

**LOOKING FOR THE CONTACT ZONES:
BECOMING-WITH CAVES AND HUMANS**

OR A STORY OF AFFECT

By

[REDACTED]

Dissertation Submitted in Partial Fulfilment of a B.A. (Hons.) in Anthropology

University of Wales Trinity Saint David

April 2014

To ADES

ABSTRACT

The attempt to ontologically reconcile the human and non-human has been widely debated in academia. Drawing mainly on Donna Haraway's concept of 'becoming-with', this research looks at the relationship between humans and "inanimate" non-humans and explores how they become co-agents in the shaping of their mutual identities. This is illustrated by looking at the specific case of speleologists and caves and by reflecting on how their co-histories are formed through the lens of affect.

Engaging the "inanimate cave" in this discussion entails questioning what it is to have agency. For that I turn to ideas of materiality that bring the non-human and the "inanimate" to the fore as actors and further broaden the discussion by contending that in order to understand this relationship of affect, the human has also to be involved in the process of being a materiality. How are the seemingly distinct materialities of the speleologist and the cave creative actors in the process of 'becoming with'? Who becomes through this encounter?

Haraway's idea of 'contact zones', the place or occurrence where an encounter between humans and non-humans takes place and unfolds, finds similar echoes in speleology. Whilst searching for new caves speleologists tirelessly pursue their own geological 'contact zone', a place where two different types of rock meet and sometimes become holes that grant them access to an otherwise unmet cave. This physical and conceptual point is where speleologists and caves often have their first encounter, and it is along these not always straight lines that I follow how the actants of these stories intersect paths. Illuminated by the light of speleology, I attempt to reconnect the affective entanglements of this relationship and surface its ontological dimensions. This is presented throughout the text as a series of stories and discussions that become more and more intertwined, the methodology intentionally mirroring the open-endedness of the process of 'becoming with'.

CONTENTS

Abstract	iii
List of Figures	v
Acknowledgements	vi
Introduction	1
Chapter One: Approaching the Matter	4
Chapter Two: Philosophies of the Mud.....	11
Chapter Three: Looking for the Contact Zones	17
Chapter Four: Breaking and Remaking Caves and Humans	22
Conclusion: Wrapping Affects.....	28
Glossary of Speleological Terms	29
Appendix 1: Caving Poem 'Down Below'	30
Appendix 2: Dissertation Presentation for Potential Participants	33
Appendix 3: Participant Signed Forms of Consent	34
Appendix 4: Interview Participants 1	50
Appendix 5: Interview Participants 2	53
References	56

LIST OF FIGURES

Figure 1: Stones According to Egill Saebjornsson	12
Figure 2: Sexo Duro Como La Roca.....	18
Figure 3: <i>She</i> 2010.....	23
Figure 4: Rock giving birth to human	26
Figure 5: Speleologists wrapped in mud	27

ACKNOWLEDGEMENTS

This research would never have gone beyond the status of an “interesting idea” without the guidance, academic and personal brilliance, of my supervisor Luci Attala, Lecturer in Anthropology and Programme Director at the University of Wales Trinity Saint David. For her expertise in this area of study and for her commitment, but above all for how insightfully she was able to challenge me and constantly make me work harder, I am thankful.

I would also like to thank the Department of Humanities of the University of Wales Trinity Saint David, Dr. Rachel Cassidy, Head Supervisor of the Anthropology Dissertation Committee and Dr. Emma-Jayne Abbots, Lecturer in Anthropology.

Throughout the course of my research many people have given me invaluable support and advice and in great part the completion of this dissertation is due to them. The contents and ideas here presented are, however, my sole responsibility.

I am greatly indebted to Professor Santiago Urrutia Izaguirre, Lecturer in Sociology at the University of the Basque Country (UPV). I am grateful for his continuous support, for discussing ideas and drafts, for helping me with translations, and for receiving this project with enthusiasm. This research would not have taken place without its human and non-human participants.

