

phases before and after colonization. In addition, we show that inbreeding levels remain low, indicating that matrimonial strategies to avoid consanguine unions were applied both before and after colonization. This study demonstrates the power of whole-genome approaches, when combined with biological anthropology and archeology, to help reconstruct the biological and cultural history of an ancient population.

Apport de la microtomodensitométrie et de l'imagerie 3D à l'étude de trépanations néolithiques et médiévales en Belgique
Contribution of Micro-tomodensitometry and 3D Imaging to the Study of Neolithic and Medieval Trepanations in Belgium

J. Simons¹

justinesimons@yahoo.fr

C. Polet¹, O. Dutour^{2,3}, H. Coqueugniot^{2,3}

¹ Institut royal des sciences naturelles de Belgique, DO terre et histoire de la vie

² PACEA UMR 5199, CNRS, université de Bordeaux, ministère de la Culture, Pessac, France

³ EPHE, université Paris-Sciences-Lettres, France

La trépanation crânienne, identifiée dès le Néolithique en Europe, est une pratique largement diffusée géographiquement et chronologiquement. Elle fait l'objet de nombreuses études montrant la nécessité d'adopter un cadre méthodologique rigoureux pour éviter des interprétations erronées. Le but de notre recherche a été de montrer l'intérêt majeur de la tomodensitométrie et de la reconstruction 3D dans l'étude de cas de trépanations crâniennes. Le matériel étudié est constitué de dix crânes porteurs de perforations, retrouvés en Belgique et issus de sites néolithiques et médiévaux. Les causes des perforations (lacunes) crâniennes sont diverses (traumatiques, tumorales, infectieuses) en dehors des actes volontaires de trépanation. Chaque crâne a fait l'objet d'une étude macroscopique et tomodensitométrique (CT et micro-CT) pour établir des critères d'identification de l'origine des orifices crâniens observés. Les analyses des images microtomodensitométriques ont permis, grâce aux logiciels Tivmi[®] et Avizo[®], d'examiner en détail la structure interne de l'os et de déterminer avec précision le degré de cicatrisation. Pour les crânes datant des périodes historiques, une étude des textes anciens décrivant les méthodes de trépanation a été également menée. Au terme de cette étude, nous avons pu poser, pour chaque crâne étudié, un diagnostic précis, montrant les différentes causes identifiées : néoplasie ($n = 1$), traumatisme ($n = 1$) et trépanations ($n = 8$). Un arbre décisionnel a été établi, utilisant des critères de diagnostic positif et différentiel des trépanations.

A New Multidisciplinary Analysis Reveals Diachronic Information on Neolithic Funerary Behavior and Biocultural Adaptations in Western Liguria (Northwestern Italy)

Une nouvelle analyse multidisciplinaire révèle des informations diachroniques sur le comportement funéraire néolithique et les adaptations bioculturelles en Ligurie occidentale (nord-ouest de l'Italie)

V.S. Sparacello¹

vitale.sparacello@u-bordeaux.fr

S. Rossi^{2,3}, C. Panelli^{4,5}, I. Dori^{1,6}, A. Varalli^{1,7}, G. Goude⁸, J. Moggi-Cecchi⁹, M. Conventi⁹, D. Arobba¹⁰, A. De Pascale¹⁰, P. Garibaldi¹¹, G. Rossi¹¹, I. Molinari¹¹, M. Zavattaro¹², R. Maggi¹³, E. Starnini¹⁴, P. Biagi¹⁵

¹ PACEA UMR 5199, CNRS, université de Bordeaux, ministère de la Culture, Pessac, France

² Soprintendenza Archeologia, Belle Arti e Paesaggio per le province di Parma e Piacenza, Italy

³ DISTAV, Università degli Studi di Genova, Italy

⁴ DAFIST, Università degli Studi di Genova, Italy

⁵ CEPAM, UMR 7264 CNRS, université Côte d'Azur, France

⁶ Dipartimento di Biologia, Università degli Studi di Firenze, Italy

⁷ Department of Archaeology, Durham University, United Kingdom

⁸ LAMPEA, CNRS, Aix-Marseille Université, ministère de la Culture, Aix-en-Provence, France

⁹ Soprintendenza Archeologia, Belle Arti e Paesaggio per la città metropolitana di Genova e le province di Imperia, La Spezia e Savona, Italy

¹⁰ Museo Archeologico del Finale, Finale Ligure, Italy

¹¹ Museo di Archeologia Ligure, Genova Pegli, Italy

¹² Museo di Storia Naturale, Sezione di Antropologia e Etnologia, Università degli Studi di Firenze, Italy

¹³ LASA (Laboratorio di Archeologia e Storia Ambientale), Università di Genova, Italy

¹⁴ Dipartimento di Civiltà e Forme del Sapere, Università degli Studi di Pisa, Italy

¹⁵ Dipartimento di Studi sull'Asia e sull'Africa Mediterranea, Università Ca' Foscari Venezia, Italy

The archeology and anthropology of Liguria is particularly important to understand the cultural and biological dynamics at the Pleistocene-Holocene transition. Skeletal evidence of Neolithic occupation in Liguria consists of hundreds of burials and scattered remains unearthed in several caves and rock shelters in western Liguria. Here, large cave sites such as Arene Candide Cave have been excavated since the mid-19th Century. However, most of these remains were excavated without precisely recording their spatial and stratigraphic position, following the methods of the time, and few direct dates were attempted on human remains. Based on the associated archeological evidence, the skeletal series were generically labeled as probably/possibly "Neolithic" and as such were studied by anthropologists. Thus, only generic insights on "Neolithic" funerary behaviors, biological adaptations, and health and well-being could be made. Our multidisciplinary research aims at obtaining higher-resolution information from funerary and osteological data of the extant Neolithic skeletal series from Liguria, analyzing the excavation documentation, and cross-referencing the resulting information with a refined chronology obtained from radiocarbon dates on human bone (c 150). Direct dating allowed for the discovery of a new Upper Palaeolithic burial site at Arene Candide Cave, of the first burials from the 9th and 8th Millennium BCE (Arma di Nasino) in Liguria, and of the oldest human remains from the 6th Millennium BCE (Arma dell'Aquila) in the northwestern Mediterranean. The vast majority of the burials belong to the 5th Millennium BCE, when the Neolithic culture dei Vasi a bocca quadrata was attested in Liguria. Some human remains span the Metal Ages, up to historic times, attesting the long-term use of the Ligurian caves as funerary sites. This new chronological framework allows for a diachronic characterization of funerary practices, and for exploring possible differential funerary behaviors based on biological traits, including sex/age, but also pathology and trauma/interpersonal violence.