

The Omo Expedition

Old World Archaeologist - Winter 1983

by David A. Detrich

On March 15, 1977, the Ethiopian government issued a set honoring archaeological work in Ethiopia. The 80c value (Scott No. 826) honors the Omo Valley expeditions. In the area of hominid research in East Africa, Olduvai is almost a household word; Koobi Fora and Hadar are well known to the interested layman but Omo is almost unknown.

In the following a description of the Omo Valley will be given. This will be followed by a look at the Omo Expeditions including a discussion of the importance of their finds.

The Omo River flows out of the highlands in southern Ethiopia and empties into Lake Rudolf (Lake Turkana) in northern Kenya. Over the past four million years the climate of this area has changed many times. At times the water level was high making for large lakes. Then it became drier leaving swampy areas and ponds. Delta areas were cut by meandering streams. Then an increase in rainfall would bring swifter streams and larger lakes.

The Omo area is part of the Great Rift Valley as is Olduvai. One way the resulting instability has been expressed is by frequent volcanic explosions. These have deposited, by air and water, large amounts of debris over the valley. On top of each layer of debris the earth building process began again.

This created a datable layer cake in the Omo Valley. There are twelve major widespread volcanic tufts which provide a basis for dating using the potassium-argon method. These dates have been generally confirmed through paleomagnetic methods.

The thickness of the soil and volcanic layers down to base rock is over one kilometer. This makes another geologic factor critical for the value of the Omo site.

This area has serious faulting which in different areas has exposed each of the various layers. In the Omo Valley it has been possible to easily recognize and trace these various exposed layers. Thus, the material in each layer can be sampled and studied without what would have been impossible excavations.

The first known European discovery of the Omo Valley was made in 1888 by Count Samuel Teleki von Szék and Ludwig Ritter von Höjnel who had earlier discovered Lake Rudolf. Two expeditions, one in 1896, another in 1902, began to recover evidence of fossils. The first major geological study and paleontological collections was undertaken by the Mission Scientifique de l'Omo. The work here in early 1933 was largely done and reported by Camille Arambourg.

The Omo Expedition

During World War II the area was occupied by Allied military forces from Kenya. This was part of the route used to supply Ethiopians with military supplies to continue to harass the Italians. Involved in this work was Louis Leakey, who had his own ideas about the possibilities of the Omo Valley. Leakey took advantage of the opportunity and sent his assistant Heselon Mukiri on a three week sampling expedition.

The next major figure on the scene was the American anthropologist Clark Howell of the University of Chicago. In 1959 he made a limited survey of the Valley. Armed with permission from the Ethiopian Embassy in Washington, Howell first went to Nairobi, Kenya, to consult with Louis Leakey. With Leakey's advice and Land Rover, Howell headed for the border.

Here he ran into a bureaucratic roadblock. The officer in charge (in Johanson's description: "obviously on someone's hate list or he would never have been banished to that remote spot") refused to allow Howell to go exploring without permission from Addis Ababa. However, the radio did not work. Howell was trapped. He was in Ethiopia and his visa was good for only one entry. If he returned the few yards to Kenya, he could not re-enter Ethiopia.

After several days, the border officer, a colonel, gave him a written re-entry visa. Howell spent several weeks prospecting in northern Kenya and southern Sudan. Some minor finds were made but Omo remained the magnet.

Howell returned to the border and, while no permission had yet come from the capital, his luck was to improve. The Colonel allowed him to explore daily around the post. His discoveries reported to the Colonel led to conversation aided by the Colonel's liquor and excellent English. The area Howell was allowed to explore expanded until finally he reached the Omo Valley.

While Arambourg had reported the geology to be simple, Howell recognized its true complexity and age value. In addition he made a sample fossil collection. At the border these were left to be sent to Addis Ababa and then to the United States. They were never heard of again.

