INTRODUCTION

Man, the 'king of creation' who manipulates the rest of creation for his benefit, the pinnacle of biological evolution, 'master and possessor' of the other biological orders, who has multiplied the species that he has domesticated and decimated those which have remained wild, drawing energy from inert matter, overturning whole landscapes and transforming the planet – this is our portrait of ourselves at the end of the twentieth century, when abuse of our privileges has begun to stir disquiet.

But the emergence of the human species reaches back at least three million years. The origins of that supremacy can of course be found in those remote periods, where the development of specific human faculties made it possible, in the ability to stand upright, which liberated the hands and favoured the growth of the brain and in the first tools thanks to which the ingenuity of our species began little by little to compensate for the physical handicaps of the 'naked ape'. There was then an enormous period of latency, that of the Palaeolithic in its entirety, hundreds of millennia that separate the emergence of man from his taking charge of his environment, which appears normal today. This is the fruit of a last-minute process which unfolded in the Near East scarcely 12,000 years ago, when there occurred what, since Gordon Childe, we have called the Neolithic Revolution.

Whatever the considerable period that separates the clumsy tools made on cobbles that constitute the African *pebble culture* of 2 million years ago from the much more elaborate industry of tools made of stone or bone and the artistic products of the Magdalenian culture of only 18,000 years ago, a common trait exists between these two extremes in the Palaeolithic period: human groups hunted, fished and gathered. That is to say they drew from nature the basic foods necessary for their survival according to their needs, just like any other predatory species. Family-based 'micro-bands' used their mobility to compensate for the temporary exhaustion of wild resources in an area, except perhaps where these resources, especially the plants, were available throughout the year; knowing that they were particularly fertile and able to recover year after year; they did not yet create any fixed installations, nor did they alternate the strategies of acquisition according to the seasons.

But they could only acquire what nature presented them with. Abundance and shortage were spontaneous phenomena whose origin was thought to be beyond man's control and among the hazards of life. In spite of the development of mental ability and of technological ability, and in spite of the observation that he must have made of the natural processes of reproduction, Palaeolithic man never himself undertook the proliferation of the animals and plants that he consumed.

However, his unique superiority within the animal kingdom was manifest from an early stage. Humans have been burying their dead for over 100,000 years. Whether this is evidence of a belief in survival beyond physical extinction, or simply the ability to maintain a memory of the departed for some time, one senses that there already existed here the power of human thought to separate itself from the natural cycle of the generations, to meditate on its own condition and to bear witness through practices that are unique among animals that mankind is not an animal like the others. Moreover, people of the Upper Palaeolithic period prove by their art that for them nature had become a spectacle for observation, that bison, horses or mammoths were not only in the last resort foodstuffs but also 'forms' that their hands could reproduce on the walls of caves to constitute an imagery which expressed some sense for them. A conception of their world comes through from beneath these juxtapositions of images which are not simply coincidence and hazard: an act of ordering the natural abundance of living forms. In brief, although he had not left us any visible traces for a very long time, man was now capable of making and conveying sense.

But if we return from that mental supremacy to the demands of everyday life, the hunter has to go and search for animals and plants wherever he can find them in order to survive, to follow the herds of bison, as the American Indians did until very recently in their spontaneous shifts of camp; he needs to go and watch near the rock of Solutré for the herds of wild horses migrating through an essential narrow passageway, in order to take his toll of them; or, as a fisher, he needs to wait in his rock-shelter in the Vézère valley for the salmon that return to the river each year at a certain time. In brief, while utilising for his profit natural phenomena of which he has great experience, he does not have the power to change them, nor even to intervene in their course. His supremacy in the bosom of nature is a sort of certificate of excellence; he remains without power over nature.