I would like to thank the speleological clubs and all the members and respective families who, directly or indirectly, took part in this study.

To the caves of Lezandipe, Laminak, Goikoetxe, Esuneta-Urgitxi, Inubija, Jornos, Torca del Carlita, Axlór Trokea, Lezate, Ineritze, Abitta and all the ones with whom we make and break together.

The will to pursue this project emerged from my involvement in the practice of speleology. The subject of my study and the participants involved in it, human and nonhuman alike, are therefore relationships that started being built many years prior to my fieldwork and will hopefully continue long after its conclusion. For their support and companionship, I am grateful.

A special thanks to Oskar, for questioning the taken-for-granted, for critically engaging with this research from start to finish.

To the artist and explorer Rober Garay, for the interview and guided tour of his exhibition ‘Coelacanthus Biscayensis 2.0’, which was perhaps the event that marked the turning point in the

direction of my research. To him, my sincere respect for his artistic and cultural intervention with humans and nonhumans, and for the way he captures and brings the history and landscapes of Euskal Herria into the lives and imagination of its people and beyond.

To Kris and Omer, for opening their house and their lives to me.

To Miren, Elenita and Borja.

To my fellow colleagues, for their support during our discussion groups, and for witnessing the coming together of months of debating ideas. To my colleague James Randal for all the fiery discussions and disagreements, for his enthusiasm, intelligence and friendship.

To Bruce, for first introducing me to caving in the Scottish Highlands and sparking this passion.

To Connie, for coming back to the country in time to witness the most frustrating moments of my dissertation and helping me put my ideas in order.

And above all to Dave, for his unconditional support and for proof-reading and critically discussing all my drafts.

INTRODUCTION

Caves have long been looked at as testimonies to the history of humankind, standing witnesses of the evolution of our planet, of biota and adaptation, of our climate and our species, of our primordial use of technology, of our engagement with our food chain, of our life and death, of our creativity, of our minds. It is therefore not surprising that these same places that have arrived to us as imperfect time-capsules of planetary evolution and adaptability, have long been looked at as *containers* of facts, *backgrounds* of history, and turned into laboratories for the insatiable pursuit of the answers that our emancipated, yet seemingly *evolution-isolated species*, so eagerly seeks. The idea of *evolution-isolated species* is of importance here. In the quest for understanding our place in the world, as humans have come to embrace the perspective of a staggering evolutionary superiority of our species, a progressive distancing and isolation from all that is other and the mastering of nature through the unmatched creative power of our mind. The rails then are laid down for the Cartesian dualism of mind versus material to run at full tilt, and the cave, that is formed by seemingly inert rock, is put in a domain of a foreign material nature where knowledge can be explored and harvested. Unable to escape this paradigm that ultimately places nature (and even more so abiotic nature) as a separate space from the human, the speleologist becomes a human of its time. Having emerged in the 19th century, the practice of speleology as we know it today has very much developed in line with the idea of scientific pursuits (Perez, 2012). Primarily based on a physical experience with an exploratory goal, speleologists become embedded in a practice that entails an empirical approach to the environment they move in: observing, recording, comparing data, making informed predictions to explore further; both the cave and the human explorer being re-affirmed and replicated, respectively, as objects and subjects through these encounters. My research, however, suggests that amidst these paths of science, geology and history moves a much more lively and agile relationship between the human and the cave.

Intended at challenging perceptions that have placed the speleologist and the cave in a subject-object dualistic view of the world, and questioning the human-nonhuman dichotomy, this paper looks at how the speleologist and the cave affect each other in a process of constant *becoming*. The argument here presented is thus situated within academic debates that attempt to challenge the dichotomy between the subject and the object, and view the nonhuman (in this case the cave) as an

agent (Haraway, 2008; Deleuze and Guattari, 1987) and actant (Bennett, 2010a; Bennett, 2012; Latour, 2004). Derived from these theoretical discussions, as well as from the fact that the field subject of my research emerges from a primarily physical and tactile encounter between the speleologist and the cave, my work engages with ideas of materiality that bring the inanimate to the fore as an agent that has the power to affect and give materials vital life (Bennett, 2010a). Thus “rocks” and “cave” will be addressed here not necessarily interchangeably, but as part of the same ontological problem and discussion.

