

ANTHROPOLOGICA ET PRAEHISTORICA

Bulletin de la
Société royale belge d'Anthropologie
et de Préhistoire

Bulletin van de
Koninklijke Belgische Vereniging
voor Anthropologie en Prehistorie

123/2012

2013



*Ce volume a été publié
grâce à l'appui de*

*Deze bundel werd gepubliceerd
met de steun van*

l'Institut royal des Sciences naturelles de Belgique • het Koninklijk Belgisch Instituut voor Natuurwetenschappen

et grâce au soutien financier de en met de financiële steun van

*la Fondation universitaire de Belgique • de Universitaire Stichting van België
la Politique scientifique fédérale • het Federal Wetenschapsbeleid
et du en het*

*Ministère de la Communauté Française de Belgique
(Direction de la Recherche scientifique & Service général du Patrimoine culturel)
Ministère de la Région Wallonne (Division du Patrimoine)
Fonds National de la Recherche Scientifique – FNRS*



Comité de Rédaction / Redactieraad

Rédactrice en chef / Hoofdredactrice : Anne Hauzeur
Membres / Leden : Nicolas Cauwe, Stéphane Louryan, Rosine Orban,
Caroline Polet, Marc Vander Linden

Comité de lecture

Leescomité

Damien Flas (Département de Préhistoire de l'Université de Liège), Mietje Germonpré (Koninklijk Belgisch Instituut voor Natuurwetenschappen), Anne Hauzeur (SARL Paléotime, France), Cécile Jungels (Musée de la Préhistoire en Wallonie, Flémalle), Stéphane Pirson (Service public de Wallonie), Hélène Rougier (California State University, Northridge), Patrick Semal (Institut royal des Sciences naturelles de Belgique).

Instructions aux auteurs / Richtlijnen voor auteurs / Guide for authors

<http://srbap.naturalsciences.be/>

Le Bulletin de la Société royale belge d'Anthropologie et de Préhistoire a une vocation strictement scientifique et se veut ouvert à toutes les thèses scientifiques, sans parti pris idéologique ou dogmatique.

Aussi le contenu du Bulletin de la Société royale belge d'Anthropologie et de Préhistoire est-il contrôlé par un comité de rédaction permanent et des comités de lecture internationaux, établis en fonction du thème de chaque contribution. Ces différents comités n'ont aucun droit d'établir une censure, sinon en l'absence d'une démarche scientifique manifeste. Dans tous les cas, les auteurs sont responsables du contenu de leurs articles.

Het tijdschrift van de Koninklijke Belgische Vereniging voor Antropologie en Prehistorie heeft enkel een wetenschappelijk doel. Het staat open voor alle wetenschappelijke bijdragen zonder ideologisch of dogmatisch streven.

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.

Société royale belge d'Anthropologie et de Préhistoire

a.s.b.l.
Rue Vautier, 29
B-1000 Bruxelles

Koninklijke Belgische Vereniging voor Antropologie en Prehistorie

v.z.w.
Vautierstraat, 29
B-1000 Brussel

Fondée en 1882, la Société d'Anthropologie de Bruxelles est devenue la Société royale belge d'Anthropologie et de Préhistoire à partir de 1931. Elle réunit des chercheurs professionnels ou non, belges et étrangers, spécialistes en archéologie préhistorique, en anthropologie physique, en anthropologie génétique ou en paléontologie humaine.

De Vereniging voor Antropologie van Brussel, gesticht in 1882, kreeg vanaf 1931 de benaming van Koninklijke Belgische Vereniging voor Antropologie en Prehistorie. Ze verenigt al dan niet professionele onderzoekers, zowel Belgische en buitenlandse, gespecialiseerd in de prehistorische archeologie, in de fysische antropologie, in de genetische antropologie of in de menselijke paleontologie.

Bureau 2012-2013

Présidente
Vice-présidents
Secrétaire générale
Trésorier
Bibliothécaire

Nathalie VANMUYLDER
Rosine ORBAN, Bart VANMONFORT, Damien FLAS
Caroline POLET
Denise VANDEMEULEBROUCKE
Ivan JADIN

Voorzitster
Ondervoorzitters
Secretaris-generaal
Schatbewaarder
Bibliothecaris

+32 2 627 41 45

srbap@naturalsciences.be

Compte bancaire
Bankrekening
BE46 0000 3074 2936

ISSN 1377-5723

SPY CAVE

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

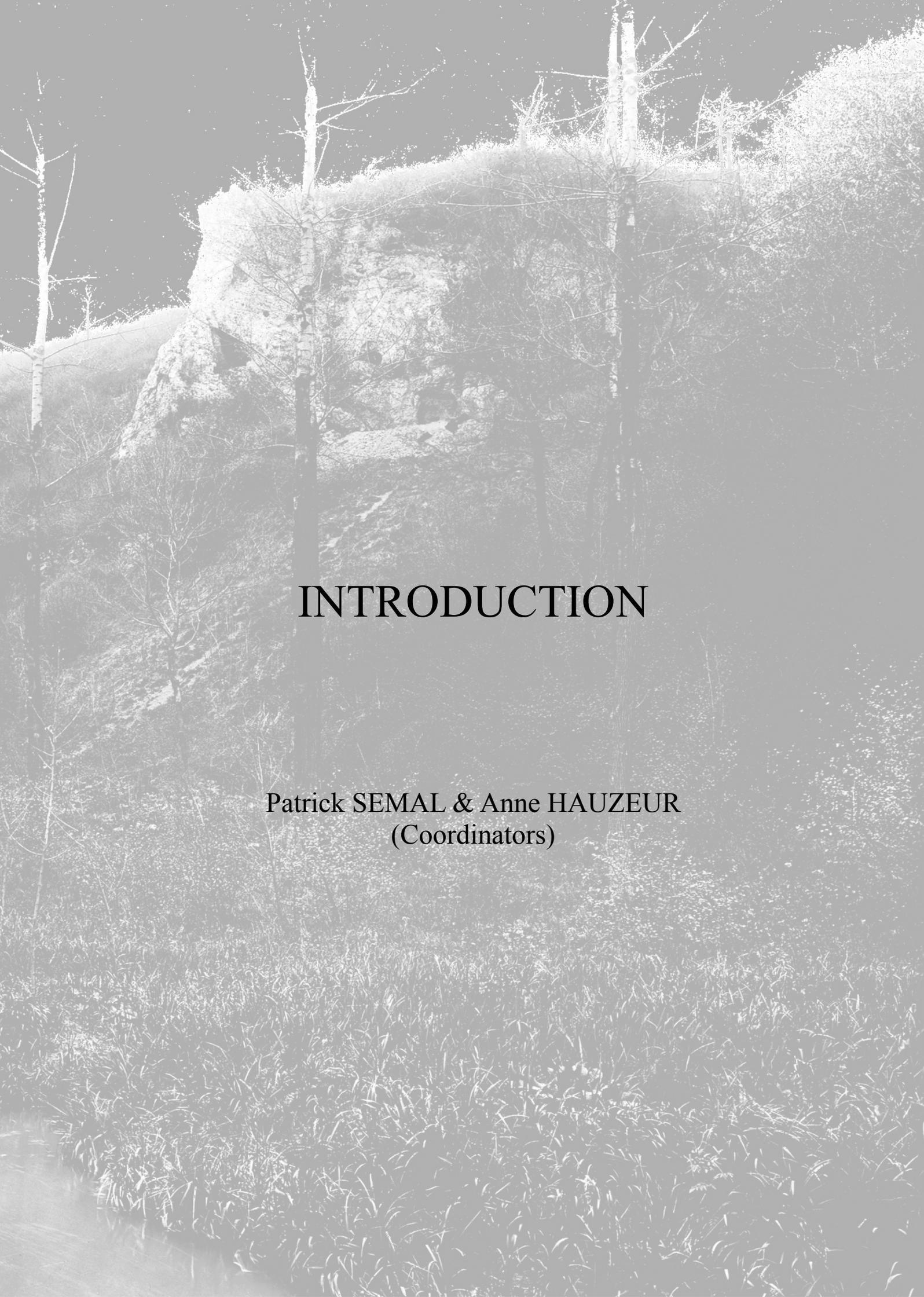
Edited by Hélène ROUGIER & Patrick SEMAL

