

## The Importance of the Neolithic Revolution

As you can see by looking at the chart at the beginning of this volume, historians use many skills and tools in their art. Often they have only a few scattered documents to help them throw light on some historical question. But think of the more complicated task of archaeologists! Studying about men who lived before the development of writing, archaeologists are forced to reconstruct a society from bones and artifacts (man-made objects) such as tools and pottery. They rely heavily on hypotheses—educated guesses designed to explain tentatively the evidence under examination. For example, if an archaeologist finds useful objects in a grave, he may adopt the hypothesis that the people who buried them there believed in an afterlife where they would be needed. A single new discovery may turn a pet hypothesis topsy-turvy and set off a whole series of new interpretations.

This reading reveals something about the way in which archaeologists work. The careful reader will find throughout the excerpt references to the evidence the author used to support his conclusions. The reader will also observe how the author formed hypotheses.

The subject matter of the reading is the Neolithic Revolution—man's discovery of farming and domestication of animals during the New Stone Age. Agriculture was a technological development, which, like the first use of fire and the invention of the steam engine, changed the very nature of human society. Because this one innovation led to drastic changes in the economy, social organization, the political system, the arts, and religion, it is termed a revolution.

As you read this excerpt, consider the following questions:

- 1 Upon what evidence does the author base his conclusions about the development of farming? (Examine paragraphs five and six carefully.) Do Howells' conclusions follow from the evidence he presents?
- 2 How does Howells relate the domestication of animals to farming?
- 3 How did the Neolithic Revolution affect men's way of life?
- 4 Is it possible to separate prehistoric periods exactly? historic periods?

### BACK OF HISTORY (MAN IN THE BEGINNING) / by William Howells

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With the end of the Ice Age the hunting peoples were pressing into every part of the habitable world, except the outer islands of the Pacific and perhaps such poor places as Greenland and Baffin Land. For a time they even roamed the plain between Britain and Denmark which now lies under the North Sea. Making the most of nature, they

discovered every kind of available food, including those which have to be specially treated to be edible, like acorns. And in different places they gave themselves the benefit of many fairly intricate inventions, whether weapons or hunting tricks, even though typically they could carry their entire cultures around as they traveled, in their heads or on top of them.

Then, about 6000 B.C., and somewhere in the Near East (as far as we know), the Neolithic way of life began. It is still called "Neolithic" (New Stone Age, as Mesolithic means Middle, and Paleolithic means Old Stone Age), because the older anthropologists saw everything in the light of stonework, and thought of this "period" as the age of polished stone axes. But it means, rather, a state of culture in which food is planted and bred, not hunted and gathered—in which food is domesticated, not wild. If we had to choose the greatest single change in human history right up to the present, this would be it. I mean, of course, a change by cultural evolution, as distinct from a biological change like standing erect, or gradually becoming able to use culture and language in the first place. And I do not mean that the change was sudden, or dramatic to those who were changing, as though a light were being switched on. It was dramatic, but long after, in its consequences, because everything else we have achieved flowed out of this as a beginning.

By about 4000 B.C. there were farming villages spread widely in the Near East, all the way from the Faiyum Basin in Egypt (just up the Nile from Cairo and the Pyramids), through Palestine and Syria, over to Iraq and Iran. They were not all the same, by any means, but a summary picture of their culture was something like this. The people lived in houses, of mud brick or mud and brush walls. They grew wheat and barley; they cut the grain with straight sickles made by setting flint blades in a row in a piece of wood or bone; they stored it (in some places) in granaries or pits lined with basketry; and they ground it for bread on rotary hand mills of stone, or in some other kind of grindstone or mortar. They raised cattle, sheep, goats and pigs (and dogs, although remember that a dog is a Mesolithic contraption used for hunting, and not a barnyard animal). But they also hunted wild animals, and took birds and fish, especially in the Faiyum, to fill out their diets. They made bowls and jars of pottery. And they wove linen cloth out of flax.

This is a culture which, emphatically, you would not try to carry around on your head, even forgetting the houses and granaries. Its

origins have not been pinpointed, but they must have been in this same part of the world, the Near East. There seem to have been Mesolithic hunters in the area down to nearly 6000 B.C., according to radiocarbon dates. And one of the earliest villages of farmers yet discovered must have been founded by 5000 B.C. or earlier; this was already a full-fledged village, so that the formative period must have been some time prior to this. In fact, during such a formative period, it is easy to suppose that farmers might leave their village, which we recognize as "Neolithic," and go off on a hunting expedition during which they left remains in a cave which we would dig up and label "Mesolithic."