How do the speleologist and the cave create each other? How are their seemingly different materialities creative agents? What ontologies emerge as the cave and the speleologist *become-with* each other? By addressing these questions, this work thus attempts to shift the human from the pivotal centre from where all action springs and more ambitiously, by lending a different gaze to what it is to be animate and inanimate, it hopes that the relational placing of humans and nonhumans may bring forth a different becoming.

Although influenced by intellectual movements in political theory (Haraway, 2008; Bennett, 2010a), Science and Technology Studies (STS) (Latour, 2008), and Philosophy (Deleuze and Guattari, 1987; Stengers, 2005), this study is conducted from a Social Anthropology perspective and relies heavily on participant observation to support its discussion.

Chapter One, *Approaching the Matter*, presents the methodological approach to this topic. In this section it is explained how the theoretical framing discussed in the following chapters, and the topic of this research came together during fieldwork and were later worked on and carefully put in writing. The scope of this section is to highlight how the method and methodology are dependent on the topic here presented and lead the reader into understanding how the cave and the speleologists are going to be approached and articulated as both actants and participants throughout the text. A short biography of the participants in this study is also introduced at this early stage.

In Chapter Two, *Philosophies of the Mud*, I discuss the theoretical underpinnings of this study within academic debates that challenge the positioning of the human above its surrounding world by introducing nonhumans as co-creators of events, and lay the ground for the argument defended in the next chapters.

Following from the theoretical discussion of the previous chapter, in Chapter Three *Looking for the Contact Zones*, I explore how the cave and the speleologist become co-creative actors through the force of art and discuss the difference between material and materiality.

Breaking and Remaking Caves and Humans in Chapter Four discusses how the cave *becomes* through the human body but suggests this view to be insufficient and proposes a different perspective that involves looking at the inanimate world as a vital force in the process of co-creation.

I conclude the discussion in Chapter Five by highlighting the main considerations.

1. APPROACHING THE MATTER

Reflections on Methodology

Even in the very early stages, when this research question was still in its infancy, it was already emerging that any attempt to illustrate and discuss the relationship between the human and the cave in the context of a co-creation of meaning, would require reflecting on possible approaches to fieldwork. It was therefore not surprising to find that some of the academic debates contesting the subject-object dichotomy were also engaging in discussions about the co-production of knowledge during the process of pursuing research (Deleuze and Guattari, 1987; Jasanoff, 2004; Haraway, 2008; Latimer and Miele, 2013; Latour, 2004; Stengers, 2005). It is influenced by these methodological approaches that my research process, from the field to the paper, reflects through and through a constant challenging of what constitutes a subject. The participants, human and nonhuman alike are therefore as much the subject of the outcomes of this work as the author. I am as much an author as a participant. The materiality of assemblages and the stories I will present here which are still forming out of these encounters, are as much the subject of these ontologies as written history and the scientific eye. The lively matter of the inanimate mineral is as much a subject as the lively matter of the animate human. My choice of method and methodology is therefore shaped to better illustrate the argument here made, where I continuously emphasize that the ontological becoming of the cave and the speleologists is a *becoming-with* one another, and with others.

During the process of writing I took inspiration in Haraway's (2008) ideas of play and players - where I both play with the way I write this paper and let other players come into it. This chosen approach aims to generously allow room for the innumerable events that took part in this study to negotiate it, dissent, re-assemble or act in a way that contradicts it (Stengers, 2005; Latour, 1991), at the same time that it attempts a discussion that 'invites readers into a collective project' (Bennett, 2011) where they become part of this conversation. The decision of including caves as participants is then not just an effort to "give them a voice" but to make the cave-speleologist emerge from their encounters as agile and lively co-actors that affect each other in their becomings.

