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Domínguez, Ainhoa; Sáenz de Urturi, Francisca (Instituto Alavés de Arqueología. San Antonio, 41. 01005 Vitoria-Gasteiz); **Ortega, Luis Ángel** (Univ. del País Vasco. Dpto. de Mineralogía y Petrología. Apdo. 644. 48080 Bilbao): Caracterización ceramológica de las formas cerámicas de época medieval en el despoblado de Legardagutxi (Alava) (Pottery characterisation of medieval era ceramic forms from Legardagutxi depopulated area (Alava)) (Orig. es)

In: *Isturitz*. 11, 7-22

Abstract: In this work the authors intend to divulge the preliminary results obtained in an analysis of pottery from the medieval era in the deposit at Legardagutxi. The analysis allowed the authors to have an in-depth profile of the functionality of the pieces. This has allowed the authors to carry out an analytical characterisation of the pottery intended for cooking and that intended for storage or containment of products. The formers show calcium enrichment in their clays that the potteries destined to storage do not have.

Key Words: Medieval era ceramic. Chemical analysis. Functionality of the pieces.

Domínguez, Ainhoa (Instituto Alavés de Arqueología. San Antonio, 41. 01005 Vitoria-Gasteiz); **Zuluaga, María Cruz; Ortega, Luis Ángel** (Univ. del País Vasco. Dpto. de Mineralogía y Petrología. Apdo. 644. 48080 Bilbao): Estudio de la cerámica bajomedieval en Vitoria, a través de la intervención practicada en la manzana II (Study of late medieval pottery from Vitoria inner town) (Orig. es)

In: *Isturitz*. 11, 23-49

Abstract: In the present work the authors present a formal petrographic, mineralogical and geochemical study, of some of the medieval pieces of pottery found in the diggings carried out in the so-called Block II, situated in the town of Vitoria. The study covered both the (imported) micaceous pottery, originating from granitic lands, and local ceramics in which different kinds of ceramics pastes and elaborations have been distinguished. It has also been verified that some of the differences in the mineralogy are due to deficiencies in the baking of the paste, in which a more reduced baking is maintained, which does not actually decarbonatise all the paste, maintaining a greyish texture.

Key Words: Late medieval pottery. Petrography. Mineralogy. X-ray diffraction. Chemical analysis. Vitoria.

Ortega, Luis Ángel; Larrea, Francisco José (Univ. del País Vasco. Dpto. Mineralogía y Petrología. Apdo. 644. 48080 Bilbao); **Tarriño, Andoni** (Museo de Ciencias Naturales. Siervas de Jesús, 24. 01001 Vitoria-Gasteiz); **Olaetxea, Carlos** (Sociedad Ciencias Aranzadi. Alto de Zorroaga, z/g. 20014 Donostia-San Sebastián): Análisis petrográfico de cerámicas protohistóricas de Guipúzcoa (Petrographic study of Iron Age pottery from Gipuzkoa) (Orig. es)

In: *Isturitz*. 11, 51-71

Abstract: On this work we present the main results of petrographic study of 45 pottery pieces and several outcrops of clay-mud materials near of archaeological sites from Guipuzkoa. The main conclusions of this study are: (i) The raw materials are be carefully selected, where mud from facies Keuper of Triassic period are mainly chosen as raw materials, coming from proximal areas of archaeological sites. (ii) The manufacture technology is similar for most of sites including a mixture of grind-calcite and mud as raw materials in pottery making.

Key Words: Iron Age. Pottery. Mud. Keuper facies. Temper. Ophites. Calcite.

Larrea, Francisco José; Ortega, Luis Ángel (Univ. del País Vasco. Dpto. Mineralogía y Petrología. Apdo. 644. 48080 Bilbao); **Tarriño, Andoni** (Museo de Ciencias Naturales. Siervas de Jesús, 24. 01001 Vitoria-Gasteiz); **Olaetxea, Carlos** (Sociedad Ciencias Aranzadi. Alto de Zorroaga, z/g. 20014 Donostia-San Sebastián): Análisis mineralógico y geoquímico de cerámicas de la Protohistoria de Navarra (Mineralogical and geochemical study of proto-historic pottery from Navarre) (Orig. es)

In: *Isturitz*. 11, 73-91

Abstract: This is another contribution to the global study of the ceramic technology in Basque Protohistory. In this work, we takes the conclusions obtained by the application of petrology - mineralogy and geochemistry techniques on Navarra Protohistory ceramics. It have been recognized ceramics of some archeological beds and differentiated three prehistoric stages: Middle-Late Bronze, Final Bronze and the Ist. Iron Age, each stage has its own characteristics, as well as the manufacture technology as the raw material nature chosen to make ceramics.

