apparent inhospitality, the soil is immensely fertile,

capable of producing a huge agricultural surplus which underpinned what is arguably the earliest civilisation in the world. The Sumerian civilisation is in many ways the classic example of the Toynbee theory of 'stimulus and response' or, in less academic terms, of necessity being the mother of invention. Large-scale settlement was impossible in this inhospitable environment without the development of a social system sufficiently complex to provide the co-operation between groups of people which enabled them to create an efficient irrigation system. This in turn allowed them to produce an economic surplus through irrigation agriculture. The surplus, processed into manufactured goods, notably textiles, allowed the inhabitants of the region to trade for the luxuries which they lacked, such as metals, semi-precious stones, fine timber and other exotica. It is not entirely frivolous to suggest that if the region had been more hospitable the Sumerian civilisation might not have developed as early as it did.

Here, in the southern plain, we can provide better evidence for the changes which have taken place in the environment over the six or seven thousand years since the plain was first permanently settled. The most important of these changes is in the course of the rivers. A combination of aerial and ground survey indicates that the Tigris and Euphrates may at one time have formed one stream in the vicinity of modern Baghdad. A number of streams then ran out into the alluvium. Adams (1981) suggests that this may have been the position at the time of the earliest settlement on the plain in the fifth or early sixth millennium. Gradually some of the smaller streams dried up, leaving a forerunner of the modern Euphrates running approximately in the middle of the alluvium, while the Tigris lay slightly to the east of it, flowing through Adab, Umma and Larsa. The latter river was not edged eastwards into its modern bed until after the Kassite period in the later second millennium (Steinkeller 2001). The westward movement of the Euphrates can be traced on the ground, and by the progressive abandonment of ancient sites, such as the old religious capital of Nippur, which were founded on the old course of the river. The two rivers come together again at the southern end of the alluvium to form the Shatt-el-Arab, which winds its way through the great reed beds described so vividly by Wilfred Thesiger (1964), among others, out into the Arabian Gulf.

The position of the head of the Gulf in early times is another matter which still requires further clarification. Early in the twentieth century it was generally accepted that it had lain considerably north of its present line and that siltation had pushed it gradually southwards. Then an article was published by Lees and Falcon, putting forward the hypothesis that, thanks to tectonic movements in the floor of the Gulf, which compensated for the build-up of silt, the shoreline had actually moved very little (Lees and Falcon 1952). Ten years later this conclusion was itself under fire, and today there

is a growing feeling that perhaps the texts of the third millennium which describe the ancient towns of Ur and Lagash as being on the coast may, in fact, be accurate (Adams 1981:15–16; Zarins 1992). There is also evidence from the west coast of the Gulf in the Ubaid period to suggest that the shoreline may have been considerably higher then than it is now, a conclusion which would also support a more northerly position for the head of the Gulf too at that time (Zarins 1992:64, fig. 5). Nissen has suggested that the gradual southwards movement of the head of the Gulf and the resulting draining of marshes and swamps towards the middle of the fourth millennium, at the end of the moist climatic optimum, led to new and fertile land becoming available for the first time in the extreme south. This land was colonised by the first settlers here who founded the larger settlements typical of the later Uruk period (Nissen 1988:66–7). Others would disagree with Nissen's theory (Potts 1997:52), but there is increasing evidence for a fall in sea level at the end of the Ubaid period, and a concomitant southward movement of the head of the Gulf is a real possibility.

Whatever the exact details of the movements of the two great rivers, it is from them that the fertility of the plain is derived. Both were, until very recently, liable to severe flooding, which over the millennia has spread a thick, rich blanket of silt over the area. Sites of the fifth millennium have been found under as much as five metres of deposit. But there has also been severe wind erosion which, according to Adams, is now exposing third- and fourth-millennium land surfaces. Plainly, the process has not been one of straightforward aggradation over the years and this conclusion has immediate implications for the interpretation of the findings from surface survey. The whole of the alluvial plain lies outside the area of rain-fed agriculture: rainfall is as low as 150 mm per annum. Rain is confined to the winter months and summer heat is intense; to add to the problems experienced by the first farmers, the rivers flood in the spring at the height of the growing season, washing away the young plants unless measures are taken to hold back the flood waters. If this disaster is averted, then water must be led into the fields at appropriate intervals to allow the crops to ripen, otherwise they will shrivel and die. If these problems can be overcome, a wide range of cereals, fruits, vegetables and fodder plants can be successfully grown.

Because of the imperatives of irrigation techniques, early settlement on the southern plain tended to concentrate in fairly narrow bands along the river courses, sometimes three or four towns quite close together, sometimes one large city, like Uruk, with a necklace of smaller satellite towns and villages. Villages tend to be underrepresented in the archaeological record, partly because their traces are difficult to find in areas of silt deposition or of wind erosion, and partly because archaeologists have in the past preferred to work on sites which promised richer material pickings, so the picture is