Volume 1

2013

TABLE OF CONTENTS

| | |
|---|-----|
| Camille PISANI, Foreword | 5 |
| INTRODUCTION | |
| I. Patrick SEMAL, H el ene ROUGIER, Isabelle CREVECOEUR, Damien FLAS, Anne HAUZEUR & C ecile JUNGELS, Prologue | 9 |
| II. Patrick SEMAL, Anne HAUZEUR, Michel TOUSSAINT, C ecile JUNGELS, St ephane PIRSON, Laurence CAMMAERT & Philippe PIRSON, History of excavations, discoveries and collections | 13 |
| III. Philippe PIRSON, Spy cave: which name? | 41 |
| IV. Laurence CAMMAERT, Through the correspondence: the little story of the ‘‘Spy bones’’ | 55 |
| THE SPY CAVE CONTEXT | |
| V. St ephane PIRSON, Bernard DELCAMBRE &  Eric GOEMAERE, Geological context | 73 |
| VI. St ephane PIRSON, K evin DI MODICA, C ecile JUNGELS, Damien FLAS, Anne HAUZEUR, Michel TOUSSAINT & Patrick SEMAL, The stratigraphy of Spy cave. A review of the available lithostratigraphic and archaeostratigraphic information | 91 |
| ARCHAEOLOGICAL MATERIAL | |
| VII. Anne HAUZEUR, C ecile JUNGELS,  Eric GOEMAERE & St ephane PIRSON, Non-flint raw materials | 135 |
| VIII.  Eric GOEMAERE, C ecile JUNGELS & Anne HAUZEUR, Oolithic ironstones from Spy cave | 151 |
| IX. K evin DI MODICA, C ecile JUNGELS & Anne HAUZEUR, What do we know today about the Middle Palaeolithic of Spy? | 167 |
| X. C ecile JUNGELS, Aude COUDENNEAU, Anne HAUZEUR & Philippe PIRSON, Typological, technological and functional analyses of Mousterian points | 201 |
| XI. Damien FLAS, Jerzmanowice points from Spy and the issue of the Lincombian-Ranisian-Jerzmanowician | 217 |
| XII. Damien FLAS, Elise TARTAR, Jean-Guillaume BORDES, Foni LE BRUN-RICALENS & Nicolas ZWYNS, New perspectives on the Aurignacian from Spy: lithic assemblage, osseous artefacts and chronocultural sequence | 231 |
| XIII. Damien PESESSE & Damien FLAS, Which Gravettians at Spy? | 257 |
| XIV. Gennady A. KHLOPACHEV, Cultural and chronological attribution of the objects of mammoth ivory from Spy cave: a look from Eastern Europe | 269 |
| FAUNAL REMAINS | |
| XV. Mietje GERMONPR E, Mircea UDRESCU & Evelyne FIERS, The fossil mammals of Spy | 289 |
| BIOGEOCHEMISTRY | |
| XVI. Patrick SEMAL, Anne HAUZEUR, H el ene ROUGIER, Isabelle CREVECOEUR, Mietje GERMONPR E, St ephane PIRSON, Paul HAESAERTS, C ecile JUNGELS, Damien FLAS, Michel TOUSSAINT, Bruno MAUREILLE, Herv e BOCHERENS, Thomas HIGHAM & Johannes VAN DER PLICHT, Radiocarbon dating of human remains and associated archaeological material | 331 |
| XVII. Herv e BOCHERENS, Mietje GERMONPR E, Michel TOUSSAINT & Patrick SEMAL, Stable isotopes | 357 |
| XVIII. Eva-Maria GEIGL, Sophie CHAMPLLOT, Silvia DE LIMA GUIMARAES, E. Andrew BENNETT & Thierry GRANGE, Molecular taphonomy of Spy: DNA preservation in bone remains | 371 |
| Guide for authors | 381 |



INTRODUCTION

Patrick SEMAL & Anne HAUZEUR
(Coordinators)

CHAPTER I

SEMAL P., ROUGIER H., CREVECOEUR I., FLAS D., HAUZEUR A. & JUNGELS C., 2013.
Prologue: 9-11.

CHAPTER II

SEMAL P., HAUZEUR A., TOUSSAINT M., JUNGELS C., PIRSON S., CAMMAERT L. & PIRSON P., 2013.
History of excavations, discoveries and collections: 13-39.

CHAPTER III

PIRSON P., 2013.
Spy cave: which name?: 41-54.

CHAPTER IV

CAMMAERT L., 2013.
Through the correspondence: the little story of the “Spy bones”: 55-69.

In: H. ROUGIER & P. SEMAL (ed.), Spy cave. 125 years of multidisciplinary research at the Betche aux Rotches (Jemeppe-sur-Sambre, Province of Namur, Belgium), Volume I. Anthropologica et Præhistorica, 123/2012. Brussels, Royal Belgian Institute of Natural Sciences, Royal Belgian Society of Anthropology and Præhistory & NESPOS Society.

Supporting information available at:

<http://mars.naturalsciences.be/bibliop4plone/rbins-publications/spy-cave-volume-1/supporting-information/>

CHAPTER III

SPY CAVE: WHICH NAME?

Philippe PIRSON

Abstract

This paper deals with the names given to Spy cave. To this end, we have consulted the scientific papers and books, as also the vernacular sources. We have listed the different terms and tried to clear them up by consulting historical and linguistic sources.

INTRODUCTION

The archaeological, palaeontological and mainly palaeoanthropological finds at Spy (pronounce [spi]¹) cave are admittedly important. However, there is no consensus in the archaeological literature about the name of that famous place. A number of vocables are attributed to it, most of them in Walloon, which is the regional vernacular in the French speaking (southern) part of Belgium. They present several spellings and several meanings.

That observation led us to make a list of the available toponyms. The different written, scientific and other sources have been thus analysed. A survey in the village was made as well about the usual name. The various names will be discussed with a view to searching the original term and its meaning.

The Walloon language belongs to the *langue d'oïl* language family, like the French language. There are four different Walloon variants, found in four distinct zones. Two of them are dealt with in this paper: the Central Walloon (spoken, among other places, at Spy and Moustier-sur-Sambre) and the Eastern Walloon (spoken in Liège).

LIST OF THE TOPONYMS

The written sources

We have consulted different sources: the scientific documents, the press, the letters of the discoverers and the annotations on some flint artefacts. The noted place names can be classified into two main categories: 1) “*Betche aux Rotches*” and variants, and 2) other names.

“Betche aux Rotches” and variants

Three categories can be distinguished. The first one, the Walloon phrase “*Betche aux Rotches*” and variants, was commonly used by the excavators since the discovery and even shortly before. This vernacular being mainly spoken, the expression can be spelled in different ways.

So, in a letter to Marcel De Puydt on July 24th, 1885, the Marquis de Beaufort, owner of the site, writes: “*je consens à ce que vous me demandez à la Bèche au Roche*”². De Puydt & Lohest (1886a), after their 1st excavations in 1885, write: “[...] *une grotte connue dans le pays sous le nom de Bec-aux-Roches ou Bèche-aux-Roches*”³. In 1886, they write: “*Bèche-aux-Roches*” (De Puydt & Lohest, 1886b), then “*Betche-aux-Rotches*” (De Puydt & Lohest, 1887).

²“I agree to your request concerning the *Bèche au Roche*”.

³“[...] a cave known in the neighbourhood by the name of *Bec-aux-Roches* or *Bèche-aux-Roches*”.

¹We use the International Phonetic Alphabet (I.P.A.), written in square brackets.

In the title of the paper about his excavations in 1859, Rucquoy (1886-1887) mentions “*Bèche-aux-Roches*”, while de Mortillet & de Mortillet (1910) and de Loë & Rahir (1911) agree upon “*Bêche-aux-Rotches*” and so do Martin (1950) and Twiesselmann (1971) some decades later.

Trinkaus writes “the *Grotte de Bêche-aux-Rotches* (or *Bec-aux-Roches*)” (Trinkaus & Ruff, 1989), then only “*Bêche-aux-Rotches*” (Trinkaus & Shipman, 1996).

On a few artefacts kept at the *Grand Curtius* Museum in Liège, one can read, written with red ink: “*B.A.R.*”. On one among them appears the explanation: “*Spy bêche aux Roches = B.A.R.*” (Figure 1).

