

NEWS FROM ATAPUERCA IN ENGLISH



> XXVIII EXCAVATION SEASON / 2005

>New items are a great discovery: more information about communication ability in *Homo heidelbergensis*.

>New *Homo antecessor* remains keep appearing in Gran Dolina: this year two teeth, a calcaneus and a collarbone

>The hammer and stirrup identified in the Bones Pit are tiny bones from the middle ear. The size of the stirrup (smaller than a fly) are an indication of the thoroughness of the archaeological works in the Atapuerca Hills. Previously there were only four stirrups (two paranthrops, one Neanderthal and Skull 5 from the same site. These *H. heidelbergensis* remains dating back 400,000 years are a great discovery for international palaeontology due to their extreme rarity. The survival of such small bones is extremely difficult, and they are easily destroyed in the archaeological record. They may also be an important point for research into the hearing and speech ability of the pre-Neanderthals of Atapuerca and Europe. According to Juan Luis Arsuaga, hearing is related to the language source point, which is what we are researching. We are trying to approach it from the perspective of the speech apparatus, although it is composed of soft tissue that does not fossilize. That is why we are concentrating on hearing, which in every species is attuned to the frequency range used by individuals to communicate. In this case, the middle ear bones belong to a child. The scientists are confident that this discovery will yield new information on the sounds of our forebears. Right now they are focusing on an analysis of hearing to learn how hominids communicated because "hearing is directly related to the voice".

The Bones Pit discoveries are by no means limited to the ear: this digging season has yielded twenty-odd human bones (phalanges, tarsus bones, teeth and pieces of skull). This is important because it confirms the potential of the sediment fill in areas like the south wall that are yet to be excavated.

>Gran Dolina has continued to yield new *Homo antecessor* remains on the Aurora stratum, with the discovery of 4 human items: two milk teeth (a canine and an incisor), a calcaneus and a collarbone from a 3-4 year old child. The latter is regarded as an important item due to its extreme rarity in the fossil record. According to Eudald Carbonell, one

A selection of highlights from the previous issue

of the three Atapuerca co-directors, there are no others as complex as this one. These bones, together with the ones that appeared in the previous seasons, indicate that 8 to 10 individuals could be identified on this level, the majority infants and youths. Until last year, the remains found in the 1990's suggested that there would be a maximum of 6 individuals.

In Gran Dolina we have also finished work on Level TD10-1, and in July, 40 scientists worked on the next level. We also finished work on the overhang of Level TD7, where the Matuyama/Brunhes paleomagnetic inversion was identified (780,000 BP), and below which all the *Homo antecessor* remains were discovered. This season we had 135 workers, including students and scientists, at 7 different sites and the riverbank area where the sediment was washed.

THE SITES, ONE BY ONE

>Sima del Elefante (Elephant Pit). The digging season at this site yielded a number of flint tools on Level 9, dating back more than 1.4 million years which, for our scientists, means it is evidence of Europe's oldest human occupation. The aim of this campaign was to reduce the remaining material of the western section on the levels immediately above TEg. Thanks to this work, next year we will be able to extend this site on Level 9. This level includes evidence of human activity in the form of cut marks on herbivore bones and flint tools flint. New palaeomagnetism tests have been conducted to get more accurate datings. The palaeontological discoveries have included additional remains of a giant shrew and a hitherto unknown rodent dating back roughly 1,400,000 years.

>Hundidero (Subsidence).

This open air site, located by the Burgos University prospecting team, has yielded a stratigraphic sequence with seven archaeological levels and a large representation of a set of stone tools from the middle Palaeolithic. The work confirms the hypothesis shaped during prospecting that the open air settlements were extremely important during the Pleistocene, as were the caves. This year



ar the excavation area was expanded from the previous season's campaign by 4m². This enabled us to verify last year's stratigraphic data and confirm the existence of a large amount of Acheulian and Mousterian stone industry material (technological modes 2 and 3). More samples were collected to get absolute datings that confirm the site's antiquity. The work was done by a team of 6 people working right through June.



dents that appeared in the cavity are extremely interesting. They include porcupines and water rats, which suggest a link between this zone and the Gallery complex.

>Mirador (Lookout). After six years of hard work, excavation on the Neolithic levels has concluded, and we have documented the earliest evidence of agriculture and grazing on the Castile tableland through the analysis of 7000 year-old cereal grain remains. We have dug out a level containing large blocks that had collapsed from the cave roof, beneath which is the first evidence of Palaeolithic occupation. The discoveries at Lookout and Main Cave Porch have enabled us to complete the evolutionary chain from the Lower Pleistocene to the Holocene.

>Portalón de Cueva Mayor (Main Cave Porch). This season, our work focused on digging

ded important Neolithic items including polished axes, scrapers and an item dating back to the start of metallurgy.

THE PATHWAY OF EVOLUTION.

>FERNANDO GÓMEZ AGUADO Mayor of Atapuerca

On 15 July, the official opening of the new Atapuerca Town Hall marked the public presentation of a new image that projects our commitment to the modernization of our municipal planning and strategies, a reflection of the determination of the Town Council and the citizens we represent.

