

>NEWS FROM ATAPUERCA IN ENGLISH

A selection of highlights from the previous issue



> ATAPUERCA MASTERMIND WAS SITE DIRECTOR IN THE 1980'S
Disciples pay homage to Emiliano Aguirre, father of Spanish anthropology

"Miscellany in homage to Emiliano Aguirre" presents the latest research in geology, archaeology, palaeontology and palaeoanthropology. Another volume, "Selected works of Emiliano Aguirre", includes articles written between 1957 and 2003 and several unpublished manuscripts.

>Proposed for Honorary Doctorate at Burgos University

>Enrique Baquedano, Director of the Madrid Regional Museum of Archaeology, coordinated this massive work, a reminder of Emiliano Aguirre's pioneering work in every scientific area that he has worked in.

Miscellany in Homage to Emiliano Aguirre is published in four volumes. This collection of articles covers the latest geological, archaeological, palaeontological and palaeoanthropological research. At the same time, Aguirre's major texts are published in another book entitled Selected Works of Emiliano Aguirre, spanning the period between 1957 and 2003, with also includes several unpublished reports and manuscripts in press.

The 1400 page collection was presented last October to the scientific community at the Altamira Caves at a conference on Cantabrian Neanderthals attended by Enrique Baquedano, José Antonio Lasheras, director of Altamira and Emiliano Aguirre himself, who declared that, "In these tributes I do feel that I have been lucky: I am always reminded of people like Sautuola, the discoverer of Altamira, who never received any acknowledgment for their work".

> THE MOST IMPORTANT UPDATE EVER PUBLISHED on geology, biology and the Quaternary. The 'blame' for breaking so many records obviously rests with Emiliano Aguirre, who has trained teams of experts everywhere he has worked - at institutions (Zaragoza and Complutense Universities, National Museum of Natural Science, Crusafont Institute) and sites (Layna, Torralba, Guadix-Baza, Atapuerca, etc.). Aguirre thoroughly deserves his recognition as one of the leading patrons of young scientists in Spain. His familiarity with the international scientific community led him to never doubt the presence of extremely valuable people in the country, if only they could shake off the nation's proverbial inferiority complex. After devoting his life to palaeontology, palaeoanthropology, geology, stratigraphy, archaeology and prehistory, archiving and museum sciences, theology and philosophy, Emiliano Aguirre is one of the most prominent reference points for understanding Spanish science in the second half of the 20th century. His faith and liberal beliefs made him a direct witness to the birth of Liberation Theology and the Shining Path movement in South America. He has had no qualms about conjugating science and evolution, and he has always proclaimed that there is no aspect of life with a single path leading to truth. With this philosophy of life as a background, one can understand his devotion to so many research fields and his delight at breaking down the barriers between different disciplines and promoting young scientists.

Emiliano Aguirre has Degrees in Science and Theology, a Docto-

rate in Science, he has been a University Professor, the Director of a National Museum, the Spanish representative at hundreds of conferences and international committees, he has an Honorary Doctorate in his native Galicia, a Gold Medal for his work, the prestigious Prince of Asturias Prize, the Castilla y León Prize, he is the Adopted Son of a town, Ibeas de Juarros... indeed, there is little that Emiliano Aguirre has not achieved, and his merits have fortunately been acknowledged in his own lifetime.

Atapuerca and Burgos owe much to Aguirre. For a number of years now he has been proposed as an Honorary Doctor at the University of Burgos. We earnestly hope that the city is also able to do him justice.

THE SIXTH EXTINCTION
>Jesus Rodríguez Mendez
National Museum of Natural Science. Palaeobiology Department. Member of ARG.

>If we were to travel back hundreds of thousands of years in time to the Atapuerca Hills area, we would be surprised to discover a strange, exotic range of fauna in a landscape which otherwise would seem quite familiar. We would see rhinos, elephants, giant deer and even hippos grazing or browsing in the Pico and Arlanzón River valleys, hunted by big carnivores like hyenas, lions, jaguars and sabre-tooth tigers.

>These animals, which conjure up images of Africa and wide tropical savannahs, were the prey and predators of Homo antecessor and, hundreds of thousands of years later, Homo heidelbergensis. Yet the overall landscape would seem quite familiar to us - nothing like the savannah with its acacias that we see in TV documentaries. We would have no trouble identifying the evergreen and deciduous oaks scattered across the open woodlands or dehesas, the maple trees and elms along the riverside forests. In other periods, when the climate was colder, the predominant trees in the landscape were common and incense junipers, but the big animals were always there.