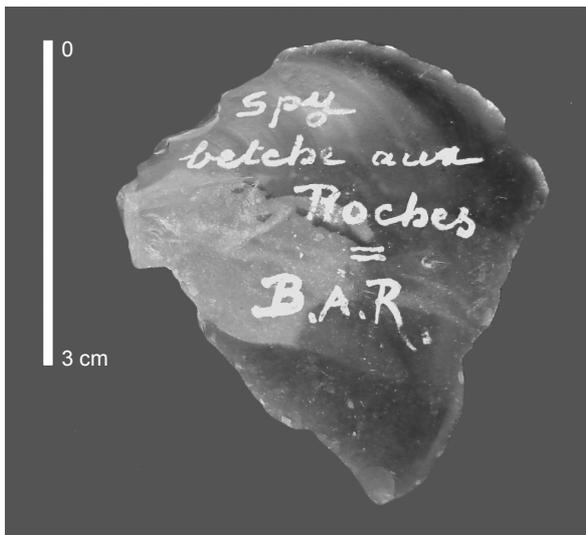


Figure 1. An artefact from Spy, kept at the *Grand Curtius* Museum in Liège (De Puydt collection), mentioning “*Spy bêche aux Roches = B.A.R.*” (The writings have been accentuated for the ease of reading) (Picture: P. Pirson & A. Hauzeur).

Lastly, in his *Dictionnaire de l'Ouest-Wallon*, Bal (1985) quotes “*Betchaud Rotche*”.

The second category, “*Bêche al Rotche*” and variants, appears, to our knowledge, in the early fifties in the local newspapers. The phrase is written “*Bêche al Rotche*” (Table 1). M. Dewez will use that spelling in the form “*Bêche-al-Rotche*” (Dewez, 1967, 1980, 1981a), followed by

other authors: Ulrix-Closset (1975) and Toussaint (1992, 1996).

One can read as well: “*Bêche-al-Roché*” (Dewez, 1967; Groenen & Marée, 2000), “*Bêche-al-Rotche*” (Dewez, 1981b; Cahen, 1986), “*Bêche-al-Rotche*” (Guyaux, 1989), and “*Bêche-Al-Rotche*” (Otte & Vandermeersch, 1997).

Interesting early forms of the toponym are found as well in ancient sources:

Barbier (1885: 118-119) quotes a document dating from the 13th century, “*Record des droits seigneuriaux de l'abbesse de Moustier et du comte de Namur audit Moustier*”, mentioning “*le Becheue Roche*”, then “*alle Bechue Roche*” (i.e. “*à le Bechue Roche*”) and “*delle Bechue Roche*” (i.e. “*de le Bechue Roche*”) (Figure 2).

Bastin (1973) quotes a text of December 9th, 1687, mentioning the toponym “*la roche à Besche*”.

The third category includes distorted names found in scientific documents, obviously resulting from the distortion of the Walloon terms by authors ignorant of that regional tongue:

- The Marquis de Nadaillac (1886a-e) writes: “*La grotte de la Biche-aux-Roches*”⁴. Alexis (1887) quotes a passage from a “scholarly publishing” mentioning “*Biche-aux-Koches*”⁵, a funny distortion of the previous name, but giving no further indication about that source;
- Rucquoy (1886-1887) indicates that the name “*la Biche-au-Bois*”⁶ is wrong, but does not mention the sources either;
- Finally, another distortion, “*Brèche-aux-Roches*”, or “*Brêche aux Roches*”, is given by several authors: de Radzitzky d'Ostrowick (1909), de Loë (unpublished letter to Monsieur Cumont, dated February 15th, 1904), Anciaux (1950), and Rahir (1928). Ulrix-Closset (1975) points out that the name “*brèches-aux-Roches*” is wrong.

⁴ “The rock-hind cave”.

⁵ The word “*koche*” exists neither in French nor in Walloon. It could be considered a typographic mistake.

⁶ “The wood-hind”.

XIII. Encor recordent que ly conte de Namur, ne ses officiers ne peullent, ne doyent panner ne arřester devens le franchiese pour nulle droicture que on ly doist, sy le maire, l'abbesse ny livre le pan (1).

XIV. Item saulvent et wardent que se Medame estoit deffailante de faire loy à Moustier, ly bourgeois ou autre qui en seroit deffailant se peullent retraire vier Monsigneur, lyqueil les doibt ramener à droit et à loy, et tenses (2) de forche lesdis bourgeois par raison de son advoverye.

XV. Item doyent ly eschevins seoir au prendre les cappons au jour S^t Estienne, et pourtant Medame de Moustier leur doibt à cely jour un past (3), douqueil on doibt prendre le vin sur les communes amendes de Medame et de Monsigneur.

XVI. Item doyent à Medame bourgeois et mannans et masuys fener (4) une coruwée en un preit desous le *Becheue Roche* (5), voir quand on le veult fener, ly sergent les doibt adjourner le nuyctie devant, et lendemain, quant on les veult avoir, sonner la cloche; et qui ny seroit y seroit ale amende de teile que li eschevins salvent et wardent.

XVII. Item doibt chascun bourgeois et mannans au jour delle Pentecoste le lait de toutes ses biestes donnant lait pour celluy jour du matin. Item recordent que chis qui doient les chappons delle pierre, doient à Pasques à Medame pour chascun cappon, vii œfs et demy, et chascun bourgeois pour se poulaige (6) xv œfs, et une femme veuve ou à marier vii œfs demy,

(1) Pan, gage, caution.

(2) Tenses, corriger.

(3) Past, repas.

(4) Fener, faner.

(5) *Becheue Roche*, cet endroit, connu aujourd'hui sous le nom de *Beche-aux-*

Roches ou *Bec-au-Roc*, est un rocher avec petite grotte, situé sur la rive gauche de l'Orneau, au delà de Goyet, en face de l'endroit nommé *Chafaiſche*.

(6) *Poulaige*, volaille, redevance en volaille.

entendu que une personne qui demouroit sur son heritaige qui deusist ii chappons pour les œfs qu'il payerat de ses chapons, il seroit quicte de son poulaige, et parmy che ont chis de Moustier le pasturaige aval le franchiese de Moustier, et ont communaulteit à ceulx d'oultre Ornon, et ceulx d'oultre Ornon sur les pasturaiges de Moustier, excepteit les bois Medame et les bois du Signeur, et ne se peullent faire arrester l'ung l'autre, avant doient chilz d'oultre Ornon demander droit à Moustier, et chils de Moustier, à oultre Ornon, et se biestes estoient trouvées en domaiges, sy doibt requier ly un mayeur à l'autre à faire venir en ses teilles amendes de ces fourfaictures, et ne doient ly eskevins payer œfs ne lachial (1), ne fener coruwée.

XVIII. Encore ont chilz de Moustier pasturaige de chy alle *Bechue Roche* et au chemin hierdauble delle *Bechue Roche* de chy à werisialx (2) de *Nobrechée* (3) pour alleir les biestes de Moustier, sy avant que ly preit de Medame de Moustier vont devant Sainte-Aguisse de Franière (4), ou là environ; et sensy advenoit que chilz de Spy neheissent en nient fourbit (5) ou ouvert le voye desoubz le chasteal, ly herdier (6) de Moustier peult chaiser ses biestes parmy les preiz, mais qu'il cachaist le deraine (7) de ses biestes.

XIX. Item ont chiz de Moustier le pasturaige ou bois de Medame à *Nobrechée*, quant ils ont vii ans, et l'ont au tries (8)

(1) *Lachial*, lait.

(2) *Werisialx*, terres vagues, jachères, pâtures.

(3) *Nobrechée*, cette localité, dont le nom est aujourd'hui disparu, était située aux environs de Moustier.

(4) *Sainte Aguisse de Franière*, Sainte-

Agathe de Franière. L'église de Franière est placée sous le vocable de cette sainte.

(5) *Nient fourbit*, pas bien nettoyé.

(6) *Herdier*, vacher, bouvier.

(7) *Deraine*, dernière.

(8) *Tries*, trieu.

Figure 2. Extract from Barbier (1885) in which he quotes the 13th century document mentioning “*le Becheue Roche*” (Barbier, 1885: 118), “*alle Bechue Roche*” and “*delle Bechue Roche*” (Barbier, 1885: 119).