This early village, called Jarmo, is in the hill country of Iraq above the Tigris-Euphrates Valley. It was made up of simple houses of packed mud walls, and lasted long enough so that eight levels could be made out by the excavators. Grains of wheat and barley were found, along with the household tools for making flour, especially hand mills. And there were bones of cattle, sheep, pigs and dogs.

Now it might be hard to prove just what was the state of domestication of these animals, but here at any rate was the basic domestic livestock in a group; and all wild animal bones—i.e., those which were clearly products of the hunt—amounted to only five per cent of the total. One feature of the houses was burning basins of clay (hearths?), but aside from the remains of these there were no signs of pottery until the highest levels, at the end of the settlement, when some fragments of poor-grade stuff appear. And there were no signs of weaving at all. So here was a group of very early farmers, lacking even the two typical arts of "Neolithic" peoples, pottery and weaving, but with the domesticated grains and animals well in hand.

Something very similar existed in ancient Jericho, in Palestine. Here the oldest levels are probably as old as Jarmo, and may prove to be directly descended from the Mesolithic inhabitants of the region. Yet this very early Jericho had already assumed the form of a true town. Before they were making any pottery, the people had built a town wall of rough stone. And the wall still stands, not thrown down by the trumpets and the Lord; it has been uncovered well beneath the remains of the later Jericho that Joshua fit the battle of.

None of this tells us how the business of domestication came about, and here we have to fall back on a little imagination. But let it be the right kind of imagination, and not one that sees a Mesolithic genius waking up in a hut, exclaiming, "Why didn't I think of that

before?" and smartly laying out a garden and planting it full of good things. On the contrary, rapidly though it happened by Paleolithic standards, the deliberate sowing of grain must have come about by accidental steps, at the hands of gatherers.

There is impressive proof that the Mesolithic hunters had come to know and eat every possible kind of natural food, and in this part of the world they surely made use of edible seeds, as in all other parts. Many such people must have anticipated the ripening of wild crops, and perhaps come early to places where they grew, possibly even to pull up weeds or chase birds away. Here in the Near East, in fact, the Natufian people of Palestine seem to have had a very late Mesolithic culture. Yet they had sickles, which is thought to show that they harvested wild grasses and grains on an important scale. Realize also that these cereals, wheat, barley, the millets (grasslike grains including sorghum, very ancient in use), will keep well if they are stored in a proper cache, and you have something which emphasizes the importance of that crop and exerts a steady pull back to the place where it grows well, or where an otherwise wandering group keeps its stores of the grain. And suppose that little by little the people find other ways of helping the crop, and camp near it, or carry ripe grain home to one of their main camps, and accidentally spill it around so that it grows there. Then the final purposeful growing of this kind of food is probably inevitable. Now the whole process might be very slow, or too difficult entirely, for many wild vegetable types, and it is probable that the particular qualities of these grains, like their yearly growth (as opposed to a treeborne fruit), their high food value, and above all their storability, would have helped the incipient farmers along in their unconscious process of domestication.

You might think that it would be possible to find the home of all this by finding the natural home of the grains themselves. Unfortunately, the grains grow wild in too many parts of the Near East and northern or eastern Africa to make this possible. And the same thing applies to the animals. This last is especially true, because, once the idea of domesticating them had been clearly established and herds had been introduced into new territories, then some of the local wild forms in these new territories may have been brought under domestication, as a way of enlarging the flocks. This seems to have happened with cattle and pigs in Europe, for example. That would tend to make it look as though the original domestication had taken place all over creation, instead of in one principal place. The chances are strong,

however, that cattle domestication, like that of wheat and barley and other early plants like flax, happened in the Near East.

It is actually surprising that the main animals—cattle, sheep, goats and pigs—all show up together in the lowest archaeological levels of the oldest village, Jarmo. This is the kind of thing that suggests Neolithic beginnings must have gone back well before Jarmo's founding in about 5000 B.C., and perhaps before 6000 B.C. But in any event it is likely that the grains were domesticated before the animals.

For the essence of village farming life is building a village and farming; that is, staying in one place. And it is plants that stay in one place, and so ask the people to do the same, while the animals may wander. If the people are wandering, and living by hunting, they cannot afford the time to care for livestock. Sometimes hunters bring live animals to camp as a way of having the next day's food at hand. But these animals never survive more than a day or so. And a hunter's real reaction to a food animal is to shoot it; this was the Bushman's approach to Hottentot or Dutch cattle, and the Sioux Indians did the same thing when the Great White Father was trying to make them settle down and gave them some cows.