Howell reported on his conclusions to Louis Leakey but neither for a time was in a position to follow up on the Omo Valley. Leakey's work at Olduvai was just reaching its major finds. Howell was committed to excavate the Homo erectus hunting-butcherer sites of Torralba and Ambrona in Spain. There Howell experimented with using an interdisciplinary approach, that is, experts from many fields beyond archaeology are added to the team. These gather data and analyze the finds to give a complete picture of the site – geology, climate, vegetation, animal life, etc.

The Omo Expedition

Interest in Omo was revived in 1965 when Leakey was in the United States and met with Clark Howell. It was agreed that any expedition should be an international one. In addition to American and Kenyan teams, the French were to be invited to join. In archaeology it is considered 'bad form' to move in on someone else's territory and, as we have seen, the last and major work in the Omo had been done by the French.

In 1966 Emperor Haile Selassie of Ethiopia (Ethiopia, Scott No. 672 among others) made a state visit to Jomo Kenyatta, President of Kenya (Kenya, Scott No. 16 among others). Leakey was invited to a luncheon where he described his finds in Kenya and Tanzania. The Emperor wondered why there were no fossils in his country. Leakey assured him that in the Omo Valley there were. However, it had been impossible to get government permission to organize an expedition.

Haile Selassie assured him that permission would be forthcoming. Leakey visited Addis Ababa, saw the Emperor and two of his ministers, and made the necessary arrangements for permission for a three month expedition starting in June, 1967. Clark was sent the following cable by Leakey: "Omo Okay See you soon."

The expedition was mounted out of Kenya because it was easier to reach the Omo Valley from Nairobi, because in Addis Ababa it was difficult to buy even ordinary commodities and because of the Leakey presence and the facilities of the National Museum (Kenya). However, Louis Leakey was not able to participate in the expedition directly. Instead, he appointed his son Richard to head the Kenyan team.

This was the beginning of one of the many ways in which the Omo Expedition would prove fateful. Richard, like the other Leakey children, had participated in the parents' field activities. But when the time came to go to college, in what was probably a combined eruption of teenage rebellion and Leakey family stubbornness, Richard refused to seek a degree as a paleoanthropologist. Louis then told him to go off on his own.

This suited Richard who turned his love of the outdoors and of tracking to become a safari leader for hunters and photographers. This increased his knowledge of the open country and his skills at organizing expeditions. Richard began to drift back into the family vocation and started to spend part of his time at Leakey excavations at Natron and Baringo. By age 23, Richard was ready to return full time and Louis provided the opportunity with the Omo appointment.

The leader of the French expedition was the now aged Camille Arambourg (he would die at age 84 in November, 1969, still planning his next season). As his second in command he appointed Yves Coppens, a professor of anthropology at the National Museum of Natural History and a deputy director of the Musée de l'homme in Paris. A part of his completed field work had included the discovery of Lake Chad man (Chad Scott No. 133, September 20, 1966).

The Omo Expedition

While Howell described the Omo expedition as the first truly international expedition, it fell somewhat short of this goal. Each team staked out its own area to explore. The French established their large claim based on where Arambourg's earlier work indicated likely finds. The Americans received a smaller area north of the French. Richard Leakey was assigned an area on the other bank of the Omo River.

The French were very superior and protective of their area. Gerry Eck, the American field coordinator, had, as his first assignment each year, the construction of an airstrip. This would require three days work in the exhausting heat (Campbell describes the area as "one of the most desolate places anywhere south of the Sahara and one of the hottest"). It was necessary to clear an area 50 feet wide and a half mile long by hand of bunch grass. As soon as it was completed, the French would start to use the air strip with never a 'thank you'.

After Arambourg's death, relations loosened a little between the French and the Americans. The French even gave part of their area to the American team. However, the American and French zones still remained distinct.

By this time the Kenyan branch of the expedition had been closed down. From the beginning there had been problems. The eastern bank was open to attack by bandits and Richard was saddled with unwanted police as protection. All supplies were brought in on the French-American side of the Omo. The original power boat was not sufficiently strong to fight the strong current and tow a raft of supplies. Thus only small amounts of goods could be ferried at one time. Further, trips were threatened by the Nile crocodiles which at times snapped at the boat. When Louis Leakey visited, he counted 598 crocodiles ranging from seven to twenty feet. To some extent this problem was alleviated when the funding agent for the Kenyan team, the National Geographic Society, provided a more powerful boat.