Other names

We have listed a few other names among the scientific papers and in the press (Table 1).

“*La grotte de Goyet*” is a variant mentioned on two artefacts from the De Puydt collection in the *Grand Curtius* Museum in Liège (Figure 3). It is also that name Marcel De Puydt gave to the cave in his notebook in 1881.

The “*Roche Percée*”⁷ is, as far as we know, only mentioned in an article of the Baron de Radzitzky d'Ostrowick (1909).

Lastly, in the scientific papers and also on one artefact (Table 1), one often reads: “*Grotte de*

Spy”, “*Caverne de Spy*” (Figure 4), “*li Grote di Spi*”, “*Grotte de l'Homme de Spy*”.

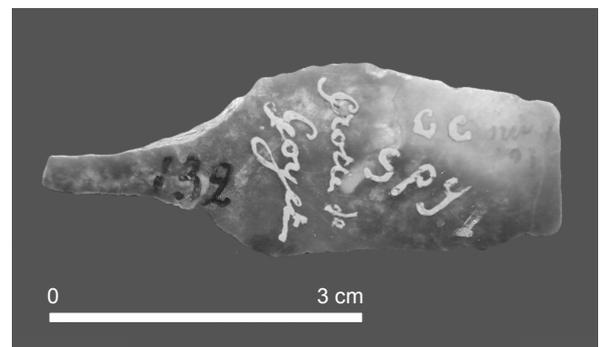


Figure 3. Tanged point from Spy, kept at the *Grand Curtius* Museum in Liège (De Puydt collection), mentioning “*SPY Grotte de Goyet CC 132*” (The writings have been accentuated for the ease of reading) (Picture: P. Pirson & A. Hauzeur).

⁷ “Pierced Rock”.

| <i>Scientific documents</i> | |
|--|--|
| <i>A. "Bêche aux Rotches" and variants</i> | |
| <i>A.1. "Bêche aux Rotches"</i> | |
| <i>Bêche aux Roches</i> | Angelroth, 1947 |
| <i>Bêche-aux-Roches</i> | Fraipont, 1891; Trinkaus, 1978; Orban, 1984 |
| <i>Bêche-aux-Rotches</i> | Alexis, 1887; De Puydt & Lohest, 1887; de Mortillet & de Mortillet, 1910; de Loë & Rahir, 1911; de Loë, 1928; Martin, 1950; Twiesselmann, 1971; Otte, 1978, 1979; Trinkaus & Ruff, 1989; Trinkaus & Shipman, 1996; Toussaint, 2001; Flas, 2006; de Loë, n.d. |
| <i>Bèche-aux-Roches</i> | Fichefet, 1982 |
| <i>Bèche-aux-Rotches</i> | Ausselet-Lambrechts, 1930 |
| <i>li Bêch aus Rotches</i> | Gilliard, 2007, 2009 |
| <i>(Li) Bêch-aus-Rotches</i> | Bellaire & Otte, 2001 |
| <i>Betchaud Rotche</i> | Carlier & Bal, 1991 |
| <i>Bèche-aux-Roches</i> | De Puydt & Lohest, 1886a; Rucquoy, 1886-1887; Rougier <i>et al.</i> , 2004 |
| <i>Bèche-aux-Roches</i> | De Puydt & Lohest, 1886b; Alexis, 1887 |
| <i>Bec-aux-Roches</i> | De Puydt & Lohest, 1886a, 1887; Alexis, 1887; De Seyn, 1948; Trinkaus & Ruff, 1989 |
| <i>Bec-au-Roc</i> | Alexis, 1887; Ulrix-Closset, 1975 |
| <i>A.2. "Bêche al Rotche"</i> | |
| <i>Bêche-al-Rotche</i> | Dewez, 1967, 1980, 1981a; Ulrix-Closset, 1975; Toussaint, 1992, 1996 |
| <i>Bêche-al-Roche</i> | Dewez, 1967; Groenen & Marée, 2000 |
| <i>Bèche-al-Rotche</i> | Dewez, 1981; Cahen, 1986 |
| <i>Bèche-al-Rotche</i> | Guyaux, 1989 |
| <i>Bêche-Al-Rotche</i> | Otte & Vandermeersch, 1997 |
| <i>A.3. Ancient sources</i> | |
| <i>le Becheue Roche</i> | Barbier, 1885 |
| <i>alle Bechue Roche</i> | Barbier, 1885 |
| <i>delle Bechue Roche</i> | Barbier, 1885 |
| <i>la Roche à Besche</i> | Bastin, 1973 |
| <i>A.4. The distorted names</i> | |
| <i>Biche-au-Bois</i> | Rucquoy, 1886-1887; Alexis, 1887 |
| <i>Biche-aux-Roches</i> | de Nadaillac, 1886a, 1886b, 1886c, 1886d, 1886e; Alexis, 1887; Ulrix-Closset, 1975 |
| <i>Biche-aux-Koches</i> | Alexis, 1887 |
| <i>Brèche-aux-Roches</i> | Rahir, 1928; Anciaux, 1950 |
| <i>brèches-aux-Roches</i> | Ulrix-Closset, 1975 |
| <i>B. Other names</i> | |
| <i>Grotte de Goyet</i> | De Puydt, 1881 (notebook in the possession of Mr A. Vercheval) |
| <i>La Roche percée</i> | de Raditzky d'Ostrowick, 1909 |
| <i>Grotte de Spy</i> | Gilliard, 2007 |
| <i>li Grote di Spî</i> | Gilliard, 2007 |
| <i>la caverne de Spy</i> | Angelroth, 1947, 1958 |
| <i>Li Trau Fô Djâke</i> | Gilliard, 2007 |
| <i>Correspondence</i> | |
| <i>la B(r)èche au Roche</i> | Vercheval archives: <i>Comte Albert de Beaufort à Marcel De Puydt, le 18 août 1886.</i> |
| <i>la grotte de la Brèche aux Roches</i> | MRAH archives: <i>Baron Alfred de Loë à Monsieur Cumont, Conservateur délégué, le 15 février 1904.</i> |
| <i>la grotte de la Bèche au Roche</i> | Vercheval archives: <i>Cte A. de Beaufort à Marcel De Puydt 8 août 1886; Le Comte de Beaufort, 1885.</i> |
| <i>la Bêche aux Roches</i> | Vercheval archives: <i>Note pour monsieur Maurice Jacquet (In: Brouillon de lettre de Marcel De Puydt à Monsieur le conseiller Jacquet, le 21 avril 1929).</i> |
| <i>Bêche-aux-Rotches</i> | MRAH archives: <i>Baron Alfred de Loë à Monsieur Van Overloop, conservateur en chef des musées royaux du Cinquantenaire, le 13 mars 1903.</i> |

III. Spy cave: which name?

| <i>Press</i> | |
|------------------------------|--|
| <i>Bec-aux-Roches</i> | La Nouvelle Gazette: <i>SPY Trouvaille préhistorique (10 novembre 1949)</i> . |
| <i>Betche aux Rotches</i> | Le Journal de Charleroi: <i>D'importantes découvertes archéologiques ont été faites à la grotte de Spy (11 août 1952)</i> ; La DH-Bruxelles: <i>La grotte de Spy livre, un à un, les secrets de la préhistoire (4 octobre 1952)</i> . |
| <i>Betche-aux-Roches</i> | Vers l'Avenir-Namur: <i>La Grotte de Spy est à nouveau l'objet de recherches importantes (12 août 1952)</i> ; La DH-Bruxelles: <i>La grotte du "Betche aux Roches", à Spy, livre ses secrets (13 août 1952)</i> . |
| <i>Betche aux Roches</i> | L'Indépendance (Charleroi): <i>Des fouilles importantes à la Grotte de Spy (12 août 1952)</i> ; La Nouvelle Gazette-Namur: <i>Après la découverte d'une nécropole au château Bastin à Spy (14 janvier 1953)</i> . |
| <i>Betche al' rotche</i> | La Nouvelle Gazette-Namur: <i>Après les découvertes du siècle dernier, que nous réserve encore le sous-sol de la Grotte de Spy ? (17 janvier 1953)</i> ; La Nouvelle Gazette-Bruxelles: <i>La grotte de Spy dite du "Betche al' rotche" La découverte des squelettes de l'"Homme de Spy" (25 janvier 1953)</i> ; La Nouvelle Gazette-La Louvière: <i>A la grotte de Spy, dite du "Betche al'Rotche" Les fouilles entreprises en 1952 vont-elles prouver que L'homme a occupé la grotte à deux époques bien distinctes ? (5 février 1953)</i> ; Germinal-Bruxelles: <i>Un cimetière mérovingien à Spy (24 mai 1953)</i> ; Germinal-Bruxelles: <i>Un cimetière mérovingien à Spy (25 janvier 1953)</i> . |
| <i>Mentions on artefacts</i> | |
| <i>Caverne de Spy</i> | Point from the Rucquoy collection, kept at the RBINS, mentioning "Cav. De Spy A.R. 5608". |
| <i>Betche aux Roches</i> | Blades from the De Puydt collection, kept at the <i>Grand Curtius</i> Museum in Liège, bearing the mention "Spy b.a.r = betche aux roches" and "Spy betche aux Roches = B.A.R." |
| <i>Grotte de Goyet</i> | Artefact and tanged point from the De Puydt collection, kept at the <i>Grand Curtius</i> Museum in Liège, bearing the mention "720 SPY.I.Goyet grotte C. Colard" and "132 SPY.II Grotte de Goyet CC", respectively. |

