The period between 2012-2016 was one of remarkable Upper Paleolithic excavations, analyses and publications in the three autonomous regions that constitute the distinctive Cantabrian geographic and prehistoric cultural region: Euskadi, Cantabria and Asturias. Notable sites (among many) that were under study during this period included Aitzbitarte III, Ametzagaina, Mugarduia, Bolinkoba, Arlanpe, along with numerous new cave art discoveries (most spectacularly Altxerri, Abxurra and Amintxe) in the Basque Country; Covalejos, Altamira, El Cuco, La Garma, El Horno (plus re-studies of cave art sanctuaries such as Las Monedas and El Castillo) in Cantabria; and Coimbre, El Cierro, Las Caldas, La Viña (plus major restudies of the art in Tito Bustillo and Peña de Candamo) in Asturias. The period also saw further developments in the study of the (still very limited) Upper Paleolithic record in Galicia, as well as in the regionally highly relevant re-studies by French and Spanish researchers of the Isturitz “super-site”, 18 km northeast of the international border in Pays Basque. Major AMS-C14 re-dating projects using the latest sample ultrafiltration methods have honed in with greater precision and accuracy on the timing of the end of the Middle Paleolithic and onsets of the Châtelperronian and (especially) Aurignacian techno-complexes in the region between c. 45-42 cal kya—presumably relevant to the questions of Homo sapiens neanderthalensis and H. s. sapiens co-existence and (biological and cultural) intercourse and of Neandertal “disappearance” (Maroto et al. 2012; Wood et al. 2014, 2016; Marín-Arroyo et al. n.d.). However, the focus of this brief note is work done at and on the late Upper Paleolithic sequence in El Mirón Cave (Ramales de la Victoria, easternmost Cantabria), where excavation (begun in 1996 under co-direction of the authors) ended in 2013.

The principal developments in El Mirón research were the publication in of a 444-page monograph on the site, its excavation, stratigraphy and post-Paleolithic levels (Straus and González Morales 2012) and the discovery of the burial of a female adult human in 2010, whose excavation was completed in 2011 and 2013, followed by complete monographic publication (Straus and González Morales 2015). Of particular relevance to Upper Paleolithic studies in the first of these monographs is the chapter by the late William Farrand on the “Sedimentology of El Mirón Cave” (pp. 60-94), as well as the chronometric chapter by Straus and González Morales (pp. 95-102). (Subsequent radiocarbon dates have been published by Straus and González Morales [2014c, 2016, 2018a, n.d.] and Straus et al. [2015a]; there are now 92 C14 dates from the site—most from the Upper Paleolithic.) The Red Lady of El Mirón is the first Magdalenian (or Late Upper Paleolithic) human burial to be discovered on the Iberian Peninsula, although scattered, individual human remains are relatively common in Magdalenian sites in both Spain and Portugal. (The only other known Upper Paleolithic burial is the Gravettian one in Lagar Velho, Portugal.) The 2015 monograph (a special issue of the Journal of Archaeological Science, volume 60 [Straus et al. 2015b]), contains chapters on the background of the discovery (Straus and González Morales 2015), the human remains (Carretero et al. 2015), dental microwear (García-González et al. 2015), dental calculus (Power et al. 2015), spatial distribution of the remains (Geiling and Marín-Arroyo 2015), taphonomy of the remains (Marín-Arroyo 2015), pollen (Iriarte et al. 2015), faunal remains from the burial layer (Marín-Arroyo and Geiling 2015), the red ochre of the burial (Seva et al. 2015), stone and bone artifacts from the burial layer and surrounding levels (Fontes et al. 2015), shells and perforated teeth from the burial area (Gutiérrez-
Zugasti and Cuenca-Solana 2015), rock art associated with the burial (González Morales and Straus 2015), and an summary overview (Straus et al. 2015c).

Originally believed to be a secondary burial (Straus et al. 2011a), the Red Lady is now interpreted, after extensive multidisciplinary analyses, as a disturbed primary interment from which the cranium (minus one maxillary incisor) and most major long bones had been removed during re-burial by people after minor scavenging by a carnivore (probably a wolf). Directly dated to 18,700 cal BP, the Red Lady was a robust, 35-40 year-old, c. 160 cm-tall, c. 70 kg individual with no evidence of pathologies, whose cause of death remains unknown. (DNA analysis of dental calculus by C. Warinner [personal communication, 28 November 2017] has so far failed to find evidence of infectious disease.) Although she had a diet mainly composed of terrestrial animals, there is evidence of significant contributions from plants (including mushrooms) and marine organisms, based on stable isotope and dental residue studies. Mitochondrial DNA was extracted and analyzed by Anja Heinze in Svante Paabo’s laboratory at the Max Planck Institute (Leipzig) from a foot toe sample personally taken by Paabo and nuclear DNA was extracted and analyzed by Qiaomei Fu in David Reich’s lab at Harvard. The upshot of this work (Fu et al. 2016) was the definition of a distinctive “Mirón” ancient DNA cluster that is first manifested in an Aurignacian individual in Goyet Cave (Belgium), reappears in the Lower Magdalenian Red Lady of El Mirón and finally in a series of Upper Magdalenian individuals in northeast France, at Goyet and in Germany, attesting to the contraction and later re-expansion of the human range in Europe during and after the Last Glacial Maximum, when southwest Europe was a refugium for surviving populations. (An mt DNA analysis of a loose tooth from another, later Magdalenian individual was published by Hervella et al. [2014]).

