

experimental constraints. It's good for the animals and good for science.

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Conn and Parker are justified in their concerns that the animal rights movement may harm scientific research, but I fear that their arguments may set their cause back even further. The strategies they propose are essentially public relations moves and, while they have their place (as the animal rights movement well knows), they still leave the key philosophical issue unanswered: do animals have rights that preclude their use by us in scientific research?

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Spanish Natural History Museum

The Museo Nacional de Ciencias Naturales (MNCN, Spain) has a serious problem: around 67% of its total floor space (40,000 square meters) is taken up by the Technical School of Industrial Engineering. The MNCN is located in downtown Madrid, close to the Prado gallery. It was founded in 1772 by King Charles III and, for more than a century, was one of the most important museums in the world; in fact, the present Prado museum building was initially designed by Charles III to be used as the Natural History Museum. In 1915, the MNCN was moved, together with the Technical School of Industrial Engineering, to its present location (a palace built in 1887).

The MNCN has one of the most important natural history collections in Spain, with around 6 million biological and geological specimens, including unique samples from scientific Spanish expeditions to Latin America (for example, those of Humboldt, Malaspina, and Heuland), extinct species of unusual shells from the Far East, meteorites that fell 400 years ago, and the first naturalized paleovertebrate in the world. Many important educational and research projects are directed from the museum, including the Atapuerca "Homo Antecessor" project; studies of Iberian fauna; geophysics and volcanic research on Teide Volcano and in Antarctica; and research on global climate change.

The Spanish Research Council (CSIC) is the institution responsible for the scientific and cultural activities of the MNCN. However, its economic and scientific support is severely handicapped by the pres-

ence of the Technical School of Industrial Engineering in the heart of the building. This situation not only causes a lack of space for laboratories to house new modern analytical techniques, but also splits the exhibition halls into two separate areas. Visitors (80% are groups of children) are forced to move from one area to the other, while avoiding traffic and carpark barriers.

The MNCN urgently needs to solve this problem. Now that other Spanish museums (for example, the Prado) are expanding to surrounding buildings, it seems appropriate that both the UNESCO International Committee for Museums and Collections of Natural History and the Spanish authorities monitor and correct this unusual assemblage of two centers on the same premises.

Javier Garcia-Guinea

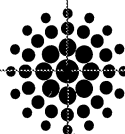
Jesus Martinez-Frias

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Animal Domestication

In her article "The slow birth of agriculture" (Special Section, Archaeology, 20 Nov., p. 1446), Heather Pringle outlines

some recent archaeological developments that have been used to push back the dates for crop and livestock domestication. The article provides an interesting perspective on how demographic approaches can be used to glean new information from existing sites and how these data are changing our views on the early origins of agriculture. The map used to illustrate the article suggests that cattle were domesticated in the Near East, with a putative secondary domestication in North Africa. However, there is a considerable body of archaeological and genetic evidence that supports a separate domestication of humped zebu cattle, most likely by the early Neolithic cultures of the Kachi Plain in present-day Baluchistan (1). Recent surveys of genetic variation in contemporary cattle populations have provided strong evidence for an independent domestication of zebu cattle (2). In addition, based on these same data, there is tentative evidence that African taurine cattle may also have an independent origin (3). Molecular studies in other domesticated species such as pigs (4) and sheep (5) have also produced similar results and suggest that the earliest herders were not confined to the Near East. One should be aware that there is a traditional



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