Table 1. Written sources: authors, correspondence, press, references on artefacts.

Survey

Methodology

A survey was taken in Spy village. About one hundred questionnaires were distributed. The questions were about the name of the cave and the meaning of it. We also asked the persons how old they were, whether they understood and/or spoke Walloon and finally whether they were native of Spy.

That approach did not pay. Only a few sheets were returned to us, probably in ignorance of the information. This was confirmed by the informal conversations we had with the inhabitants: most of them admitted that they knew nothing about the subject.

We finally chose to interview the categories of people likely to give objective answers to our survey. Forty-eight persons have thus been questioned.

The vernacular name

The younger people, either born or not in

the village, as well as the non native elder people, are most of the time not able to quote the ancient name. They often give the French term: "la grotte", "la grotte de Spy" or, in Walloon, "li Grote di Spî".

The elder people (50 or older) born in the village or in the vicinity give unhesitatingly the Walloon term: "li Betche aux Rotches".

Walloon being a spoken language, the suggested transcriptions often differ. They are likely influenced by the toponyms read in the press. Most of them can however be placed in categories A.1 and A.2 of Table 1, namely "li Betche aux Rotches", "li Betche al Rotche" and variants.

The vernacular meaning

Many of the persons who gave the Walloon toponym "li Betche aux Rotches" (and variants) do not know the meaning of it. The others often hesitate. The sense usually given is: "the Kiss to the Rock". Born in the village, we remember that our primary school teachers used to explain it by the distinctive shape of the lime-

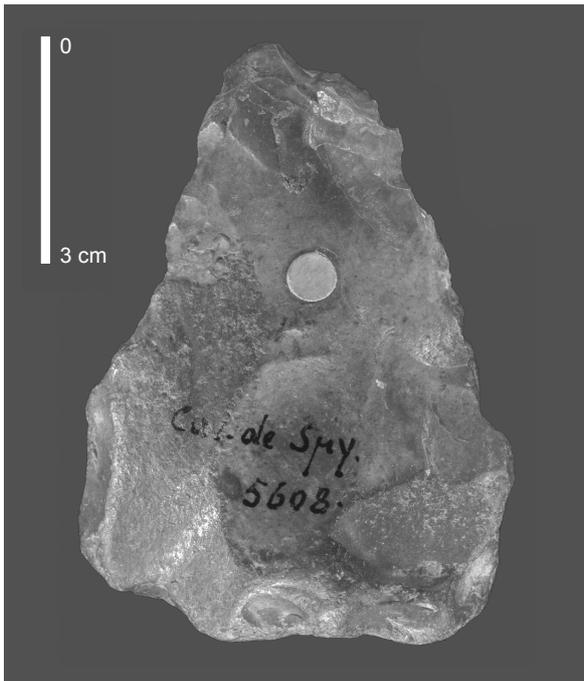


Figure 4. An artefact from the Rucquoy collection kept at the RBINS in Brussels and bearing the mention “Cav. de Spy” (for “Caverne de Spy”) (Picture: P. Pirson & A. Hauzeur).

stone outcrop representing the head of an elephant “giving a kiss to the rock” (Figure 5).

Other supplied meanings are: “rock in the form of a beak” or “head of an aurochs”, “because of the phonetic similarity between ‘Bec au Roc’ and the word ‘aurochs’”.

“Li Trau Fô Djâke”

In the old days, another name was in use in the village but the persons who still quote it nowadays are very few: “Li Trau Foû Djâke” [tró fu dzà:k], or “Trau fô [fɔ̃] Djâke” ([ɔ̃] being an intermediate sound between [u] and [o]), in French: “le trou de Jacques le Fou”⁸.

This toponym is found nowhere in the written sources, but in E. Gilliard’s *Dictionnaire du Wallon de Moustier-sur-Sambre* (2007). This Walloon writer and poet has investigated on the

same subject as well. “Trau fô Djâke” refers to a person by the name of Jacques, having occupied the cave “at the beginning of last century”. It is nowadays difficult to check the actual origin of that name.

DISCUSSION

Except for a few fanciful expressions, there is, in the 19th and at the beginning of the 20th centuries, a consensus about the toponym “Betché aux Rotches” [bɛʃ o rɔʃ], whatever the spelling. A few variants do exist however in the vernacular vocable and the scientific documents. The variants concern each of the three words of the expression: 1) *betché*, *bèché*, *bêché*, *besché*, *bec*; 2) *au*, *aux*, *aus*, *al*, *al’*; 3) *roche(s)*, *rotche(s)*, *roc*.

They concern the use of hyphens as well: “Betché aux Rotches”, “Betché-aux-Rotches”. For the ease of use, when we quote that form, we choose the spelling “Betché aux Rotches”⁹.

Phonetics and meaning

All variants of the Walloon phrase “*Li Betché aux Rotches*” [li bɛʃ o rɔʃ] correspond to the French “*le Bec aux Roches*”, i.e. “the beak to the rocks”.

- *Li* [li]: def. art., masc. and fem. sing.
- *Betché* (*bèché*, *bêché*, *bec*) [bɛʃ], [bɛʃ], [bɛk]: subst. masc., means “Beak”. As in French (“*bec*”), the word has two meanings: 1) beak or mouth, hence the logically derived meaning “kiss”, and 2) tip, point.
- *Aux* (*aus*) [o]: contracted article, corresponding to “à les”: to the + plur.
- *Al* [al]: contracted article, corresponding to “à la”: to the + fem. sing.
- *Roche(s)* [rɔʃ], *rotche(s)* [rɔʃ], *roc* [rɔk]: subst. fem. sing. (plur.): means rock(s).

As mentioned above, the first meaning (“beak / kiss”) is most commonly given by the

⁸ “the Foolish James’ cave”.

⁹ Hyphens are not used in the case of natural geographical entities.



Figure 5. The limestone outcrop representing the head of an elephant “giving a kiss to the rock”
(Picture: S. Pirson).

village people. The rock is said to show the shape of the head of an elephant giving a kiss to the rock.

The second possible meaning is that of a tip. In actual fact, that outcrop has the shape of a “*saillie pourvue d’une ouverture naturelle en forme d’arcade*”¹⁰ (Ulrix-Closset, 1975). Ulrix-Closset (1975) also writes: “*Le terme wallon ‘Betche’ signifie bec ou pointe. Si l’on tient compte de l’aspect du site, l’expression ‘Betche al Rotche’ signifierait ‘une pointe de rocher ou un rocher qui fait saillie*”¹¹.

In this connection, let us quote Alexis (1887) describing the cave: “[...] *un énorme rocher troué, simulant une sorte de bec d’aigle*

très crochu”¹².

A. de Loë (1928) expounds: “*Betche ou Bèche, mot wallon, signifie pointe, extrémité. Il s’agit donc d’un rocher qui fait saillie, d’une pointe de rocher*”¹³.

Consequently, the alternative is: “beak / mouth” (hence kiss) or “beak / tip”?