Richard was also concerned that he was going to be low man on the totem pole. Arambourg, Howell, and Coppens were all duly certified with the appropriate degrees. Any find would go to their credit and not to the high school graduate. Leakeys were not made to play second fiddle.

In addition, the finds made in the Kenyan area were disappointing to Richard. Two skulls were found and dated, using uranium/thorium on oyster shells found just above them, to about 130,000 years B.P. The skulls were quite dissimilar and Louis Leakey claimed that they showed a sapiens line from Homo habilis and an erectus line running from 'George' of Olduvai Bed II. Whatever the importance of these skulls in showing the longevity of certain types, they were too young to prove of major interest to Richard.

The deciding factor was made by the most fateful helicopter trip in paleoanthropology. Richard used the helicopter used jointly by the expedition teams to fly back to Nairobi.

The Omo Expedition

On the way he took a detour over Lake Turkana. What he saw here caused him to enthusiastically leave the Omo Valley and open a new chapter in the discovery of early man. But that is another story.

Work on the French and American sectors would continue until 1974. By that time Ethiopian politics had made large scale field expeditions impractical.

One important aspect of the Omo finds has been the finding of macrofloral and microfloral fossils from at least eight levels of the site. These show changes from bush to wooded grassland and riverine forests with montane forests in the highlands. This vegetational history covers three million years. This sequence was the first established anywhere in the Old World Tropics.

Its importance is increased because extensive fossil vertebrates and early hominids have also been found in many of the levels. Some of the mammalian fossils help to confirm the varying climatic conditions indicated by the vegetation. Some of the animals are associated with open savannas; others are associated with wooded areas.

Many of the fossil animals have been found in great quantity and variety. This has made possible the tracing of the evolution of some of these animals. One such extensive collection is the Suidae (pigs). Basil Cooke has made an extensive study of these. The result of his work has been a chronological table built on the type of pigs. This provides another useful relative dating system which can be (and has been) applied elsewhere in Africa.

Some Hominid fossil finds have been made in nine of the twelve layers. While teeth have been the commonest find, there have been some crania and mandibles.

For a time Arambourg and Coppens engaged in the common practice of establishing their own name for their find (*Paraustralopithecus aethiopicus*). However, this soon gave way to the recognition that the finds fell generally into already established types.

Fossils identified as *Australopithecus africanus* have been dated to a period about 3 to 2.5 million years ago. This type continues to about 1.9 million years ago. Campbell notes that while examples of this hominid have long been known from southern Africa this is the first reliable dating for this being.

Howell suggests that some of the earliest may "represent a distinctive, though related lower taxonomic category". In Lucy, there is a hint that Johanson may feel that these early examples fit into his classification of *Australopithecus afarensis*. (He does not make this assertion directly in the text but on page 283 there is a chart-time line which shows the early finds in the Omo Valley to be *afarensis*.)

The Omo Expedition

Starting about 2.1 million years ago and continuing to about 1 million years ago finds similar to *Australopithecus boisei* have been found. Starting about 1.85 million years ago *Homo habilis* type finds appear. Starting at levels dating to about 1.1 million years ago *Homo erectus* finds have been made. This helps to confirm the evidence from Olduvai as the later time sequence at Omo overlaps the earliest sequence at Olduvai.

It should be noted that Omo has not been noted for the quantity of the hominid finds. One statistic gives 11,781 vertebrate fossils finds by the American team. Only 40 were hominid. Most of these were isolated teeth. The complete skull has not been found. But the bits and pieces are clearly identifiable.

The Ethiopian stamp shows a mandible (rest is a reconstruction) of an *Australopithecus boisei* which was discovered by the American team. This identification has been confirmed by Johanson who has carefully studied all the hominid fossil finds at Omo.