But domesticating cattle is not simply stockading them, or even taming them; it means rather causing them to breed successfully while they are dependent on human beings. And this means living on something else while waiting for the animals to reproduce and grow and give milk. Now if you are a hunter, not a farmer, it would seem preposterous to be hunting rabbits or gazelles if you have oxen and sheep at hand, all ready to be killed. Of course we do not know what actually happened in 6000 B.C., and there may have been special circumstances. And also there are the reindeer nomads of Siberia, who give the impression that they are in the very act of bringing the reindeer to heel; but the circumstances are peculiar. On the face of it, it would seem that the domestication of wild cattle would be slow enough and hard enough to suggest strongly that it was done by home-steaders, not hunters. . . .

This brings us . . . to the meaning of the so-called Neolithic revolution. If you generalize, and take the typical effects on culture of hunting life on the one hand and of farming life on the other, you can see that something stupendous took place. . . . it was a breaking of one of nature's bonds, the freeing of man from the limits of the natural supply of food.



... simple hunter-gatherers . . . have a few crude ideas about conservation and some, like the Australians and the Magdalenians, exerted themselves in pious rites to make the game more plentiful. But that is wishful thinking; nature is in control, not they. Nature goads them about from spot to spot like howling monkeys, and there is nothing they can do about it. They cannot stockpile their food: when they have eaten, it is high time to start thinking about the next meal. Around any camp there are only so many wild animals and so many edible plants, because of the balance of nature. When these have been hunted or picked beyond a given point, the supply becomes too short and cannot recover, perhaps, for that season. What do the people in the camp do? They pick up and move on, to a place where the game is untouched. So this band must have enough territory to keep rebuilding the supply, it must preserve the supply against poachers, and it must move, move, move.

What about the numbers of people? Since they are actually part of the balance of nature themselves, they will be limited to a number which their territory can support in its worst (not its best) years. So the whole human population must be relatively sparse and spread out.

And the size of the band? Actually the simplest family can carry on this kind of a life, the man to hunt and the woman to collect vegetables, insects, water and firewood and to tend to odd jobs. But this leaves them with no help if they have need of it, while larger groups may not only protect themselves better but hunt more effectively, whether by co-operating in a rabbit drive or by multiplying the chances of finding and killing a large animal on which all can feed. However, the size of the band soon reaches a point at which it presses too hard on the food supply. There will simply not be enough food within their radius of action around the camp, or the band itself will not be able to move fast enough and far enough to tap the resources it needs. Only once in a while can bands come together in tribal meetings, and then perhaps when a natural crop—a cactus pear or a kind of grub—comes into season, and for a while creates plenty for everybody. The rest of the time the bands must keep their distance, and the number of each will be something like fifty souls, more or less.

These laws of nature have teeth in them: many such peoples accept the necessity of killing some of their infants at birth because the mother already has all the young children she can cope with on the march; and most of them ruthlessly abandon the sick or the help-

lessly old to freeze or starve. If, rarely, they put forth efforts on the aged one's behalf, these efforts are visibly strenuous. Such action is not subhuman callousness. Even though they may appear to take it calmly, the people have no choice at all in what they do, or even the face they put upon it.

We see, in fact, human beings like ourselves trapped, without knowing it, in a life which prevents them from having higher material inventions and social combinations. Small nomadic bands can hardly become civilized if they cannot even set up substantial households. They must find some escape from nomadism first, and from isolation and the limits of small numbers. They must find some escape from the treadmill of food-getting, which has them almost always either hunting or getting ready to hunt, and so keeps them from having any specialization of their energies, and makes the only division of labor that between the animal-hunting man and the plant-hunting woman. This escape was found with domestication, when the ordinary balance of nature was broken and food was made to grow not by nature but by man. Camps changed to villages, and dozens of people to hundreds.

But the millennium did not arrive with a rush. This was the basic change, ideally, but it was gradual, and there has always been a lot of overlapping. The Siriono Indians, nomadic hunters of eastern Bolivia, are normally so hungry that their conversation is largely about food, or squabbling over food, or begging one another for food (they are perhaps the least honorable of the hunters, and will eat in the middle of the night to avoid sharing). And yet they plant small plots of corn and other vegetables around the house or at some place near which they expect to be hunting; still the corn patch fails to rescue them from their hard lot. Many Neolithic peoples hunt and fish avidly and, as we shall soon see, the more primitive ones cannot even remain long in one place because of the inefficiency of their methods of farming. Even in archaeology we can see the gradual nature of the development.