This diversity shows a semantic and formal reality. Seeking the origin of the toponym should allow searching that reality, finding out the most appropriate vocable and defining the meaning of it.

We have consulted a series of Walloon and French dictionaries with a view to drawing

¹⁰ “projection provided with a natural opening in form of an arch”.

¹¹ “The Walloon term ‘Betche’ means beak or tip. Regarding the appearance of the site, the expression ‘Betche-al-Rotche’ would mean ‘a point of rock or a jutting rock’”.

¹² “[...] an enormous piece of roc simulating a most hooked beak of eagle”.

¹³ “Betche or Bèche, Walloon word meaning tip, end. It concerns thus a projected rock, a rocky tip”.

up a list of the different meanings given in the course of centuries to the Walloon word “*be(t)che*” and to its French equivalent “*bec*”, as well as to their derivatives.

Ancient and modern Walloon dictionaries

Ancient dictionaries of the Walloon language already quote the word “*bechou* [bɛʃú], *pointu*”¹⁴ (Cambresier, 1757).

Remacle (1839) quotes “*bechou* / *bechow*” [bɛʃú], [bɛʃw], frenchified as “*bechu*” [bɛʃý], formerly “*beschu*” [bɛʃý], meaning “*pointu*”.

Dejardin (1863) quotes the Walloon of Liège “*bèche*” [bɛʃ] for “*bec*”¹⁵.

Grandgagnage (1845) gives the translation “*bèchou*” (pronounce [bɛʃú]) for the French “*pointu*”.

Modern dictionaries of the Walloon language of Liège, among others Haust (1933) and Stasse (2007), give “*bètchou* / *bètchowe* [bɛʃú] / [bɛʃw], *pointu(-ue)*”.

Bal (1985) mentions “*Betchaud Rotche*” with the meaning of “rock like a beak”. The meaning of “*betchaud*” is: “that likes giving kisses”, but also, in that dialectal area, “that pecks like a cock”.

Gilliard (2007) quotes: “*bètch: bec, bouche, pointe; baiser; jeu d’osselets*”¹⁶. In the same dictionary, he mentions: “*bètchu, -euwe: pointu, en forme de bec*”¹⁷.

Dictionaries of ancient French

For Nicot (1606), “*bechée*”¹⁸ also spells “*becquée*”, which confirms the variant “*bèche*”. This writer mentions moreover that “*becu, ou*

bequu, ou bechu signifie pointu, rostratus”¹⁹.

In its first edition, the *Dictionnaire de l’Académie française* (Académie française, 1694) mentions the same double spelling: “*Bechée ou plus ordinairement Becquée*”²⁰. Moreover, besides the meaning of bird beak, it mentions “*le bec de certaines choses*”²¹ or “*certaines pointes de terre qui se trouvent au confluent de deux rivières*”²².

The *Dictionnaire critique de la langue française* (Féraud, 1787-1788) gives, besides “*bec d’oiseau*”²³, the figurative sense: “*la pointe de certaines choses* [sic]”²¹.

The *Dictionnaire de la langue française* (Littré, 1872-1877) mentions, among 13 definitions: “6. *Extrémité de certains objets terminés en pointe*; 7. *Pointe de terre au confluent de deux rivières*; 8. *Angle saillant de la pile d’un pont*”²⁴. This dictionary also quotes the Walloon word “*bèche*” for “*bec*”!

Historical sources

As formerly mentioned (see “*Betche aux Rotches*” and variants section), the oldest toponym, “*le bech(e)ue roche*”, dates from the 13th century and is quoted by Barbier (1885: 118-119). In ancient French, it means “*la roche pointue*”²⁵. Let us note that, at the time, the French language was not standardised yet and still showed lots of imprecisions, e.g. using equally “*le*” (masc.) or “*la*” (fem.) with a same substantive (Delbouille, 1962: 16).

Let us also mention the toponym dating from the 17th century “*la roche à Besche*”, quoted by Bastin (1973). In modern French, the meaning is “*la roche à bec*”²⁶.

¹⁴ “pointed”.

¹⁵ “beak”.

¹⁶ “*bètch*: beak, mouth, point; kiss; knuckle-bones”.

¹⁷ “pointed, in the form of a beak”.

¹⁸ “beakful”.

¹⁹ “*becu, or bequu, or bechu* means pointed”.

²⁰ “*Bechée* or more usually *Becquée*”.

²¹ “the tip of certain things”.

²² “tongues of land at the confluence of two rivers”.

²³ “bird beak”.

²⁴ “6. End of certain pointed objects; 7. Tongue of land at the confluence of two rivers; 8. Angle projecting from the pile of a bridge”.

²⁵ “the pointed rock”.

²⁶ “the rock with a beak”.

It is likely that the current form “*Betche aux Rotches*” originates in the Walloon of Liège. As a matter of fact, the expression “*le becheue Roche*” mentioned in that document from the 13th century still exists in the Walloon language of Liège as “*li betchowe rotche*”. The phonetic similarity between “*betchowe rotche*” [bɛʧɔw rɔʧ] and “*betche aux rotches*” [bɛʧ o rɔʧ] is noticeable. Now, at that time, the monastery of Moustier-sur-Sambre (village near Spy and close to the cave) was mainly occupied by canonesses from the nobility of the principality of Liège. The monastery was at the time depending on the parish Saint-Denis of Liège (Gilliard, 2009). We can thus likely argue that the Walloon language of Moustier-sur-Sambre has been influenced by that of Liège, through the presence of these canonesses. It is moreover noticeable as well that in Moustier (but not in Spy), the Walloon for “*pointu, -e*” is still nowadays “*bètchu, -euwe*” (Gilliard, 2007). The variants of “*Betche aux Rotches*” (see “*Betche aux Rotches*” and variants section) give thus evidence of the phonetic relic of an at least eight centuries old toponym.

The official spelling

There is an official spelling of the Walloon languages (Feller, 1900). According to its criteria, the name should, after its pronunciation (see Phonetics and meaning section), be written “*li Bèch aus Rotches*” (Gilliard, 2007).

We meet the official spelling for the first time in a scientific paper in 2001 (Bellaire & Otte, 2001).

A small vineyard situated across the cave site and its *appellation contrôlée* wines produced since 2007 on the other slope of the Orneau river, were recently given the name “*Bèch aus Rotches*” (Figure 6).

Analysis of the different toponyms listed

“*Betche aux Rotches*” is the result of the historical evolution of an ancient toponym. The existence of three variants “*bec*”, “*bèche*” and “*betche*” can be explained historically, these forms being present in the ancient French and Walloon dictionaries (see above), and so it is for “*roche(s)*” and “*rotche(s)*”. Nowadays, in the village, one can hear “*Bec aux Roches*”, “*Betche*



Figure 6. One of the labels of the wine produced by the vineyard “*Bèch aus Rotches*” (Picture: P. Pirson).

aux Rotches” as well as “*Bèche aux Roches*”.

The variant “*Betche al Rotche*” is perhaps initially due to the influence of the “*Trou Al’Wesse*”, a cave in the Hoyoux valley (Modave, Belgium) where prehistoric material was found. “*Betche al Rotche*” remains however plausible, as the ancient name is in the feminine singular form. We notice that, in that case, the word “*ro(t)che*” is always singular, which is consistent, “*al*”, contracted article, corresponding to “*à la*”: to the + fem. sing.

The variant “*Betchaud Rotche*” seems unlikely to us, even if it refers to the notion of “*beak*”. But in this case, it should be spelled “*Betchaude*”, the word “*rotche*” being in the feminine (Gilliard, 2009).

Beside “*Betche aux Rotches*” and its variants, the name “*Trau Fô Djâke*” has practically sunk into oblivion. One may consider that it used to be “the second name of the Spy cave” in the first half of the 20th century.

Besides, one must admit that certain names are not plausible:

“*Brèche aux Roches*” seems to us a distortion of “*bèche*” by adding the consonant -r-. This could be due to the fact that the word “*brèche*”²⁷ belongs to the vocabulary of caves excavators and means stony sediment cemented by calcite, besides identified in the stratigraphic sequence of Spy (Pirson *et al.*, this volume: chapter VI). Let us also remind that the limestone of the cave is called “*brèche*” by the geologists (Pirson *et al.*, this volume: chapter V).