In addition to the variety of experts who helped establish all the above information, the French and American teams also included archaeologists. Their duty was to find and analyze cultural information about the inhabitants.

This was not an easy task. In the first place, surface finds were suspect. In places there is an overlay of more modern soils which contain unrefined artifacts. These could erode out onto the earlier surfaces. Thus, only in situ finds could be trusted.

Second, archaeological sites as old as this are rare and generally have few artifacts. This somewhat resembles trying to find a few needles in a very large haystack.

Nevertheless, at least six sites have been located. Most of these date to about 1.8 to 2.0 million years.

In examining the photographs in the reports, it would seem that the background of the stamp is very similar to Fossil locality 396. In this area the archaeological occurrence FtJi2 was found.

This is one of the three archaeological sites excavated by the American team. (Three other sites have been found in the French zone.) The pictured site is different from the other two American finds. The two excavations appear to be of material deposited in former waterways. Thus there is no evidence that these items came from the same area or even time.

However, FtJi2 appears to have been a work area. So far an excavation of 22 square meters has recovered 224 artifacts in situ. Another 131 have been found and appear to have eroded from this site. The full dimensions of this work area have not been determined.

The Omo Expedition

Two views exist on this site. One is that there are two levels of artifact deposits which are the result of two short-term occupations. The other is that there is only one occupation level but because this area became a backswamp area, alternating swelling and shrinking from wetting and drying caused a vertical dispersion of the artifacts.

In 1936 Louis Leakey had predicted that in the Omo region stone tools similar to those found at Olduvai would be found. These excavations have partially confirmed his prediction. The stone tools at Omo are made by rough chipping such as the tools of Olduvai. However, there are no large choppers such as are common at Olduvai. While some quartz tools have been found at Olduvai, it is not the common material. A milky-veined quartz is the common Omo material and the tools are all small (usually about an inch across). These are confirmed as tools because they show signs of retouching to give a sharp edge and some show signs of use.

The speculation goes as follows: At Omo, the nearest source of quartz or lava was 20 to 30 kilometers away. Consequently, the inhabitants used small quartz pebbles washed down in the nearby streams. Richard Leakey has observed that a comparison of Omo and Olduvai may indicate that part of the design of a stone culture may be the result of the physics of the raw material used.

Another difference is that in Olduvai, bone tools are fairly common but are rare to nonexistent at Omo Sites. This may be because conditions at Omo were not suitable for the preservation of bone. However, these finds may indicate that different hominids may have started using tools at roughly the same time in different places using different materials partially because of availability and partially by choice.

Like most discoveries, Omo's archaeological sites open new questions. At the time of the tool use discussed above, two hominids were present: africanus and boisei. Which one is the tool maker and user?

J. Chavaillon, archaeologist of the French team hypothesizes a five stage chronology in the development of stone industries with the fifth reaching the level of tools found at Olduvai. He places the Omo tools in the fourth stage. But this still leaves the problem of finding evidence of earlier stages. In other words, some observers have seen the Omo tools as the result of a series of developments over a period of time. Are these earlier sites to be found in lower levels at Omo? Or maybe some of the stages will leave no recognizable evidence. Or maybe these steps once started developed rapidly and thus left only a very thin record.

In addition to its other contributions, the Omo expedition served as the practical training ground for Donald Johanson, the discoverer of *Australopithecus afarensis*. By his own admission, Johanson was totally unprepared for field work when he first came to Omo. But making use of Clark Howell's guidance and his own observations, Johanson learned

The Omo Expedition

how to deal with the heat, how to identify fossil bones such as pig or antelope, how to keep a crew satisfied, or in other words, he learned the thousand and one tasks that make an expedition leader. Thus the Omo experience served as a crucial step leading to the Hadar expedition, Lucy and the First Family.

The Omo Expedition is clearly one which deserves wider fame. Its continuing importance will be seen as its chronological tables are applied to other sites and discoveries throughout Africa.

Reprinted through the kind permission of the Old World Archaeological Study Unit