For a long time now we have appreciated, by contrast, the extraordinary revolution that the Neolithic invention of cultivation and herding represents in this context. The analysis of its effects has become commonplace: resources that were from this time 'products', that is to say in large measure removed from the hazards of competing in their environment (to some extent, for climate and natural disasters have never been mastered); a food reserve, constituted of cultivated plants and domesticated animals, extendible and renewable, and therefore dependent on simple human initiative and a function of the needs and technical possibilities of the ever more numerous human communities; a new mastery of time as represented by the preferential choice among plant species thus exploited of those, such as the cereals, which can be stored, thereby assuring regular provision of supply throughout the seasons; the possibility that is afforded by certain animal species which are naturally gregarious and migratory, once herding allows their control and the direction of their herd movements, for the mastery of space as it is exercised by pastoral nomads. The new possibilities that were opened up by subsistence production could be detailed: in brief they consisted of a considerable and rapid rise in the power of humanity in the face of ecological constraints from which it could now begin to emancipate itself step by step. Little by little a portion of soil was set aside from its wild state, at first

minimal but always being extended, worked, 'civilised' and refashioned by human activity and exploitation; a process of extension of control was set in motion which has with time resulted in what geographers say of today's world, a world in which almost none of our landscape resembles the natural environment that it must have once been. The destruction of the Amazonian rain-forest that is now in progress is without doubt the last, disturbing avatar of that process.

On the time-scale of the history of our species, very little time in fact separates the first village farming communities from the first urban civilisations, and then from the first industrial societies. If one admits that, in our domination of the world, the decisive step was taken in the Neolithic period and that we are the inheritors and the direct result of that critical turning-point, it is to that point that we must take our 'history' back.

It is usual, of course, to oppose the 'historical' civilisations, those which have known writing, to the 'peoples without a history' who preceded them or who remained ignorant of writing. That is why, as some believe, 'History begins at Sumer.' However, that is a presupposition of the epigraphists and historians who are totally absorbed in their interpretation of texts, veneering the study of the past with the careful distinctions that exist between university disciplines. In fact, before and after writing, we have other methods of investigation. The prehistoric archaeologist, without the help of written texts, turns to other disciplines, including the natural, physical and chemical sciences, to assist in the dating and analysis of change. Now, these changes in the Neolithic period are important and rapid. Above all, one of the intentions of this book will be to demonstrate that it is actually in the Neolithic Revolution that we find the roots of the present state of the human race, not only in its domination and exploitation of the environment, but also, it will be suggested, in the very foundations of our culture and mentality.

That is why the interrogation of the past, in prehistory no less than in other times, is not neutral. Every civilisation, especially in times of crisis, seeks its origins in the depths of the past in order to understand itself. For us in the West, classical antiquity has long played this role of justifying foundation and fascinating origin: it is well known to what extent the imagination of the French revolutionaries of 1789 drew their models from that source, in exactly the same way as the humanist tradition which has for so long nurtured our educational ideas.

In the face of our fears and our questioning of even the most fundamental assumptions of our millennial times, is there anything more than a phenomenon of fashion in the vogue for prehistory? Is it necessary to reach back further and further in order to understand where we are, that is to say where the mutation was produced that is the source of our power? This comes close to making of the prehistorian the instrument of a recall, anamnesis in an almost psychoanalytical sense.

This analogy between archaeology and psychoanalysis is nothing new. Freud himself had recourse to prehistory in order to understand the nature of psychoanalysis. One attends to a neurosis, he said, through an 'archaeology' of the individual, which brings back to the conscious mind the forgotten memories of infancy, when the mental and emotional attitudes were fixed which with time have become

repetitive and disturbing, precisely because their source has become unconscious. The difference between psychoanalysis and archaeology, he added however, is that Agamemnon and Clytemnestra are no longer here to draw benefit from this pushing back of anamnesis. One might respond that humanity, in as much as it is the genuine collective subject of this descent to its origins, is always here, and that while putting in parallel that which is appropriate to the individual and that which is appropriate to the species, as is also often done in other domains, it is necessary to keep the two sides of the analogy in station and distinct to the very end. It can thus be said that a function of 'collective psychology' exists in archaeological research, in as much as the knowledge that we gain from archaeology allows us to shed real light on our present condition.