Key Words: Proto-historic pottery. Petrology. Mineralogy. Chemical analysis.

Larrea, Francisco José; Ortega, Luis Ángel; (Univ. del País Vasco. Dpto. Mineralogía y Petrología. Apdo. 644. 48080 Bilbao); **Tarriño, Andoni** (Museo de Ciencias Naturales. Siervas de Jesús, 24. 01001 Vitoria-Gasteiz); **Olaetxea, Carlos** (Sociedad Ciencias Aranzadi. Alto de Zorroaga, z/g. 20014 Donostia-San Sebastián): Análisis petrográfico de cerámicas de la Protohistoria de Alava (Petrographic analysis of proto-historic pottery from Alava) (Orig. es)

In: *Isturitz*. 11, 93-112

Abstract: This is another contribution to the global study of the ceramic technology in the Basque Country Protohistory. In this work we takes the conclusions obtained by the application of petrology techniques on Alava Protohistory ceramics. It have been reognized ceramics of Castillo de Henayo, Peñas de Oro and La Hoya, each archeologic bed has its own characteristics, as well the manufacture technology as the raw material nature chosen to make ceramics.

Key Words: Proto-historic pottery. Clays. Keuper. Ophites. Calcites.

Gorrotxategi, Xabier (Harribaltzaga Elkartea. Avda. Universidades, 6, 5º izda. 48007 Bilbao): La caracterización del soporte de la obra gráfica parietal en la cueva decorada paleolítica de Benta Laperra (Karrantza, Bizkaia) (The graphic structure and elements of the cave paleolithic of Benta Laperra (Biscay, Pays Basque)) (Orig. es)

In: *Isturitz*. 11, 113-170

Abstract: The cave of Benta Laperra (Biscay, Pais Basque) is studied in this paper. Different aspects have been considered: the process of the investigation, the characters of the cave (location, historiography of the researches), the description of the graphic structures. The graphic structure is formed by graphic elements distribution along the space (density of figured elements, categories and frequencies of types of graphic elements, distribution or different groups along the cavern and constructive elements of the rock support (form, stalagmithic formations, fissures and fractures). The graphic evidence, always engravings, is distributed in groups along the decorated walls of the cavern. At last, some archaeological and conservacionist considerations about the natural support in which the graphic repertory is located are included.

Key Words: Decorated cave. Parietal palaeolithic art. Photography. Thecnic. Characters of support. The nature and human's influence. Desestructurated signs.

Iharritu, Mari Jose; Gorrotxategi, Xabier (Harribaltzaga Elkartea. Unibertsitateetako Etorbidea, 6, 5. 48007 Bilbao): Areatza haitzuloko "Oreinareen Gordelekua" eta "Zezenaren Plataforma" gordailuen ikerketa arkeologikoa (Galdamiz, Enkarterri, Bizkaia) (Archaeological research of the "Oreinareen Gordelekua" and "Zezenaren Plataforma" deposits in the Areatza cave (Galdamiz, Enkarterri, Bizkaia)) (Orig. eu)

In: *Isturitz*. 11, 171-223

Abstract: Two depots of the cave of Areatza (Basque Country) are studied in this paper: "Oreinareen Gordelekua" and "Zezenaren Plataforma". The first one is placed at the entrance of the gallery which communicates to the painting chamber "Oreinemeen Ganbara", in an elevated and hidden place. The second one, on a higher gallery connects with the main one in the decorated panel are called "Zezenaren Panela". It is a gallery where a stalagmite creates a specific place, the platform. There, the archaeological remains are abundant: lithics (backed blades, blades, flakes,...), osseous (two points and atrophic canine of deer), ceramics, animal bones, carbonized glands, copper blade. In this depot you can see several rites performed during the Prehistoric Age and probably the Upper Paleolithic. However, in the first one there is a closer relationship between the depot and the parietal images, suggesting that it is part of the iconographic furniture of the paleolithic sanctuary.

