

## **CONCEPTIONS OF HUMAN INCOMING TO THE NEW WORLD**

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Since the beginning of the XX century, archaeologists and anthropologists have been trying to solve the problem of the first arrival of humans in the Americas. The thing we are sure about is that the first inhabitants were *Homo Sapiens Sapiens* (there is no archaeological evidence that *H. erectus* or *H. heidelbergensis* ever lived in the Americas). The question of when and how humans first entered the "New World" is still a mystery. A number of theories have been proposed. The author of this paper decided to describe the three main theories and suggests the most probable.

There are three leading theories which try to explain the origin of humans in the New World. The first one, the Land Bridge Theory ("the standard view") holds that the first to enter the Americas were Clovis people, the "big-game" hunters. The second view called the Atlantic Crossing suggests that Stone Age mariners journeyed from Europe around the southern fringes of the great ice sheets in the North Atlantic and were genetically connected to the Solutrean people. The last possible entryway is the Pacific Route down the west coast.

### **Land Bridge Theory**

The first theory was constructed over seventy years ago and is known as a standard view of humans coming to the New World. The Land Bridge theory holds that people first migrated from Northern Asia less than 12,000 years ago crossing to North America over a temporary land bridge between Asia and Alaska. The 1,000 kilometer-wide land bridge known as Beringia appeared as a result of the drop in the sea level 125 metres lower than today. About 10,200 years ago, when the glacier finally melted, the sea covered the land bridge.

Thanks to the research led by Brigham-Grette, together with Lloyd Keigwin, a palaeoclimatologist at the Woods Hole Oceanographic Institution in Massachusetts, and Neal Driscoll, a geologist at the Scripps Institution of Oceanography in La Jolla, California, it is known now that a land bridge between modern Siberia and Alaska did appear between 18,000 and 10,200 years ago (Dalton 2003).

During the last ice age, which lasted from 1.87 mln until 10,250 thousand years ago, a large part of the continent was covered by a huge glacier. From about 15,000 to 10,000 years ago the climate grew warm so that the central part of North America was uncovered. This narrow, 1,000-mile-long treeless corridor bounded by the ice sheets could be a possible route for animals and people to explore the southern part of the continent (Dalton 2003, Lewin 2002).

This theory suggested that the first human inhabitants of the New World and ancestors of all the indigenous cultures of North and South America were "big-game" hunters called Clovis people. They were supposed to enter the Americas by following mammoths and other big animals they were hunting. The Clovis culture, (who lived roughly 12,500 to 10,900 years ago) received its name from a town in New Mexico where in 1932 the first artifact was found. Since then, Clovis sites have been identified in Mexico, Central and North America. (Dalton 2003, Lewin 2002, Wstrup 1999, Hadingham 2004).

The Clovis culture is known from so-called Clovis points, which characterize a central groove along both sides of the blade. The typical blade measures 10-13 cm in length by 4 cm in width. The groove was probably used to fasten the point to a wooden shaft. That kind of spear could be a very dangerous weapon. Clovis people also produced "wrenches" and bifaces that could have been used as tools themselves or worked into other types of tools. The stone tools were made of chert and obsidian which were high quality stone (Schwimmer 1998 after Kelly and Todd 1988:237 Pringle 1998).

It is generally accepted that Clovis people hunted mammoth, mastodons and bisons as Clovis points are found mixed in with their remains. There is also a hypothesis suggesting that the Clovis people may have driven the mammoth to extinction via overhunting. The rarity of points and the absence of other artifacts or signs of settlement suggest that they were moving long distances. It was probably because of their dependence on migrations of big mammals that they were dependent on. (Hadingham 2004, Schwimmer 1998).

When the climate began to change and the mega fauna became extinct (about 10 thousand years ago), the Clovis culture was replaced by the Folsom Culture. Folsom people were living in a very different environment from their predecessors and they hunted smaller animals which is reflected in smaller and more delicate points (Lewin 2002).