However, it is not sufficient, in effect, to situate the premises and the process of the Neolithic Revolution in time and space, nor to enumerate the ecological effects of these new strategies: this work is already well advanced. The transformation with which we are concerned does not consist only of subsistence production and the subsequent modifications of the landscape. Every sector of human life was involved, from the most material to the most symbolic. Habitat, technology, demography, social organisation, settlement and the use of space, and artistic and religious expressions were equally involved. These numerous parameters of what was a total metamorphosis are thoroughly enmeshed with each other to the extent that it is very difficult to order them in relative significance, to distinguish effects from causes, or to render their relationships intelligible. The difficulty is increased by the fact that the 'neolithisation' of various parts of the world was effected in different ways, in part by decisive, localised changes in particular centres of innovation, and in part by diffusion of their attributes very far from the centres of origin. The neolithisation of Europe, for example, is indeed the result of one of these diffusions, and it was there that the Neolithic was first defined and studied by western researchers at the beginning of this century. All its traits had come from elsewhere, whether economic, like cultivation and herding, or technical, like polished and ground stone or pottery, and it appeared simultaneously, combined with an overlay of local cultural persistence and autonomous stylistic creations, forming a whole that is difficult to unravel. In so far as it may be said to be a typical example of 'secondary neolithisation', the European Neolithic furnishes all the elements that allow us to investigate the mechanisms of diffusion, but it offers us much less help in giving an account of the Neolithic Revolution itself, in much the same way as the industrialisation of Japan does not tell us a great deal about the European Industrial Revolution which was its source.

From that observation comes the interest in studying the phenomenon in the Near East, for it was in that part of the world that it first arose, without any assistance or external influence to set it off or precipitate it. The other centres of neolithisation that exist in the world all seem to be later, given the present state of our knowledge. Above all, if in 1925 Gordon Childe was able to situate 'the dawn of European civilisation' in the Near East, it was because it is there that we can see its origins and at the same time the origins of a model of civilisations which has not ceased to diffuse

itself since to the point that it has become global, from the point of view both of its intellectual and technical attributes and of its ultimate 'neurotic' effects: the malaise of a third world progressively deracinated from its own past furnishes us with a spectacular illustration of this in our own times. That is why one can speak of a collective anamnesis that is of interest to all modern humanity when we focus on the remembrance of the infancy of our civilisation.

Since the first excavations in the Neolithic levels of Jericho, and despite fifty years of research in the Near East, we are still a long way from seeing things clearly. For a start, as in all research where the documentation remains poor, the explanations remain largely hypothetical, the researchers papering over the gaps in their factual knowledge with a theoretical apparatus that most often reflects the popular ideology and ideas of the day. Thus, Childe was already able to sustain the thoroughly defensible view that the origins of the European Neolithic was oriental, because it was there that the wild progenitors of the principal species that were domesticated were to be found: but in order to explain domestication itself, he could only follow the model then in vogue, a simplified 'historical materialism', according to which the emergence of an economy of production represented *a priori* the sole fundamental change that was the basis for all the others and which itself could only be explained in terms of environmental determinism.

Now, at that time rather numerous facts were available concerning the European Neolithic, while the Near East was known only from sparse excavations of sites in Egypt or in Mesopotamia later than the sixth millennium BC, which could not therefore provide information on the actual origins of the process, which was more than 3,000 years earlier.

This situation has changed. From about 1950, relaunched by the discoveries at Jericho as well as by the thinking of Gordon Childe, research in the Near and Middle East has not stopped intensifying. Teams from many countries have contributed their efforts, the region being a privileged and universally attractive arena for the study of neolithisation, just as East Africa is for human evolution. Once rather thin and scattered, now the archaeological information base has become dense, above all for the countries of the Levant which are the focus of this work.

What about our theoretical approaches? Implicitly and imposing so many constraints, the same old 'materialist' model remains dominant today. Its strength can be seen in the way it governs the questions that are posed more than in the answers. What are investigated above all are the facts of nature which may have stimulated humans to take recourse to cultivation and herding in order to survive. The American expeditions led by Robert Braidwood since 1950 associated for the first time numerous natural scientists with the archaeologists in this objective in the Near East. Wild cereals are found today growing spontaneously in a semi-arid band bordering the 'Fertile Crescent' from the Dead Sea to the Iranian plateau (Fig. 1), and it was in the central part of the 'nuclear zone', that is to say in the Zagros mountains in NE Iraq, that Braidwood chose to investigate the traces of the very first agricultural experiments. He did not find them, or at least he found nothing as old as Jericho or the other village–farming communities that have been found