The name “*Grotte de Goyet*” is mentioned on at least two artefacts kept in the *Grand Curtius* Museum in Liège. This is due to the proximity of the *Moulin de Goyet*, a mill belonging to the canonesses of Moustier convent. This is likely the reason why Marcel De Puydt uses that name in his notebook in 1881. That name should not be mixed up with the *Grotte de Goyet* in Gesves, another major site in Belgian prehistory (e.g. Ulrix-Closset, 1975).

De Puydt will mention the name “*Betche aux Rotches*” for the first time in 1886 (De Puydt & Lohest, 1886a) probably after hearing the vernacular name in the village on the occasion of the August 1885 excavations.

The name “*Roche percée*” is due to the morphology of the outcrop in the form of an arch. It can be compared to “*Li Trawèye Rotche*” (same meaning), a cave in Sprimont (province of Liège) (e.g. Toussaint *et al.*, 1986).

The frequent use nowadays of the names “*Grotte de Spy*”, “*Caverne de Spy*”, “*Grotte de l’Homme de Spy*”, “*Grote di Spī*”, evidently show that the ancient toponym is disappearing.

Finally we can state that the few funny names “*Biche-aux-Roches*”, “*Biche-aux-Koches*”, “*Biche-au-bois*” are the result of distortions caused by persons ignorant of the Walloon language.

CONCLUSION

The name

The vernacular of Spy cave is gradually

falling into disuse. Only the persons aged 50 or more and native of Spy are still using it and quote most of the time the variants of “*Betche aux Rotches*” or “*Betche al Rotche*”.

We argue that the name “*Betche aux Rotches*” and variants is the most appropriate, as that vernacular vocable is the fruit of the evolution of a toponym dating back to the 13th century. According to the official spelling of the Walloon languages, it can also be written “*Bèth aus Rotches*”.

The more recent name “*Trau Fô Djâke*”, probably born at the beginning of the 20th century, is gradually vanishing as well from memories.

The meaning

The meaning of “beak / tip”, of “pointed object”, of “geographic place in the form of a tip” is clearly attributed to the toponym by the linguistic sources, thus eliminating the name “kiss”.

The meaning of “pointed rock” is confirmed both by the oldest mention (to our knowledge) of the toponym “*la bech(e)ue roche*” and by the ancient name “*la roche à Besche*”.

Moreover, that hypothesis is confirmed by the fact that, in Spy, “*Betche aux Rotches*” is masculine like the first word “*betche*” (the inhabitants of Spy say: “*Dji va au Betche aux Rotches*”²⁸). In Moustier, however, it has remained feminine since the 13th century (“*Dji va al Betche aux Rotches*”²⁸).

ACKNOWLEDGEMENTS

We are indebted to Patrick Semal (RBINS) who gave us the opportunity to start this study. We also wish to thank Jean-Luc Schütz, curator at the *Grand Curtius* Museum, who allowed access to the De Puydt collection. Michel Toussaint provided helpful remarks. We are also grateful to Jean-Marie Pierret, Dialectology Lecturer at Louvain-la-Neuve University (Belgium).

²⁷ “breccia”.

²⁸ “I’m going to the *Betche aux Rotches*”

Special thanks go to Stéphane Pirson for his valuable comments about the structure of this paper. We thank the inhabitants of Spy for their kind cooperation to the survey. Our deepest gratitude is especially due to Emile Gilliard, Walloon writer and poet, whose Walloon dictionary pointed out the 13th century historical reference, starting point of our approach.

We also want to thank our colleagues and friends of the *Centre d'Étude des Techniques et de Recherche Expérimentale en Préhistoire* (CETREP), who encouraged and supported our research. Finally, Odette deserves our gratitude for her kindly patience.

BIBLIOGRAPHY

- ACADÉMIE FRANÇAISE, 1694. *Dictionnaire de l'Académie française, dédié au Roy(Le)*. Paris, Chez la veuve de Jean-Baptiste Coignard et chez Jean-Baptiste Coignard: 676 p.
- ALEXIS M. G., 1887. Le nom de la Grotte de Spy. *Revue des Questions scientifiques*, **XXI**: 179-180.
- ANCIAUX F., 1950. *Explorons nos cavernes*. Dinant, Éditions du Guide de la nature: 316 p.
- ANGELROTH H., 1947. Considérations relatives à la Préhistoire dans la Province de Namur. *Bulletin de la Société royale belge d'Anthropologie et de Préhistoire*, **LVIII**: 173-179.
- ANGELROTH H., 1958. Les plus anciens habitants de la province de Namur, les Hommes de Spy. *Bulletin de la Société Spéléologique de Namur*, Bouge (Namur), **1**: 5-13.
- AUSSELET-LAMBRECHTS C., 1930. L'Art et la parure en Belgique pendant le Paléolithique supérieur. *Bulletin de la Société préhistorique française*, **27**: 468-482.
- BAL W., 1985. *Dictionnaire de l'Ouest-wallon*. Charleroi, Association littéraire wallonne de Charleroi, **1**: 411 p.
- BARBIER V., 1885. *Le Chapitre Noble de Moustier-sur-Sambre*. Namur, Veuve F.-J. Douxfils: 198 p.
- BASTIN N., 1973. Le village de Spy et son château. *Annales de la Société Archéologique de Namur*, **LVI**: 160-161.
- BELLAIRE C. & OTTE M., 2001. La grotte de Spy, (prov. de Namur). In: C. BELLAIRE, J. MOULIN & A. CAHEN-DELHAYE (ed.), *Guide des sites préhistoriques et protohistoriques de Wallonie*. Namur, Vie Archéologique, Bulletin de la Fédération des Archéologues de Wallonie, numéro spécial: 18-21.
- CAHEN D., 1986. La grotte de Spy et son importance pour la préhistoire en Belgique. In: A. LEGUEBE & D. CAHEN (ed.), *Au temps des Hommes de Spy. Nos ancêtres, les Néandertaliens*. Bruxelles, Éditions du Crédit Communal: 31-47.
- CAMBRESIER J., 1757. *Dictionnaire wallon-français ou recueil de mots et de proverbes français extraits des meilleurs dictionnaires*. Liège, J.-F. Bassompierre.

