

NEANDERTHAL-3D

Management and valorisation of the digitised Belgian human remains collection

DURATION

15/01/2017 - 15/04/2019

BUDGET

599 426 €

PROJECT DESCRIPTION



Reconstruction of the Spy II Neandertal skull

The Neandertal_3D BRAIN project aims to utilise the existing digital collection of Neandertal and modern human fossils which are housed at the Royal Belgian Institute of Natural Sciences (RBINS), to showcase the reconstructed Spy II Neandertal and to highlight Belgian scientific and cultural heritage, as well the current state of the art research in Belgium. The project will join together teams and skills from the Flemish Vrije Universiteit Brussel (VUB) and the French university Université Libre de Bruxelles (ULB), the Federal Scientific Institution (FSI) of RBINS and a non-profit organisation from the Brussels Capital region Association pour la Diffusion de l'Information Archéologique (ADIA) in the project. The project also has an International partner from France, Musée de l'Homme (MHNH). Members of the project come from the different disciplines of medicine, biomechanics, palaeontology, engineering, computer science and education and they will work together to highlight this important digital collection. In particular the project will showcase the virtual reconstruction of the Neandertal Spy II skeleton, which was previously reconstructed by two of the current partners (ULB and RBINS). The reconstruction was based on the digitised Spy II Neandertal fossils which were created in the framework on an earlier BELSPO Action 2 project (Reconstruction of Neandertal Locomotion).

Neandertal_3D aims to make current knowledge on Neandertals and the entire digitised Neandertal collection (including the reconstructed Spy II skeleton) available to the general public. The musculoskeletal software 'IhpFusionBox', which was previously developed by ULB, was the main software used to reconstruct the Spy II skeleton. During the project this software will be improved and better adapted to paleoanthropologists. A website will be created to highlight current knowledge on Neandertals. This will benefit not only the general public but also more targeted specific groups such as schools and museum scholars, electronic visitors, scholars and medical patients.

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1) Schools and Museums

The reconstructed 3D Spy II Neandertal and other Neandertal fossil specimens housed at RBINS will be prepared for 3D printing and will be freely available to the general public. The Spy Neandertals have been extensively studied by both national and international researchers since they were found in 1886 and this project aims to make this collection more accessible. The availability of the reconstructed Spy II skeleton is particularly important as there is no complete skeleton in the fossil record. During the project, all fossils will be prepared for 3D printing. A network will also be created so that 3D non-contact moulds can easily be made by schools and other museums using low cost 3D printers. This will replace the classical cast system which have potential problems for the original fossils where reproductions can be 2-5% smaller than the original.

2) Electronic visitors

The project will create an interactive website which will serve as an educational experience on Neandertals, who are often portrayed in the public as cavemen, stupid brutish and more ape like than modern humans. The website will seek to redress this balance whilst also highlighting the state of the art research that is now being done by researchers in Belgium.

3) Scholars

A specialised software 'IhpFusionBox' developed at ULB was used to reconstruct the Spy II skeleton and this software will be improved to make the programme fully adapted to the needs of paleoanthropologists,. The new development of the software will allow measurements to be taken more easily and allow the biomechanical comparison of fossils. The software is based on open source technologies and will be freely available to use with a research agreement between the ULB and prospective researchers.

4) Medical patients

A Neandertal avator will be created on evidenced based knowledge using the reconstructed Spy II skeleton and body. VUB and ULB have previously collaborated to produce 'serious gaming' applications. In this project, the reconstructed Spy II skeleton and body will be used as an avatar based on real scientific evidence in order to create a game that can be used both for patients in their rehabilitation and for educational purposes. The game will be linked to the website.

CONTACT INFORMATION

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LINKS

<http://collections.naturalsciences.be/ssh-projects/projects/neanderthal-3d>

<https://neanderthal.naturalsciences.be>