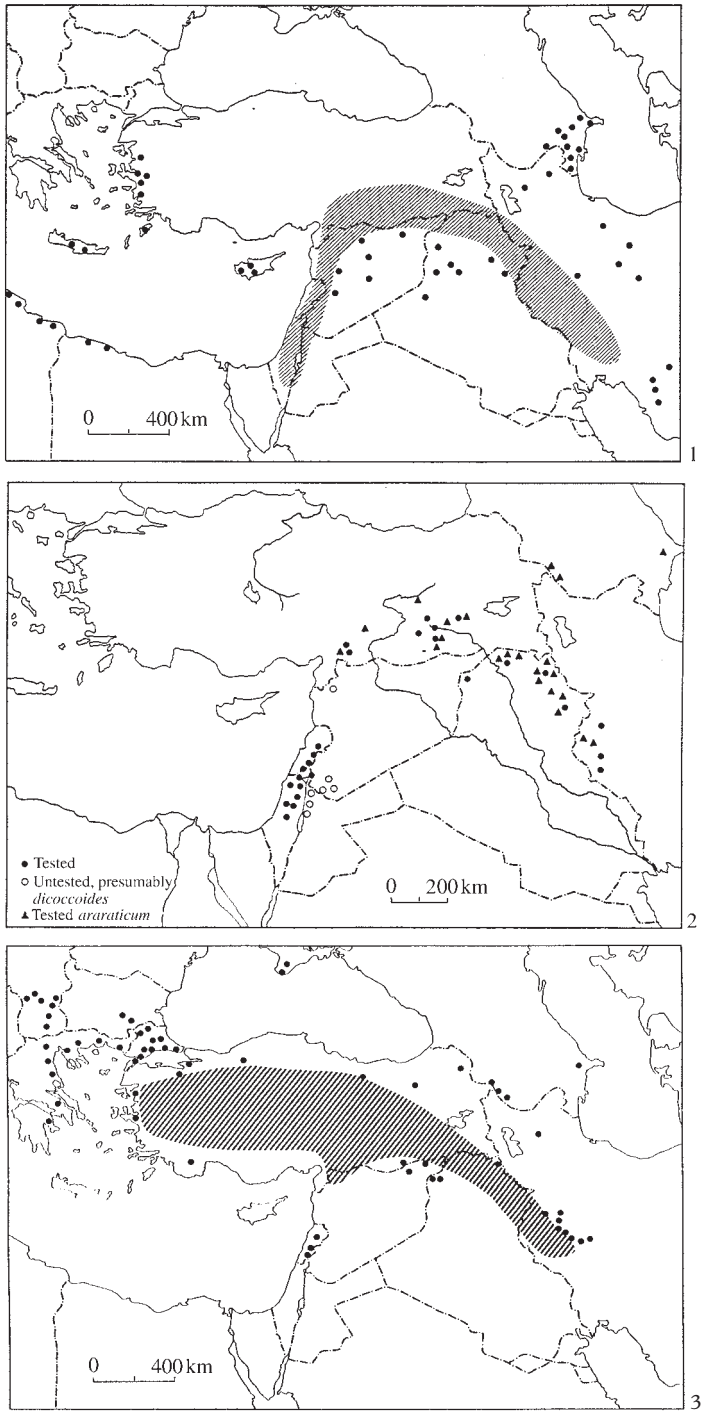

Fig. 1 Maps of the present distribution of wild cereals, after D. Zohary: 1 Barley (*Hordeum spontaneum*); 2 emmer (*Triticum dicoccoides*); 3 Einkorn (*Triticum boeoticum*). The hachured areas define the zones where the species are massively present.

more recently in the Levant. Some important parameter must have been missing from his prognosis. In the face of the manifest lateness of domestication relative to the emergence of a climatically and botanically favourable environment about 15,000 years ago, he did suppose that there was a certain autonomy in the cultural factors and their own evolution, but he could not see what this interesting intuition implied.

Around 1970, an intense theoretical renewal was brought about by the anglophone New Archaeology movement. It introduced the preoccupations of American anthropology concerning the processes that operate in human societies and the evolution of their social systems into an archaeology that up to that time had been too simply descriptive. However, nothing new appeared concerning our central theme. When one of the principal theoreticians affirms that culture in man is only 'the sum of his extra-somatic means of adaptation to his environment',[1] it is not surprising that the natural environment takes the initiative in the dialogue. That means that social and cultural changes must be triggered by that within us which is rooted deepest within our biological nature and is most sensitive to its changes, that is to say our bodies and their need for food. This 'ecology', which only confirmed the direction of research that had been initiated by Childe, still remains at the base of most of the questions that are posed.