Key Words: Depots prehistorics. Sanctuary. Paleolithic and neolithic. Paleorests lithics and osseous.

Ibáñez, Juan José (Univ. de Cantabria. Dpto. de Ciencias Históricas. Avda. de los Castros, s/n.º 39005 Santander): La función de los útiles retocados del yacimiento de Kobaederra (Oma, Vizcaya). Campañas de 1995, 96 y 97 (The function of the retouched tools in the Kobaederra deposit (Oma, Biskaia). 1995, 96 and 97 campaigns) (Orig. es)

In: *Isturitz*. 11, 225-244

Abstract: The results of the use-wear analysis of the flint tools recovered in the site of Kobaederra (Kortezubi, Bizkaia) are shown. These tools were found in the Neolithic, Calcolithic and Bronze Age levels.

Key Words: Functional analysis. Tools. Neolithic. Calcolithic. Bronze Age.

Ibáñez, Juan José (Univ. de Cantabria. Dpto. de Ciencias Históricas. Avda. de los Castros, s/n.º 39005 Santander); **Zapata, Lydia** (Univ. del País Vasco. Dpto. Geografía, Prehistoria y Arqueología. Apdo. 2111. 01006 Vitoria-Gasteiz): La función de los útiles en sílex del yacimiento de Pico Ramos (Muskiz, Bizkaia) (The function of silex tools in the Pico Ramos deposit (Muskiz, Bizkaia)) (Orig. es)

In: *Isturitz*. 11, 245-257

Abstract: The cave of Pico Ramos (Muskiz, Bizkaia) show two archaeological levels: the lower one is dated in the 5th millenium cal. BC, and the upper one is a Calcolithic colective burial, which is dated in the mid 4th millenium cal. BC. In this article, the use-wear analysis of the flint tools of both levels is carried out. In the older level, geometric projectile points, flakes used for butchering and some repairing activities have been observed. In the Calcolithic level, arrow points and blades used for cutting hide and harvesting cereals have been identified.

Key Words: Functional analysis. Tools. Neolithic. Calcolithic. Sepulchral cave.

Armendáriz, Rosa M^a; Mateo, M^a Rosario; Sáez de Albéniz, M^a Pilar (Eusko Ikaskuntza. Pl. Castillo, 43 bis-3.º D. 31001 Iruñea): Santa Criz, ciudad romana: resultados de los estudios metalográficos y paleopatológicos (The Roman town at Santa Criz: results of metallographic and paleo-pathologic studies) (Orig. es)

In: *Isturitz*. 11, 279-283

Abstract: The archaeological diggings that have been carried out in the Roman deposit of Holy Criz (Eslava), during 1995 and 1996 have uncovered, in the necropolis area, the remains of three funeral enclosures. In them and near them the existence of abundant cremations have been detected which have been the object of an itemised paleopathologic and anthropologic study. It has been possible to individualise the remains of 27 individuals and a sheep or goat. The iron nails that accompanied the cremated remains and the remains of smelting collected in the surface have also been analysed.

Key Words: Santa Criz. Necropolis. Funeral enclosures. Cremation. Anthropologic Study. Paelopathologic Study. Metallographic Analysis. Smelting.

Fernández, M^a Jesús; Prado, Ana Isabel (Eusko Ikaskuntza. M.^a Díaz de Haro, 11-1.ª 48013 Bilbao): Estudio arqueológico y documental del camino viejo Bilbao-Gernika (Ruta Juradera). Nuevos hallazgos y reconstrucción del trazado (Archaeological and documental study of the ancient road from Bilbao to Gernika (the "Ruta Juradera" or Route of the Oath). New remains and reconstruction of path) (Orig. es)

In: *Isturitz*. 11, 285-323

Abstract: The following work is part of wider research that the authoresses have been carrying out for years on the road to Santiago in Biskaia. Based on a combination of archaeological methods and documental sources, they intend to re-map one of the most important roads for the history of Bilbao and its Hinterland: the old road from Bilbao to Gernika, also known as the "Ruta Juradera" (Route of the Oath), the coastal road to Santiago or road from Castille (Orduña) to Bermeo.

Key Words: The Bilbao-Gernika Road. "Ruta Juradera" or Route of the Oath. Coastal road to Santiago. The Orduña-Bermeo road. Zamudio. Lezama. Larrabetzu. Roman roads.