The Land Bridge Theory is now rejected because of new findings throughout South and North America. Since 1997, sites like Monte Verde, Cactus Hill, Meadowcroft and Topper have been accepted as older than the Clovis Culture which had a great impact on the question of who were Americas first immigrants were (Hadingham 2004, Dillehay 1999).

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The oldest data of human existence in America's			
Monte Verde Chile	12,500 lat BP	Toma Dillehay z University of Kentucky	Ancient encampment: plants and remains of food. Three human footprints, mastodon mat preserved under a layer of waterlogged peat, stone tools
Cactus Hill USA	about 17,000 BP	Josepha McAvoy	Simple stone blades and projectile points associated with a hearth
Meadowcroft USA	1,000-31,000 BP	Jamesa Adovasio, direktor of Mercyhurst Archaeological Institute in Mercyhurst College w Erie	20 000 stone flakes, about milion remains of animals and plants
Topper USA	about 16,000 BP	University of South Carolina archaeologist Albert Goodyear	1,000 waste flakes and 15 microtools (mostly microblades). The excavators also found a pile of 20 chert pebbles plus four small quartz pebbles, possible hammerstones.

In the New World, very little human remains have been found. Dating of those remains suggests they are not older than the Clovis Culture so they cannot be helpful in supporting or rejecting any theory. The most spectacular and significant discoveries are „Kennewick Man” and „Spirit Cave Man”.

**Human remains data:**

“Kennewick Man”	8,410±60 BP 8,130±40 BP 6,940±30 PB 5,750±100 BP	Anthropologist James Chatters with Scott Turner and J. Macmillana from Central Washington University	skeleton
“Spirit Cave Man” and “Wizard’s Beach Man”	9,460-9,270	Georgia S.M. Wheeler from Nevada State Parks Commission	The upper part of the body was mumified, probable hight was about 5 stóp i 2 cale.
“Prince of Wales Island man”	9,200 years old		Little bones have been preserved, age about 45 years
“Louisa”	11,500 years old	Annete Empeaire	Skull of 20 years old woman
“Prince of Wales Island Man”	9,200 years old	Kevin Allred i Timothy Heaton	

**Atlantic Crossing Theory**

The second idea of human migration to the New World suggests that the first colonizers traveled across the North Atlantic between Europe and America around the southern fringes of the great ice sheets. This view was proposed by Dennis Stanford, a Clovis expert at the Smithsonian Institution's Department of Anthropology, and Bruce Bradley, a prehistoric stone tool specialist at Britain's University of Exeter. They suggested that the strong resemblance between Clovis points and weapons from ice age Europe proves the affinity between Clovis and Solutrean people, who lived in southwest France and northern Spain during the coldest spell of the ice age, from around 24,000 to 19,000 years ago. Apart from the absence of a fluted base, the Solutrean laurel leaf strongly resembles the Clovis point and was made using the same, highly skilled flaking technique. But many archaeologists suggest that similarities between Clovis and Solutrean artifacts are coincidental and are the result of convergence (Hadingham 2004, Miller 2001).

Stanford and Bradley, like other scientists started to doubt in land bridge scenario when it appeared, as there are sights that have been dated earlier than Clovis sights. Moreover, Stanforn and Bradly didn't find any similaritis between Clovis points and stone tools produced by ice age Siberian hunters, who were supposed to be their ancestors. Instead of a single leaf-shaped Clovis spearhead, ice age Siberian hunters made projectiles that were bristling with rows of tiny razor-like blades embedded in wooden shafts (Hadingham 2004).

Except for the similarities in tool techniques, there is also other evidence to support this theory. The Cactus Hill site, which is on the East Coast, explored by Joseph McAvoy and his teem, have produced simple stone blades and projectile points associated with a hearth, radiocarbon dated to some 17,000 to 19,000 years ago. This discovery dealt with the problem of the gap between these two cultures which was about 5,000 years between the end of Solutrean culture and the emergence of Clovis. It also must be taken under consideration that the distance between Northern America and Europe was shorter in the ice age than today because of the lower sea level.