>This landscape was not, however, always populated by the same species. Homo antecessor would have seen extinct species of jaguars and sabre-tooth tigers attacking horses, rhinos and giant deer. By the time Homo heidelbergensis began to live in the Atapuerca Hills, all these species had disappeared and had been replaced by others with similar habits. Other species of rhinos, horses and giant deer were hunted by these hominids, who had to compete for them against lions and dholes, a wolf-like canid, as well as other predators. Some species were present in Atapuerca throughout the whole of this period and cohabited the landscape with hominids and others that can still be found on the Iberian Peninsula including wild boars, fallow deer and red deer.

>For the hominids who lived in Atapuerca hundreds of thousands of years ago, it was quite normal to come across a bison or a rhino wallowing in the Arlanzón River, or to approach the river cautiously in case a lion or another big cat should spring out. Nor should we be surprised, in fact, to find these big mammals populating the Iberian Peninsula. All of these species belonged to groups that had been living in Europe for a million years. Several species of Proboscidea, rhinos, horses, big felines and other super-predators, classified in various genii lived on the Iberian Peninsula and the rest of Europe for several million years. So why don't they exist here any more? Is it because the climate was totally different back then, and bore a much closer resemblance to present day Africa? That is partly true. Many of the species that lived in Europe millions of years ago were adapted to tropical or subtropical climates,



but not the ones which inhabited Pleistocene Atapuerca.

>These groups of big mammals became extinct on our continent a relatively short time ago - between 11,000 and 30,000 years BP. Something similar happened on other continents. Australia lost all of its native mammal species that weighed more than 100 kg. and 40% of those that weighed between 10 and 100 kg. 50,000 years ago, while in North America, 70% of the species weighing more than 40 kg became extinct 10,000-12,000 years ago. This wave of extinctions, known as the sixth great extinction in the history of the Earth, could not have been caused, solely at least, by the global climate change that we know happened in other cases, simply because they were not synchronic events.

>The extinction of the big mammals on different continents coincides remarkably with the arrival of a new super-predator that moved out of Africa roughly 100,000 years ago and quickly colonized the whole planet. This predator was so efficient that it could displace any other, and its population expanded constantly, overexploiting its resources until they ran out and triggering huge ecological



and were associated with fire and typical tools of our own species. They have been called Homo floresiensis, and we asked some of Atapuerca's leading palaeo-anthropologists to discuss the find.

>For José María Bermúdez de Castro, the news is "fascinating". "This is a typical case of pygmification caused by prolonged isolation", he says, undergone by a species that was closer to Homo georgicus than to H. erectus, with the surprising particularity that the joint reduction of brain and body size does not correspond to our species. "In Homo sapiens, our brain has grown much

covery is a "lesson in humility" for humans and a unexceptional situation: "Under isolated conditions, our evolution obeys the same laws as the rest of the animals", with proven examples of pygmy and giant growth in hippos and elephants, to name just a few, and even exaggerated brain reduction like the Cave goat (Myotragus) on the Balearic Islands. "Cephalisation is not a one-way process", he concludes.

>Antonio Rosas regards it as an upheaval that paves the way for new lines of research including, "The reactivation of research into the evolution of the brain and its relationship with cultural capacities, the study of the adaptability of hominids' bodies under various physical conditions, the detailed exploration of the patterns of interaction and coexistence between various human species, etc, etc. Ultimately, this is a powerful reason for focusing our attention on in Asia".

>Immediately after reading the report, Juan Luis Arsuaga agreed with Lorenzo that there is no unstoppable rule in human evolution towards an ever-larger brain, which is also subject to the laws of nature. The association with evolved stone tools does not imply authorship because they could have been made by their contemporary Homo sapiens. Arsuaga also expressed his astonishment at the hominid's ability to cross the sea between Flores and the rest of Indonesia's islands.

>Ignacio Martínez comments that H. floresiensis seems to have been almost a living fossil, given its late survival on this Indonesian island with similar features to the hominids that lived almost two million years before.

He also recommends caution in discussion of "intentional sailing", and infers intellectual ability in these "little people": "If the hypothesis of an association between this type of advanced industry and H. floresiensis were to be consolidated with new discoveries, we would have to rethink one of the issues that has seemed to be clearest in studies of human evolution on the basis of known evidence: that there is a correlation between increasing brain size and increasingly complex behaviour". Whatever the case, Ignacio Martínez draws a link between the Flores news and Atapuerca through the fact that many experts have admitted that these hominids had advanced technological and sailing skills, which leads him to suggest that "People who are prepared to accept, on face value, that a 380 cc brain could develop such a sophisticated stone industry, will have no qualms about accepting that a brain measuring more than 1000 cc could think about stacking corpses in a dark pit under a beautiful range of hills near Burgos".