Whose eyes? Whose voice?

In a document I prepared to circulate amongst the potential participants, where I summarized my initial research topic (Appendix 2), I asked them to be “impromptu anthropologists”, to look at the topic of the research with a different eye, to question the taken-for-granted. I would like to pose the same challenge to my readers, for them to put on the speleologist's hat that I am handling here, and adjust their eyes to the world that is going to be illuminated by the little lights on their heads.

It would be foolish to believe that the perspective I have here taken as an anthropologist, and the way I associated things, ideas and words, would be the way speleologists would themselves do it. Or perhaps better, given the fact that I am also a speleologist, any one speleologist could be said to have a unique perspective and way of living the same things. Since the aim of this work is to blur somewhat the human gaze, its intention is not to dwell in reflexiveness about extreme relativism or personal views. I am aware, as Daniel Miller (2010) suggests, that when going into the field to do research with an academic eye, it is also possible that the participants will have a more “common-sense” view of the things we are conceptualizing. Although I would try to steer clear of that word when describing the way people relate to their daily interactions (as most of us, even scholars, relate to their daily world in a “common sense” way) the point is valid in the sense that it expresses that we are not constantly questioning everything we engage with. Notwithstanding, it is also worth noticing two things. First of all, although many of the participants did have (to borrow Miller's word) an initial “common sense” reaction to my questioning of what is a speleologist and what is a cave, most of them, when asked to reflect and approach it from another angle displayed some very bold perspectives. Secondly they also often emphasized that although each of them lives speleology in a different way, they have many things in common: they go underground together, their differences come together to form a stronger whole (for example in skill or preference to perform certain tasks or do certain things) and the role of one depends on the role of the others and views become co-lived. This dissertation will follow more often in the footsteps of this associative way of living the cave, than in the relativism of individual perception. Even where individual perceptions and sensations are discussed in this paper, they will hopefully appear as the participants have attempted to put them across: as emerging from the relatedness with everything else around them, be that other speleologists, the cave, rocks, dreams, stories or skills. In the same way that in speleology these assemblages make their understanding more complete, so here I intend for an assemblage of eyes to see more. I therefore let my voice flow, aware that I speak for neither the speleologists nor the caves, but hopefully add something to their dimensions. As Michel Foucault

and Gilles Deleuze (1977) put it in one of their conversations about power, the intellectual who used to speak on behalf of “the other”, who used to represent someone else's voice, ceased to exist when he acknowledged that the animate masses *have* knowledge of the world around them and can speak for themselves. It is also my intention to here present these voices in such a way that the readers, mainly through the experiences of the speleologists, will start wondering if those inanimate masses of caves and rocks, are actually also speaking something that most of us have not yet synchronized ourselves to experience.

The Becoming of the Research Question

Due to the fact that prior to starting this research I had previously practised speleology for two years with one of the speleological groups in Bizkaia, Basque Country, when I set out to the field in July 2013, I was already aware of some of the things I wanted to look at in the caving world. Something that had kept surfacing in conversation was the fact that many speleologists were making a distinction between themselves, cavers and “cave tourists”, which I soon realized to come closely associated with the idea that speleology embraces a type of scientific pursuit (Perez, 2013) whereas the other activities are seen as leisurely. One day, in conversation around the dinner table for the occasion of a speleological First Aid course, I inquired why it was that a certain speleological magazine only had scientific articles, when the world of speleology was so diverse. The answer to my question was what eventually sparked my interest in pursuing this line of research and looking at the subject-object from an angle of affect: I was told that they only write scientific articles because speleology is a science. My experience of living the caving world was left at odds with this answer, as it seemed somewhat out of touch with what was happening in the relationship of caves and speleologists. In fairness to the conversation, even those who did advocate such a view on that occasion have, under other circumstances, often mentioned speleology as being much more than science. But the prompt assertion suggested that there as something to be questioned.