So this conception, founded on unverified 'materialist' premises concerning human nature, is no more than a postulation, that is, in a truly scientific perspective, no more than a hypothesis to be examined. The principal scientific advances are known to come not so much from the linear accumulation of new facts but rather from the periodic questioning of its least criticised premises.[2] Unless knowledge is defined as the endless accumulation of factual information, it is pointless to ask of prehistoric archaeology only that it confirms what we have already 'known' since the middle of the nineteenth century, or one is confusing science with ideology. One may add that such a standstill in knowledge is of little value for philosophy and history, for it is not in projecting our own economic obsessions by a dotted line back into the past that we shall understand better what brought them into being.

Now, however, several voices are making themselves heard that underline the fact that the dominant model does not explain everything. From 1955 onwards a village of hunter-gatherers was excavated by Jean Perrot in the Jordan valley (Eynan-Mallaha), a settlement two millennia older than any cultivation or herding; other discoveries of the same kind followed. An important sociological phenomenon, settlement in village communities, was thereby found removed from its traditional theoretical status as a consequence of the productive economy of farming. We have shown that major changes in ideology, a sort of 'revolution of symbolism', had also preceded the adoption of a farming economy. The Neolithic Revolution, a chain reaction where every sector of human life at some time finds itself transmuted, when it is studied where it was born no longer appears to follow the expected sequence in the succession of changing components: cultural transformations in particular refuse to keep their place in a 'superstructure' based on economic changes, a demented stratigraphy sometimes inflicted on the expected order of cause and effect. This

makes a general rereading of the available information essential rather than the short-term plastering over of the cracks in the existing theory.

By means of this rereading I shall endeavour to outline a very different theoretical option in the pages that follow, without disguising the fact that it will remain to be better supported in the future, because the facts that could sustain it have not always been observed with sufficient attention. It is true that one can often 'see' only what one thinks one is looking for, and nothing inhibits us more in this connection than a dogmatic presupposition so submerged in the unconscious of the searcher that its veracity does not even pose a problem. If we succeed in shaking some of these pseudo-facts as we make our way, the enterprise will have achieved its objective.

PART 1

The origins of agriculture

1

Natural environment and human cultures on the eve of the Neolithic

When people seek to explain the precociousness of the Neolithic Revolution in the Near East in relation to other regions of the world, it is the remarkably favourable environmental conditions that are most often invoked. What is still called the 'Fertile Crescent', the gentle arc from the Dead Sea to the Iranian plateau, between the summits of the Lebanon and Amanus mountains and the eastern Taurus and Zagros mountains on the one hand and the desert interior on the other, is an intermediary zone of sedimentary plains and hill country that is highly favourable for human life, covered by dense steppe vegetation and often forested, and frequented by an abundant and varied wild fauna. There are found the majority of the botanical and zoological species that the people of the Neolithic domesticated: not only the cereals, barley and wild rye and two species of wild wheat (emmer and wild einkorn) (Fig. 1), but also leguminous plants such as peas, lentils, beans, vetches and chickpeas, and among the animal species goats, mouflon (wild sheep), aurochs (wild cattle) and wild boar which, transformed by herding, still remain at the basis of our meat diet.

However, while this concentration of useful species is in itself remarkable, the Near East is far from owning exclusive rights over many of them: wild einkorn has crossed the straits between Asia and Europe and is also found in Macedonia, aurochs and wild boar were practically omnipresent at the end of the Pleistocene period almost all around the Mediterranean basin, and wild lentils were pushing forward in temperate Europe. Nevertheless these species do not seem to have been domesticated in these other regions. In the Near East itself, they were exploited for a long time by the traditional strategies of hunting and gathering, well before people began to control reproduction of them.

Climatic change on the eve of the Neolithic

The biological component of the environment, it is true, is not the only cause. It is itself the product of climatic change.[1] Cereals, which are particularly important, could only have occupied their present ecological habitat from the end of the Pleistocene period, about 15,000 years ago, as one consequence among others of a more general process: the global warming of climate at the end of the glacial period. However, if this climatic evolution was worldwide, the Near East experienced a singular version of the event. On the one hand, taking into account its latitude and the distance from glacial areas, the Near East had never known the rigours of the cold that was felt further north in the European Palaeolithic. On the other hand,