

Changes in Human Society Caused by the Way of Living of the Paleolithic

Professor Peter Wilson's Latest Research Endeavors

Today, I want to talk about the work I've been doing these last years, which is different from the job I did in Providence. It's an archeological research about the important changes and developments related to notions of architecture that prevailed in the late Paleolithic age and what they can tell us about the development of mankind.

The Paleolithic is the period of time between 2 million years and 10.000 years ago. The next period is the Mesolithic, which is the time of transition to the Neolithic. The dates of the Neolithic change according to the sites but it could be said that it ranges between 9.000 and 6.000 years ago.

In 1934, Gordon Childe, a great famous archeologist, presented the theory about the Origins of Agriculture, which with a few slight modifications has been accepted until today. The title of the book was *New Light on the Most Ancient East* and there he suggested that modern society was founded on agriculture revolutions. This means that the Neolithic began with the domestication of plants and animals and from this point, there were fundamental changes to the origin of big civilizations.

The site of agricultural transformations is the present area of Libya, Israel, Egypt, Syria, Iran and Iraq. The earliest domesticated cereal was bran, thirteen thousand years before present. Sheep, goats and cows were domesticated approximately one or two thousand years later.

One of Gordon Childe's main arguments is that civilization started with the domestication of plants and animals because people were able to produce a surplus of crops to feed people who were not working in the fields or watching the cattle.

I have no objection with that part of the argument, but I have noticed that other archeologists, followers of Childe, who work in this area have not remarked or made any comment about the earliest human building in Abu Hureyra, dating back to about thirteen thousand five hundred years ago, five hundred years before the earliest rye crop. I have wondered why they

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did not consider registers of early architecture that had been duly registered.

Previous to this time, archeologists had found remains of huts in a site called *Ohallow 3* in the North of Israel, which date back eighteen thousand years ago. In that period people were hunters and harvesters and this site was a temporary dwelling, but environmental conditions allowed its preservation.

However, the first hut or house which is built with stone, mud and wooden posts is the one of the Abu Hureyra. It is what is called an underground house where the earth has been moved away and it is lined with stone. Archeologists have found remains of posts which probably were used to hold up a roof made of branches.

The next oldest house or permanent dwelling has been found in a site near Mureybit from about twelve thousand years before present time. It is made of stone, it is circular, it has a dome roof and what is most interesting is that inside it is divided by internal walls. There, the archeologists found remains of a quilt, under which there were elements made of stone such as layers of stone probably used for sleeping, heath and burial places. What is important in these two sites is that the burial was inside the house and it's the first time that burials have been found inside a dwelling.

In the Paleolithic, there were a few shallow burial places scattered over the ground. Most of these occurred in settlements, the most famous of which is Jericho. The importance about these settlements is that all of them have stone walls and the houses were clustered inside. In Jericho the walls were often ten meters high and eight meters thick. By the way, in Jericho was the famous tower and there are two theories about it, one is that it was defensive and the other is that it has something to do with irrigation.

I have explained all this is because it is supposed that with agriculture, people's ideas change. It's accepted that with the control of the plants and animals by human beings, notions of geometry, math, architecture and others begin to develop.

However, in order to build any of these three buildings –the underground house, the dome roof or Jericho's settlement, there is more than digging a hole, sticking up a post, or putting a fence over and piling piles of stones because if there is no notion of calculating, everything can fall apart. In order to make houses such as these, that last a human life time, a new type of thinking had to evolve. We can not forget that, in fact, there are forces of nature that have to be considered, no matter if the dwelling is that of a hunter or a farmer. For example, when building a house, one of the factors that have to be taken into account is that there has to be a gap, which is the door, otherwise, you can't go in and out. When you build something like an archway, which would be a door, the weight of the roof and the force of gravity have to be taken into account.

In fact, the first doorways built in stone buildings, that is, the holes in a wall, had to be built in such a way that the flow of weight was distributed. This is how the first and most common form of archway was created, and it has been found all over the early civilized world. In fact, no other form of archway was found in Southeast Asia, no other than a post, and it was not until about two thousand five hundred years before Christ that the Egyptians discovered the cube which allows a wider area, since the horizontal stones take their own weight and distribute it down the pillars.

The next thing that has to be taken into account when building a permanent house in such a way that it doesn't collapse, is that the house can endure external forces like wind, rain or gravity and anything else that can cause such forces; walls and roof have to combat these pressures. At the same, there are internal forces produced by furniture and people moving in and out, which have to be compensated so as to avoid the house from collapsing by the lintel of the door; this requires certain techniques.

Another example of the invisible forces that press a building is what is called shear. When one person wants to build a house, he/she has to clear the area, that is, he/she has to remove bush, wood and other things so as to have a flat surface where to build. Once the field is clean, the construction starts and the columns have to be leaned at an angle of shear so as to compensate any movements of the Earth, otherwise the house collapses.

So, by trial and error, people living in these houses some two or five thousand years ago developed a whole set of new ideas of what we call *Geometry*, which in Greek means measuring the Earth. That doesn't mean that the word as such was used in the Palaeolithic, but that in one way or another they had to have some ideas of the elements of geometry. This is how a new way of thinking was being developed.

As society experimented with building over a period of five hundred and two thousand years before today, they also experimented with abstract and complex concepts. For example, when we talked about Obeah, we said that although we don't see it, when a person falls ill or has an accident, we think everything is because of Obeah. Maybe the same thing happened with early architecture. People learned of these abstract concepts when the buildings fell down. It's happening still today of course. I watched it happen in San Andres when things didn't work out well and sometimes the houses collapsed.

