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De wetenschappelijke inhoud van het tijdschrift wordt bewaakt door een permanente redactieraad en een internationaal leescomité dat is samengesteld in functie van het thema van de individuele bijdrage. Deze raad en comité hebben in geen geval het recht om de manuscripten te censureren, behalve bij manifest gebrek aan wetenschappelijke ernst. De auteurs zijn steeds de enige verantwoordelijken voor de inhoud van hun bijdrage.

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SPY CAVE

125 years of multidisciplinary research
at the Betché aux Rotches
(Jemeppe-sur-Sambre, Province of Namur, Belgium)

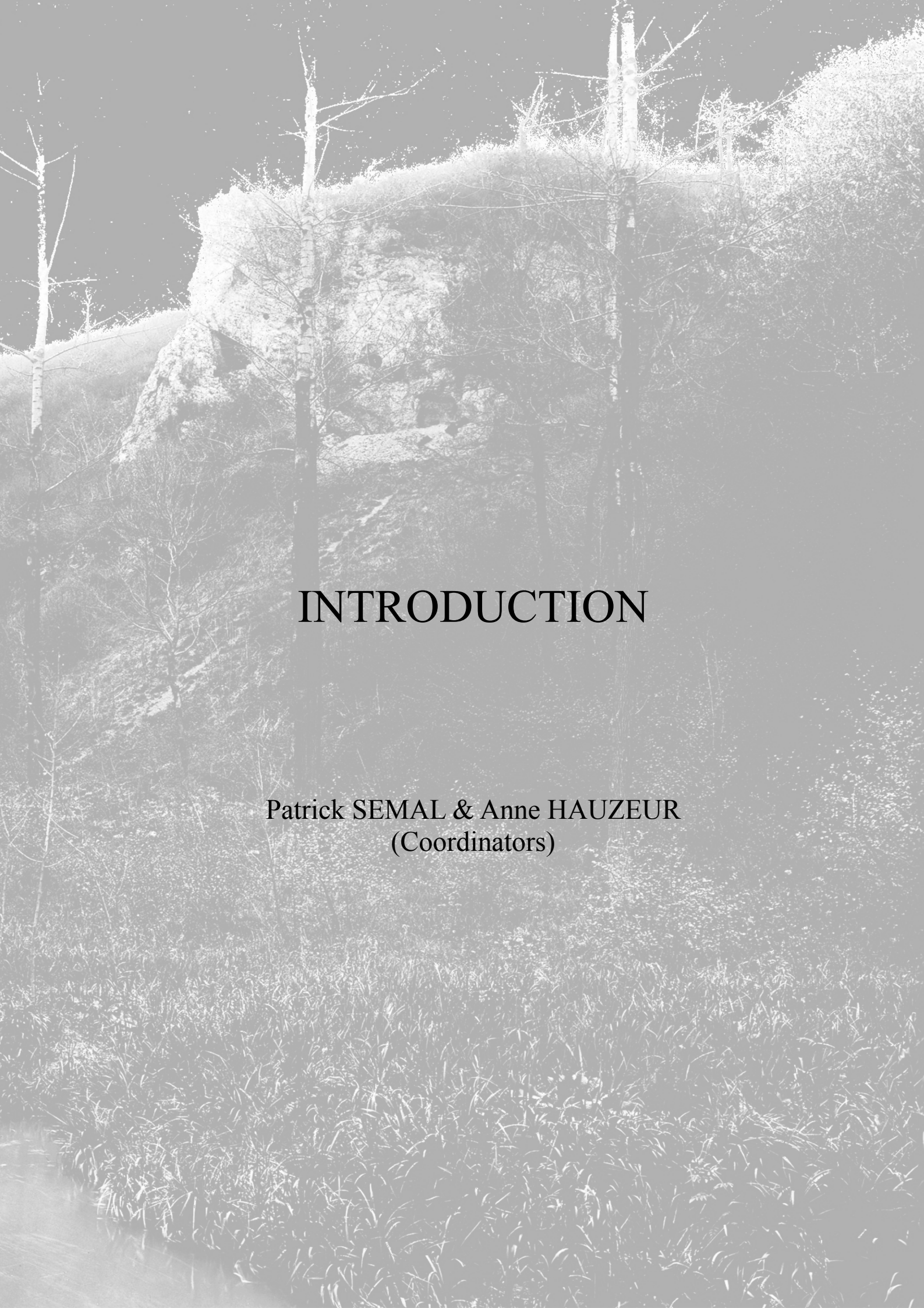
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Volume 1

2013

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INTRODUCTION

Patrick SEMAL & Anne HAUZEUR
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Supporting information available at:
<http://mars.naturalsciences.be/bibliop4plone/rbins-publications/spy-cave-volume-1/supporting-information/>

CHAPTER I

PROLOGUE

**Patrick SEMAL, Hélène ROUGIER, Isabelle CREVECOEUR,
Damien FLAS, Anne HAUZEUR & Cécile JUNGELS**

While the humanist science of the 18th and early 19th century allowed a sole individual to explore the limits of their naturalist scientific curiosity, during the second half of the 19th century this curiosity gave way to the scientific method and the emergence of the different sub-fields of prehistory. In many respects, the history of research at Spy cave reflects the development and evolution of the scientific approach. In fact, the 1886 discovery of two partial Neandertal skeletons largely contributed to the scientific community's acceptance of prehistoric humans whose morphology was more archaic than anatomically modern populations. Importantly, it was also the first time that the actual stratigraphic context of Neandertal skeletal remains was documented. Moreover, the 1887 Spy volume was the first monographic publication dedicated to Neandertal fossils, making Spy a reference site for European palaeoanthropology.