Concerning the probable ritual activity surrounding the Red Lady burial, there are two key aspects. She was buried in tightly fetal position in a natural depression that was deepened with a small pit dug into Level 504 (dated to 18,850 cal BP) in a 1 m-wide space between a c. 2.1 x 1.4 x 0.9 m block and the cave wall at the rear (SE corner) of the cave vestibule. The block had fallen from the cave ceiling soon after 19,650 cal BP (age of the layer atop which it had fallen) and was progressively covered by subsequent Lower, Middle and Upper Magdalenian deposits. At some point before the flat, west (cave mouth)-facing surface of the block (the surface that had detached from the bedrock ceiling when it fell) was covered with sediments, it was extensively engraved with series of thin, deep and wide, shallow lines. Among these are lines that form a multi-lined “V” that could be interpreted as representing a vulva (a motif common in Franco-Cantabrian Upper Paleolithic cave art). This figure was 3D structured light-scanned by V. Moitinho (2018; see also Moitinho et al. 2013) and could be interpreted as a grave “marker” of the female buried behind the block. Secondly, the human bones (some heavily), the sediments filling the grave and the eastern face of the block contiguous with the human remains are all stained with red ochre. This ochre is very rich in specular hematite that sparkles. Its source—not the locally-sourced ochres that are otherwise abundantly present in the Lower Magdalenian residential layers—has been positively identified via mineralogical analyses as an outcrop on the modern shore near the mouth of the Asón River, along whose valley Magdalenian people would have carried the ochre a distance of c. 27 km (Seva et al. 2015; n.d.). Furthermore, the removal of the cranium and most large long bones when the remains were covered over again (and, in some cases, re-stained) after carnivore gnawing of only one bone (a tibia), also suggests the repeatedly ritualized treatment of the Red Lady’s corpse. The several perforated shells and ungulate teeth found in the burial layer cannot definitely be considered “grave offerings”, as such objects are found in the many other Magdalenian layers of El Mirón Cave; the fill of the grave came from the level into which it was dug, containing all manner of “normal” Magdalenian artifacts, including particularly abundant (retouched and unretouched) bladelets, as well as antler points, etc. One intriguing find in the burial deposit was a very unusual cluster of chenopod pollen grains, suggestive of the deposition (accidental or deliberate) of flowered plants in the grave.
Other analyses published since 2011 include the DNA and stable isotope studies of El Mirón red deer respectively by Meiri et al. (2013) that, like the earlier study of salmon DNA from the site by S. Consuegra et al., show how the Cantabrian region served as a refugium for this ungulate, and by Stevens et al. (2014) that traces the environmental changes throughout the Late Pleistocene and early Holocene record. The uses of small and large terrestrial faunas to reconstruct both Magdalenian-era paleoenvironments and human subsistence are discussed by Cuenca et al. (2012). On-going mammalian faunal studies of the principal Lower Magdalenian horizon in the front of the vestibule, Level 17 (c. 18,750 cal BP) by J.M. Geiling include spatial analyses of butchering and waste disposal activities (Geiling et al. 2017). E.L. Jones and M. Carvalho are currently analyzing the mammalian faunal assemblages from Lower and Initial Magdalenian levels 115 (c. 20,200 cal BP) and 119 (c. 20,450 cal BP) respectively at the rear of the vestibule. All are dominated by red deer and ibex in varying proportions. Preliminary publication by D. Zurro (2017) reveals the good preservation of plant phytoliths in certain Magdalenian levels.

The Solutrean levels at the rear of the vestibule were the subject of two additional publications in the period: Straus et al. (2011b, 2014a), with the complete faunal assemblages to be published soon by Marín-Arroyo and Geiling. The Middle-Upper Paleolithic transition has been studied by Marín-Arroyo et al. (n.d.). Both the Solutrean and Mousterian horizons have been re-dated recently. The poor Gravettian deposit was published by González Morales and Straus in an Altamira Museum symposium on this period (2013a) and the Terminal Magdalenian and Azilian in a Festschrift for the late Juan Fernández Tresguerres (2012), while a early Magdalenian slate pendant with a horse engraving was published by the same authors in a Festschrift for the late Javier Fortea (2013b).

In addition to the chapters in the burial monograph, the Initial and Lower Magdalenian artifact assemblages (lithic and osseous)---including studies of lithic raw material procurement and microwear analysis of so-called nucleiform endscrapers (most of which were simply bladelet cores)—have been the subjects of numerous articles: Straus and González Morales (2012b, 2018b), Straus et al. (2014b, 2015d, 2016, 2018), Fontes et al. 2016, 2017, n.d.). The dissertation research of L.M. Fontes (2106) indicates how the Lower Magdalenian occupations were tied into a regional (and extra-regional [i.e., SW France]) network of social relations manifested by the presence of many non-local flints. The marine molluscs (mainly from the Cantabrian shore, but a few from the Mediterranean) are being studied by I. Gutiérrez-Zugasti and D. Cuenca-Solana. General encyclopedia entries on El Mirón have been published recently by Straus and González Morales (2014a,b, 2017).

In addition to the engravings and ochre staining on the block associated with the burial described in the JAS monograph and by González Morales and Straus (2014, 2015), the rupestral art of the vestibule rear is preliminarily studied by Garcia Diez et al. (2012), but further cleaning of the vast cave’s walls and detailed searching for additional works of art is required. Red pigment associated with engravings on the rear vestibule wall has been analyzed by A. Hernanz (n.d.) and by Seva et al. (n.d).

In sum—and leaving aside its major contributions to the study of the Neolithic appearance of food production and ceramic technology and the development of more complex Chalcolithic and early Bronze Age societies and economies in Cantabrian Spain—El Mirón Cave has become one of the principal reference sequences for the Iberian Late Upper Paleolithic, with many years of analyses and publications lying ahead for Project members.
References Cited


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