- DEJARDIN J., 1863. *Dictionnaire des spots ou proverbes wallons*. Liège, F. Renard.
- DELBOUILLE M., 1962. La notion de « Bon usage » en ancien français. *Cahiers de l'Association internationale des études françaises*, **14**: 16.
- DE LOË A., n.d. *Notions d'Archéologie préhistorique belgo-romaine et franque à l'usage des touristes*. Bruxelles, Touring Club de Belgique: 281 p.
- DE LOË A., 1928. *Belgique ancienne. Catalogue descriptif et raisonné. 1. Les âges de la pierre*. Bruxelles, Musées royaux du Cinquantenaire: 261 p.
- DE LOË A. & RAHIR E., 1911. Nouvelles fouilles à Spy, grotte de la Bêche-aux-Rotches. *Bulletin de la Société d'Anthropologie de Bruxelles*, **30**: 40-58.
- DE MORTILLET G. & DE MORTILLET A., 1910. *La Préhistoire, origine et antiquité de l'homme*. Paris, Schleicher: 709 p.
- DE NADAILLAC M., 1886a. Découverte d'ossements humains dans la grotte de Spy (province de Namur). *Revue d'anthropologie*, 3^{ème} série, **1**: 744-747.
- DE NADAILLAC M., 1886b. Découverte en Belgique d'une sépulture de l'âge du mammouth et du rhinocéros. *Revue scientifique*, 3^{ème} série, **11**: 345, 347.
- DE NADAILLAC M., 1886c. La Grotte de Spy. *La Nature. Revue des Sciences et de leurs applications aux arts et à l'industrie*, **14^{ème} année: 287-288.**
- DE NADAILLAC M., 1886d. La grotte de la Bêche-aux-Roches près de Spy. *Revue des questions scientifiques*, **20**: 561-565.
- DE NADAILLAC M., 1886e. Sur la découverte faite, en Belgique, d'une sépulture de l'âge du Mammouth et du Rhinocéros. *Note de M. Nadaillac, présentée par M. de Quatrefages. Comptes rendus hebdomadaires des séances de l'Académie des Sciences de Paris*, **103**: 490-492.
- DE PUYDT M. & LOHEST M., 1886a. Exploration de la grotte de Spy. *Annales de la Société géologique de Belgique*, **13**: 34-39.
- DE PUYDT M. & LOHEST M., 1886b. Sur les habitants de la grotte de la "Bêche-aux-Roches". *Comptes rendus hebdomadaires des séances de l'Académie des Sciences de Paris*, **103**: 893-894.
- DE PUYDT M. & LOHEST M., 1887. L'homme contemporain du Mammouth à Spy (Namur). *Annales de la Fédération archéologique et historique de Belgique, Compte rendu des travaux du Congrès tenu à Namur les 17-19 août 1886*, **2**: 207-240, 10 pl. h.t.
- DE RADZITZKY D'OSTROWICK I., 1909. Grotte de Bèche aux Roches (Spy). *Bulletin de la Société Scientifique et Littéraire Les Chercheurs de la Wallonie*, **3**: 125-127.
- DE SEYN E., 1948. *Dictionnaire historique et géographique des communes belges. Tome II*. Turnhout, Ed. Brepols: 1531 p.
- DEWEZ M., 1967. La Grotte de Spy: un site à protéger. *Parcs nationaux, Ardenne et Gaume*, **22** (2): 69-74.
- DEWEZ M., 1980. Recherches au gisement de Spy. *Activités 79 du SOS fouilles*, **1/1980**: 34-47.
- DEWEZ M., 1981a. Achèvement des fouilles sur la terrasse inférieure à Spy. *Activités 80 du SOS fouilles*, **2/1981**: 59-72.
- DEWEZ M., 1981b. Spy. Cent ans de fouilles et de découvertes. *Parcs nationaux (Ardenne et Gaume), Monographie n° 13*, **36** (1): 25-42.
- FELLER J., 1900. Essai d'orthographe wallonne. *Bulletin de la Société de Littérature Wallonne de Liège*, **XLI**: 1-237.
- FÉRAUD J.-F., 1787-1788. *Dictionnaire critique de la langue française*. Marseille, Mossy, **1**.
- FICHEFET J., 1982. *Histoire de Jemeppe-sur-Sambre et Froidmont*. Namur, Dubois & Fils: 228 p.
- FLAS D., 2006. *La transition du Paléolithique moyen au supérieur dans la plaine septentrionale de l'Europe. Les problématiques du Licombien-Ranisien-Jerzmanowicien*. Thèse de doctorat inédite, Université de Liège, **2** vol.: 370 p., 315 pl.
- FRAIPONT J., 1891. Les Hommes de Spy (la race de Canstadt ou de Néanderthal en Belgique). *In: Congrès international d'Anthropologie et d'Archéologie préhistoriques. Compte-rendu de la dixième session à Paris, 1889*. Paris, Ernest Leroux éditeur: 322-362.
- GILLIARD E. (ed.), 2007. *Dictionnaire Wallon*. Liège: 690 p.
- GILLIARD E., 2009. Li Bèche aus Rotches. *Chronique de la société de langue et de littérature wallonne*, **2009/2**. Liège: 1.

- GRANDGAGNAGE C., 1845. *Dictionnaire étymologique de la langue wallonne, tome 1*. Liège, Félix Oudart: 616 p.
- GROENEN M. & MARÉE B., 2000. La grotte-abri du Tiène des Maulins: premier bilan. *Notae Praehistoricae*, **20**: 61-72.
- GUYAUX J., 1989. *Basse-Sambre, Mémoire de la Wallonie*. Bruxelles, Paul Legrain: 192 p.
- HAUST J., 1933. *Dictionnaire liégeois*. Liège, Vaillant-Carmanne: 735 p.
- LITTRÉ E., 1872-1877. *Dictionnaire de la langue française*. Paris, Hachette.
- MARTIN J., 1950. *Le pays de Gembloux des origines à l'an mille. Notice archéologique*. Gembloux, Duculot: 113 p.
- NICOT J., 1606. *Le thresor de la langue françoise, tant ancienne que moderne*. Paris, David Douceur.
- ORBAN R., 1984. Adam et Ève ou Adams et Èves ? *In: Sur les traces des premiers hommes*. Bruxelles, Charles Susanne: 7-13.
- OTTE M., 1978. Analyse des burins de Spy. *Bulletin de la Société royale belge d'Anthropologie et de Préhistoire*, **89**: 151-165.
- OTTE M., 1979. *Le paléolithique supérieur ancien en Belgique*. Bruxelles, Musées royaux d'Art et d'Histoire, Monographies d'archéologie nationale, **5**: 684 p.
- OTTE M. & VANDERMEERSCH B., 1997. SPY, province de Namur, Belgique. *In: A. LEROI-GOURHAN (ed.), Dictionnaire de la Préhistoire*. Paris, Presses Universitaires de France: 993-994.
- RAHIR E., 1928. *Vingt-cinq années de Recherches, de Restaurations et de Reconstructions*. Bruxelles, Musées Royaux du Cinquantenaire, Service des Fouilles de l'État: 277 p.
- REMACLE L., 1839. *Dictionnaire wallon-français dans lequel on trouve la correction de nos idiotismes vicieux, et de nos wallonismes, par la traduction, en français, des phrases wallonnes, vol. 1*. Liège, Collardin: 687 p.
- ROUGIER H., CREVECOEUR I., FIERS E., HAUZEUR A., GERMONPRÉ M., MAUREILLE B. & SEMAL P., 2004. Collections de la Grotte de Spy: (re)découvertes et inventaire anthropologique. *Notae Praehistoricae*, **24**: 181-190.
- RUCQUOY M., 1886-1887. Note sur les fouilles faites en août 1879 dans la caverne de la Bèche-aux-Roches, près de Spy. *Bulletin de la Société d'Anthropologie de Bruxelles*, **5**: 318-328.
- STASSE S., 2007. *Le Wallon liégeois contemporain*. Liège, Société Royale Littéraire La Wallonne: 703 p.
- TOUSSAINT M., 1992. The Role of Wallonia in the History of Palaeoanthropology. *In: M. TOUSSAINT (ed.), 5 millions d'années. L'aventure humaine*. Liège, Études et Recherches archéologiques de l'Université de Liège, **56**: 27-44.
- TOUSSAINT M., 1996. D'Engis à Sclayn, les Néandertaliens mosans. *In: D. BONJEAN (ed.), Néandertal*. Andenne: 49-60.
- TOUSSAINT M., 2001. *Les hommes fossiles en Wallonie*. Namur, Carnets du Patrimoine, **33**: 61 p., 1 DVD.
- TOUSSAINT M., BONÉ E., GILOT E., HEIM J., LAWARRÉE G., SABLON R. & VAN GOETHEM J.-L., 1986. Paléoenvironnement du Paléolithique supérieur ancien de la caverne de la Traweye Rotche à Sprimont (province de Liège, Belgique). *Bulletin de la Société royale belge d'Anthropologie et de Préhistoire*, **97**: 99-132.
- TRINKAUS E., 1978. Les métatarsiens et les phalanges du pied des Néandertaliens de Spy. *Bulletin de l'Institut royal des Sciences naturelles de Belgique*, **51** (7): 1-18.
- TRINKAUS E. & RUFF C., 1989. Diaphyseal cross-sectional morphology and biomechanics of the Fond-de-Forêt 1 femur and the Spy 2 femur and tibia. *Anthropologie et Préhistoire*, **100**: 33-42.
- TRINKAUS E. & SHIPMAN P., 1996. *Les Hommes de Néandertal*. Paris, Seuil: 429 p.
- TWIESSELMANN F., 1971. Belgium. *In: K. P. OAKLEY, B. G. CAMPBELL & T. I. MOLLESON (ed.), Catalogue of Fossil Hominids. Part II: Europe*. London, Trustees of the British Museum: 6-13.
- ULRIX-CLOSSET M., 1975. *Le Paléolithique moyen dans le bassin mosan en Belgique*. Wetteren, Éditions Universa: 221 p.

AUTHOR'S AFFILIATION

Philippe PIRSON
Centre d'Étude des Techniques
et de Recherche Expérimentale en Préhistoire
Les Chercheurs de la Wallonie
128, rue de la Grotte
4400 Flémalle
Belgium
pirson.ph@skynet.be