FAREWELL TO TWO PIONEERS

>Francisco Jordá arrived at Atapuerca in 1964 in the company of the Burgos Museum Director, Basilio Osaba. They had discovered fossils and stone remnants in the Railway Cutting, and Jordá had just been appointed Professor in Salamanca. Together with Villalta, he decided that the Gallery-Bear Claw Cavity site was half a million years old and had been occupied by hominids with an Acheulean stone tool repertoire from the Lower Palaeolithic.

>We are also sad to announce the death of Victoria Cabrera, Prehistory Professor at the UNED University. She came to Atapuerca in 1981, and dug here with the senior members of the team. Vicky had completed her Ph.D. thesis on El Castillo Cave (Cantabria) shortly beforehand, and it was precisely the supervision of excavations at this important site that defined her research focus.

>RESEARCH CENTRE TO BE WORLD REFERENCE POINT ON HUMAN EVOLUTION. The construction of the National Human Evolution Research Centre (CENIEH) has taken a further step forward with the constitution of the Management Committee for the building's construction, equipping and usage. The act was presided by the Spanish Education Minister, María Jesús San Segundo, and Regional Government Education Minister, Francisco Javier Álvarez Guisasaola. José María Bermúdez de Castro, Atapuerca co-director, was then appointed as head of the centre, while Enrique Plaza was appointed Chairman of the Executive Committee.

The Geology Department is expected to be the first to start work immediately, in which Madrid's Complutense University Professor Alfredo Pérez González will play an active role. It will be followed by the Palaeobiology, Palaeoecology and Prehistory Departments.

> "THE BONE HUNTERS" IN SCIENCE WEEK. The 4th Science Week, sponsored by the Spanish Education and Culture Ministry and organised by Burgos University, was a magnificent showcase to draw the attention of all local citizens to the importance and influence of science in their everyday lives and awaken their scientific curiosity. One of the most important discussions and workshops was one on The Bone Hunters, organised by the Burgos University Palaeontology Area.

>IMPROVEMENTS TO THE ARCHAEOLOGY WORKSHOP in Ibeas de Juarros and the Reception area at the sites. The "Emiliano Aguirre" Archaeology Workshop, under renovation for the last 14 months, has just reopened its doors with a substantial improvement in conditions (heating and amenities have been installed) and a larger exhibition space. It has also been decided to improve the visitor reception area at the entrance to the Railway Cutting, and for the occasion, nothing better than the construction of a Reception Hall that will also serve as a guard post.

>RECEPTION CENTRE IN ATAPUERCA. The village of Atapuerca will soon have a Visitor Reception Centre like its neighbouring town, Ibeas de Juarros. The Centre will include an exhibit on human presence in the district from the arrival of Homo antecessor down to the Middle Ages.

>IBEAS NAMES EMILIANO AGUIRRE "ADOPTED NATIVE SON" Palaeontologist Emiliano Aguirre, responsible for the first work undertaken in the Atapuerca Hills, was named as the "adopted son" of Ibeas de Juarros village, at the foot of the archaeological sites.

>KARST STUDY CENTRE IN SANTELICES THE MERINDAD DE VALDEPORNES District marked European Green Path Day with the announcement of its official backing for the work being done by the Merindades Caving Group for the last 12 years, in which time it has discovered 50 cavities including El Paño Cave in Puentedey. Its headquarters are the Santelices Railway Station, and it is pushing to open a Karst Study Centre that will also serve as an Interpretation Centre for the planned green path between Santelices and La Engaña tunnel.

MUSICAL EVOLUTION > The EnClave de Música Cultural Association has organized a musical gathering to promote the Museum of Human Evolution and the future uses of the new auditorium. The initiative featured several ensembles including Daau 'Die Anarchistische Abendunterhaltung' [Anarchists' Night Entertainment] from Belgium, Kroke (Polonia), Banda Inaudita (Spain) and Danças Ocultas (Portugal).



changes in much of the planet. That species was Homo sapiens.

> ATAPUERCA PALAEOANTHROPOLOGISTS DISCUSS THE FLORES PYGMY Homo floresiensis, a new species

>The British journal Nature published the astonishing discovery in Indonesia of several 18,000 year-old skeletons, one a near-complete female, belonging to people who were a metre tall, had tiny brains

more that our body, which implies that in H. floresiensis there was an evolutionary regression," - a joint reduction of both organs.

>Carlos Lorenzo feels overwhelmed by the discovery although, "It only adds an extinct branch to the leafy hominid tree". Lorenzo can also discern origins in the Flores woman that are close to the Georgian anthropological remains, and stresses that the dis-