>The new image is accompanied by a theme, Camino de la Evolución (Pathway of evolution), which is intended to place special emphasis on the two parts of the UNESCO World Heritage in our municipality: the Camino de Santiago (St. James Way) and the Atapuerca Hills Archaeological Sites. It is also a declaration of the intentions of an entire town, convinced that this is an ongoing journey and that our town must not, nor wants to, miss the train to the future. Atapuerca is in a unique setting, as the Castilla y León Regional Government has acknowledged in its Declaration as a Cultural Space.

>There is no doubt that the discoveries at the Atapuerca Hills sites have brought added benefits to our towns and peoples, and that the relentless work of the research team, for which I must say we will never be grateful enough, together with the companies and institutions like the Atapuerca Foundation in its dissemination work, have brought worldwide fame to the name Atapuerca, a village with scarcely 150 inhabitants. Another value-added

asset is the fact that our town has become fully aware and feels extremely proud of the treasures in our municipality, and is collaborating fully with their conservation and dissemination, which in turn is breathing new social, cultural and economic concerns into the hearts of our citizens and friends.

>All of this is focusing our efforts on ensuring that this wealth of assets will open up a promising horizon for Ata-

puerca and the surrounding towns, and that it will become the driving force for a new economy, stimulating socio-economic development, new jobs and new business activities to stabilise our population, attract new citizens and halt the widely feared trend of depopulation that hangs over all our rural areas.

>The future construction of the Museum of Human Evolution in Burgos and the Visitor Reception Centres in Atapuerca and Ibeas de Juarros must be supplemented with the design of tourist and cultural events, a substantial improvement in the signposting and entrances to our towns, and impeccable management for the design of guided tours, all of which will help to shape a county with sufficient appeal to attract and hold more visitors.

>This focus will only be possible if all the relevant government bodies and social agents adopt the same approach and join forces to provide solid support for the scientific and dissemination work, as well as for the repercussions in the development of our towns. If any of these goals fails, the Atapuerca project will be incomplete.

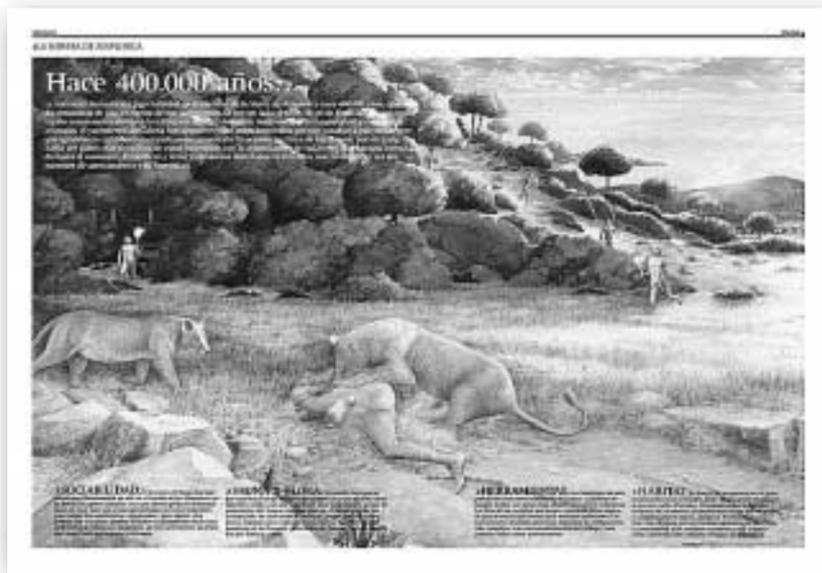
Collaboration with the Archaeology Department of Boston University, USA

With the increasingly alarming news about attitudes and rejections of the theory of human evolution in the United States in ever-larger numbers of places around the country, the Atapuerca Foundation wishes to forge closer links with the most prestigious universities that are training tomorrow's scientists. Beginning with the current academic year, there is a special section covering the results of the research in the Atapuerca Hills in the Ph.D. course at the Boston University Archaeology Department.

Atapuerca Foundation and Ariel Books launch collection on Prehistory and Evolution

The Atapuerca Foundation and Editorial Ariel have embarked on a project to create a line of university manuals that cover the research into Atapuerca generated by Ph.D. theses and other research projects. This initiative aims to ensure that the numerous studies based on Atapuerca have a national and international projection and serve as manuals for future researchers.

The first of these manuals was published in September with the title Hominids: the first occupations of the continents. The series is coordinated by Eudald Carbonell and covers the work by PhDs Xosé Pedro Rodríguez, Robert Sala, Jan Van der Made, Carlos Lorenzo, Marina Mosquera, Manuel Vaquero, Jordi Rosell, Josep Vallverdú, Francesc Burjachs and Policarp Hortolà. The graphics for the book were coordinated by Ignasi Pastó.



>Covacha de los zarpazos (Bear-claw cavity).

This site was dug by a group of 5 people in July. A large collection of Mode 2 (Acheulian) industry was unearthed including hammers and large flint and quartzite flakes. The most frequently appearing animal remains were deer, horse and bear. This year's work achieved its main goal, which was to reach the same level where the *Homo heidelbergensis* remains appeared in 1995. Bones of small ro-

out several metres of material from the sediment-filled pit of the old excavations, which might have been produced by archaeologists at the start of the last century. This has enabled us to document an important Holocene sequence and a large sedimentary package more than 3 metres deep with fertile Upper Pleistocene levels, where large amounts of microfauna and large herbivore remains have appeared. Excavations at this site have yielded