However, while the Spy fossils have been the topic of numerous, sometimes pioneering, publications, their scientific potential has been relatively underexploited. This may be due, at least in part, to the fact that the skeletal material remained in the private collection of Maximin Lohest's heirs until as recently as 1994 when it was donated to the Belgian State. Although these celebrated fossils were housed on several previous occasions at the Royal Belgian Institute of Natural Sciences (RBINS), they nonetheless had an eventful and sometimes colourful history. Like the archaeological material from the site, this important skeletal assemblage had not been exhaustively studied until the present monograph. The main archaeological collection (i.e. that of Marcel De Puydt) was only donated to the *Grand Curtius* Museum at the beginning of the 20th century. This collection, although subject of several different studies focused on particular

aspects and questions, has never been assessed as a whole. Finally, the palaeontological collections have mostly remained unpublished.

Today, the increasing specialisation of current scientific research has meant that researchers are faced with the problem of being either “specialists” within an extremely limited field, or “generalists” with only a limited understanding of various fields. In the case of Spy, we assembled a network of specialists whose combined efforts have produced high caliber results for all the various Spy collections, thus achieving an integrated understanding of the cave and its contents. Despite the early date of the most consequential excavations, numerous fieldwork campaigns and the scarcity of recorded field data, our multidisciplinary approach using modern analytical techniques has resulted in a new vision of these old collections, placing them at the centre of current scientific debates.

The idea of re-assessing the Spy collections dates back to the beginning of the 2000s following the donation of the skeletal material discovered by M. De Puydt & M. Lohest to the RBINS by the latter's heirs. It was reinforced by a preliminary overview of the material from the RBINS excavations at Spy during the 1950s directed by F. Twiesselmann, founder of the Laboratory of Anthropology of the RBINS. The identification of the antimere of a Neandertal upper premolar from the 1886 material among Twiesselmann's collection suggested that part of the skeletal elements missing from the original Neandertal collection might be found in other public or private collections.

The combination of several research opportunities brought the re-assessment project into being during 2004. The MARS project

(Multimedia Archaeological Research System, 2003-2007) made it possible to begin a digital inventory comprising a multimedia database and a collaborative platform. Funded by the Belgian Science Policy (BELSPO / I2/2F/212), it had the twofold objective of setting up a system for digitising prehistoric collections housed in the Belgian federal scientific institutions, and of reconstituting virtual collections from material spread across different locations. The Spy assemblages formed a case study for the project. A second project focusing on the multidisciplinary re-assessment of the collections from Spy was also funded by the Belgian Science Policy in the framework of a “Research Action” (BELSPO 2004-2007, MO/36/0112: “Multidisciplinary study of the collections from Spy cave: new technical and scientific approaches”). Finally, the complete digitisation of the Spy Neandertal skeletal elements by Computed Tomography in the framework of the TNT project (6th framework Program, strep 2004-2006) has resulted in the creation of 3D models of the remains and their integration in the NESPOS database (www.nespos.org).

These national and European funding sources supported two archaeologists (Anne Hauzeur followed by Cécile Jungels), three palaeoanthropologists (Hélène Rougier, Isabelle Crevecoeur, and Antoine Balzeau) and two zooarchaeologists (Evelyn Fiers followed by Mircea Udrescu) over various lengths of time. This allowed each collection from Spy to be assessed and new assemblages to be made available not only for researchers connected to the project, but other colleagues whom we contacted to carry out particular aspects of the site revision, either individually or as part of a collaborative effort. The re-assessment of the Spy site and its contents quickly expanded to include numerous biological, archaeological, and palaeontological

aspects. These were complemented by the historical and geo-archaeological contextualisation of previous research and publications concerning the site in the light of new research and analyses. In the end, archives from 5 collections were reviewed, tens of thousands of lithic artefacts from 48 public and private collections as well as thousands of identifiable faunal remains were also re-assessed. Additionally, hundreds of thousands of skeletal fragments have been sorted in order to isolate any human remains.

The present monograph, co-edited by the RBINS, NESPOS Society, and SRBAP, is the result of the multidisciplinary research program presented above. It is composed of two volumes: the first includes contributions pertaining to the historical, geological, archaeological, palaeontological, chronological and biochemical aspects of the project; while the second presents the re-assessment and biological study of the Neandertal and supposedly Neandertal fossils from the 1886 collection as well as new human skeletal remains identified in the faunal collections from the various excavations. We are indebted to Micheline De Wit for the layout of both volumes. We are also grateful to Brad Gravina for having edited the final versions of several chapters.

The results of the research presented in this monograph highlight the importance of the exhaustive revision of old collections. Since the re-assessment of the Spy material, other anthropological collections held by the RBINS (Goyet, Ishango) have been revised using the same approach and with the same success. However, the study of old collections inevitably confronts certain limitations; highlighting the necessity of building multidisciplinary teams to excavate new sites in order to address the issues raised by these revisions.

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