Now we come to the question of the cultivation of plants and the domestication of animals. I want to say that a dwelling is not a simple place of shelter, and whenever there is a new development, no matter how untimely, like agriculture revolution, before that, there was a technology. In other words, tools are necessary to produce something new that hadn't been produced before. I want to suggest that the technology acquired in the building of human houses and settlements was the one used to make agriculture and the domestication of animals possible.

The great problem we still have with agriculture today, for example, when governments have to decide about planting genetically modified crops, is simply a new step into taking control over plants. The problem is to keep them separated from conventional and wild seeds, just as it happens with animals: you have to separate those whose genetics has been modified with a purpose from those that belong to the wild.

The fundamental technique for doing this separation is a *wall*. Let's think about how to keep the domesticated cattle separated from the wild cattle, especially at night. It could be a simple arrangement of four walls with a door or a gate, but instead of being made of stone, it could be made of wood or tree branches.

Now, I want to explain this with some examples taken from contemporary studies of tribal people, who have reproduced the way of life of the Paleolithic. In the Trobriand Islands, for example, crops are surrounded by hedge. Inside is the yam, which is their main crop. Lines of creeper are set

across the crop, building magic corners where practice is done against spirits that might harm the crop. The next example is of rice fields I have taken from people with whom I lived in Madagascar. There, people encircle the rice with water lines which make a separation between the wild and the domesticated rice, and sometimes they build low walls around the water lines for protecting the rice. The way Ipugaos grow their crop in the Philippines is a great example too. They make terraces where rice, yam, sweet peas and other crops are grown; these terraces form slopes that act like walls.

But let us not forget what all this is about. What I want to suggest here is that the main technique for domesticating plants has been taken from architecture. And this is why I think we find human people houses before we find domesticated crops and animals.

I have examined all those civilizations from China to South America where the domestication of crops was indigenous, that is not introduced by a certain government. A similar time gap seems to occur between the time houses appeared, and the growing of plants and domesticated animals, everywhere except in China. There, the gap is just from one to three hundred years.

Let us see what happened with architecture. When a house fell down, for example, people probably wondered "why has my house fallen down?" One answer could be "well, I made a bad building"; another answer could be "well there are mysterious forces like spirits, which are knocking my house over". This would be something different from the forces of spirits that surround forest or mountains where hunters and harvesters live. So, what I am suggesting is that the beginning of thinking about, on the one hand geometry or engineering, and on the other hand religious forces, has its location in architecture.

Another feature which is introduced with architecture is orientation and that takes place around the door. In one way or another, the house's face is there where the door is placed, be it front, side or back. There is where the building is focused. So, for example in Southeast Asia, houses always face the secret mountains where their ancestral dwelling is. And, in New Zealand, the Maori always try to make their houses facing the sea, because they came from across the sea and this is where their ancestors are.

So, since a house is more than human protection, other type of knowledge starts to be developed around it. After archaeologists found remains of burials inside houses, they found what is called secondary burials. That means, when the corps is taken out of the grave and it is put in a special place. In Cori, for example, there is a big building, larger than any of the houses in the settlement. The topmost of the building looks like one of these post boxes; inside are skulls and underneath is the rest of the body. At the same time, inside the house, they found a skull which has shells for eyes, its nose is remade, lips have some kind of make up and it is mounted in a public post. So, we find that in the early Neolithic there is something going on with respect to houses and death and it is associated with architecture. The most significative thing is that the buildings of the dead begin to be larger than the buildings of the people who are alive. Before that, it was just graves inside the houses and if you think about what happened after then, you have the greatest geometrical buildings in the world with a few dead bodies, the pyramids.

Let's see another aspect in which the house is more than just shelter. One could suggest that houses reproduce human figures, where the back part is the head, some rooms are arms and the front part is the legs. The house and the body become symbols of each other with their parts

coming together as if representing and sustaining a human cosmology that contains both good and bad science, and all spirits.

Now, I want to suggest how a building imposes its rules on people. Just image this building, somebody is walking from the front and if he/she wants to see someone in the administration, he/she has to go immediately to the left; if he/she goes immediately to the right, he/she sees the library and if he/she wants a book that's where he has to go. If he/she wants to see any of the professors or something like that, he/she has to climb the staircases because it is where they are. It's the building that is guiding him/her. And if he/she wants go to a conference he knows that he/she has to go left, into this room.

It's the same in houses. There is one place for cooking, another for eating, another for sleeping, another for entertainment, another for television; sometimes the television is in the same entertainment room, but whatever it is, there is always a distribution of space that imposes rules, the rules of the house.

What I am going to suggest is that in the beginnings of architecture, we can find the beginnings of routine, because the rules of a house don't only apply to space, they also apply to time. People usually sleep at night, eat during the day, watch television in the evening and this establishes a routine. And all this will develop in the Neolithic with huge palaces, temples and very complex routines or rituals.

To finish I want to analyse two Colombian examples for showing you what I want to say. One is the prehispanic roads near Medellín studied by Professor Julia Rave of National University at Medellín, and the other is the figures of San Agustín.

When I saw Julia's pictures, the first thing that called my attention was their fantastic design. They are wonderful architectural and engineering buildings, where a harmonious distribution of weight takes place. The largest stones are at the bottom and the smallest stones at the top, so there is an excellent distribution of the forces that intervene. In these buildings just as in the Neolithic stone building, there is a combination between architecture and engineering which allow the durability of these buildings.

Both in these roads and in San Agustín statues, people marked the landscape with geometry. Although what San Agustín has is monoliths from graveyards, if you look attentively you can see geometric figures such as circles and rectangles on them. The use of geometry, be it to represent animals or spaces is common all over the world, and it most probably has its beginnings in architecture.

Bibliography

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