Many archaeologists do not believe that people made a 3,000-mile journey about 17,000 years ago when the Atlantic would have been much colder and stormier than today as there is little evidence of seafaring technology in the Solutrean sites in Spain. David Meltzer, an archaeologist at Southern Methodist University noticed the absence of art and personal ornaments from Clovis (Hadingham 2004, Miller 2001).

#### **“Pacifik Coastal Route”**

Because of the archeological evidence from sites such as Meadowcroft and Monte Verde, which are older than Clovis culture, and because the Atlantic Crossing theory is very controversial, scientists needed to propose a new theory that would explain the early dating of those artefacts. The Land Bridge route also could be the way of people's migration, but much later. First American inhabitation had to come another way and much earlier when the ice sheet was covering the north part of the globe. In this situation, the view proposed by archaeologist Knut Fladmark from University of Simon Fraser in Vancouver in late seventies appeared to be helpful. It presumed that early colonizers traveled along the frozen Bering land bridge and down the west coast of the Americas using small skin-covered boats. They arrived at Monte Verde some 14,500 years ago. Since then, the first immigrants have populated the entire west coast of the Americas and their descendants became the Clovis people. (Hadingham 2004, Pringle 1998).

This theory is the most probable and accepted by many archaeologists as a solution to the origin of the earliest Americans. But there is little evidence to support the Coastal Route view. It is because the coastal line that existed in paleocene now is under the water (the sea level has risen about 125 m). But there are some clues that can be helpful. On Prince of Wales Island in southeastern Alaska, inside the On Your Knees Cave, paleontologist Timothy Heaton from the University of South Dakota and archaeologist E. James Dixon from the University of Colorado at Boulder recovered an accumulation of animal bones from the last ice age (41,000 years). Therefore it is possible that humans could have easily survived there. They also found human jaw fragments dated to 9,200, tools made of bones (10,300) and obsidian blades (also 9,200), but they are too recent to establish the theory. It is believed that more evidence to support coastal route will be found in the next few years (Dalton 2003).

#### **Other evidence**

Apart from archaeological evidence there has also been linguistic, anthropological and genetic research. Thanks to linguistic studies, which confirm the affinity between Indians and Asians, scientists define the time needed to form so many languages that are common to the Americas, as 20,000 years. Evidence based on linguistic analyses are approximate as many of the languages disappeared during the European colonisation (Wieszyński 2000).

Anthropologists who analysed the phenotype of Native Americans, found that divergence between Indians and Asians are so small that there is no doubt about their common ancestor. But concluding from the oldest human remains found in the New World, the first Americans did not have features typical for the present day Native Americans. Neither Kennewick Man, nor Spirit Cave Man and Wizard's Beach Man had skulls with short and wide faces (like mongoloid types skulls have). It is thought that people living in the Americas at the end of the ice age must have been replaced by the new immigrants whose descendants are living today (Chatters 1996, Hall 1997, Musiał 2003).

Genetic research also gives some new points to the discussion about the first entrance to the Americas. Single-nucleotide polymorphism (SNP) analysis, which indicated three major haplogroups C, Q, and R, accounted for nearly 96% of Native American Y chromosomes, shows that the probable ancestral homeland for the first Americans were the Altai Mountains in Southwest Siberia. Also the time of probable entrance to the Americas is between 10,100 to 17,200 years ago (precluding a very early entry into the Americas). What is more, most haplogroup R lineages present in Native Americans most likely came from their recent admixture with Europeans (Zegura Stephen 2003).

#### **Conclusion**

The question of when and how humans first entered the "New World" is still without an answer. Now it is known that the Land Bridge Theory, which holds that first inhabitants entered the Americas about 11,500 years ago, can not be correct. The Land Bridge route could be the way of people's migration, but later than the original theory suggests. Nowadays the most probable scenario is the Pacific Coastal Route. It explains the existence of people in the remote places in South America and the early dating of many artefacts. Thanks to the genetics, linguistic, anthropological and archaeological research, scientists are closer to the answer than they were 10 years ago. The debate about models of migration to the New World will probably continue for years to come in the anthropological and archeological community.

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