Initially setting out to look at this, I approached a wide range of written materials from one of the clubs and some local libraries, in an attempt to understand what was being represented about Basque caves, by Basque people. What emerged from that research was a vast array of documents that appeared to focus on caves and science, caves and history and caves and myths, sometimes all three perspectives co-existing in the same article (Les, 2005). Trying to reconcile the nuanced experiences I had observed during the practice of speleology, and the overwhelming presence of cave science and cave mythology, I initially framed my research around the topic of “myth and science in the caves” (Appendix 2) in order to understand how science and non-science (initially as

myth) were co-living simultaneously not just in writing, but in the contemporary physical encounter with the caves.

I started by organizing a round of recorded individual interviews with those who had agreed to participate. The first questions prepared for the interviews (Appendix 4) were more structured, but as information started coming together I gradually changed them to focus less on myth, beliefs and science, and more on the experiencing of the cave (Appendix 5). Consequently the interviews became more flexible and engaging in dialogue. It was out of one of these interviews that a participant challenged my perspective when saying that their scientific-like pursuit was possibly obscuring a much more complex experience of the cave. From here hence my research entered another stage, where I slowly framed the question as it is now. I returned to the field again for four days in January 2014 and have, from that point until the completion of this project, maintained contact with the participants via email and they have kindly answered all my questions.

Challenges

Speleology is primarily a physical engagement. Being constantly reminded of that, initially I was concerned about writing something too abstract and detached from its lived experience and from how the people who practised it perceived it. I later understood my concern to be unjustified, since although this dissertation will always ultimately reflect the perspective of the researcher, it was a work that slowly formed, was led and shaped, by the world it involved itself with (Law and Singleton, 2013).

This study was generally well received, although during its very early stages it was somewhat challenging to get some of the participants to engage with it. Although, as mentioned previously, I had been involved in the practice of speleology with most of the participants before, perhaps due to the accustomed practical and empirical side of speleology, I was confronted with questions regarding the usefulness of the study. The support of one of the speleologists, who is also a well regarded and respected academic within the speleological community, and who embraced the role of gatekeeper, was possibly what built the initial bridge for a Humanities-focused study to find its way in. Once these questions were addressed and talked through, that barrier simply disappeared and the initially reluctant question was replaced by more curious and engaging ones. As for my own role as speleologist-turned-researcher, once we had overcome the question of the usefulness of academic studies, in particular, a non-scientific one, most people were happy to collaborate, some going to great lengths to help and others showing interest in reading the outcomes of the dissertation, once completed. Primarily written as an academic paper to fulfil the requirements of a

Bachelor of Arts in Anthropology, I would also like to make the readers aware that this study also has another audience in mind.

Area, Language and Other Considerations

This research took place in Bizkaia, Basque Country, where the two main languages are Euskera (Basque) and Spanish, and all the participants involved in this research speak either both, or one of these languages. I am only acquainted with some Basque words and expressions but speak semi-fluent Spanish, and our direct verbal communication was mainly pursued in this language. A couple of people have kindly volunteered to help me with translations and corrections of written texts. The informative documents prepared to be circulated amongst the participants (Appendix 2, 3, 4, 5) along with the interviews and emails, are therefore all written in Spanish.

Names of places, caves and expressions might appear throughout this text either in their Basque form, or the Spanish version. This reflects my own lack of linguistic dominance, and the fact that my learning of the languages (Basque and Spanish) happened through social context, therefore acquiring a non-uniform way of using language and terminology. There is however an attempt for consistency and writing the same words always in the same way.

The speleological terms and concepts are here used as understood by speleologists. Most of this terminology will not be explained in the text, but comes added as a glossary of simplified speleological terms at the end of this paper, adapted from a wide range of materials and re-written here for a non-specialized audience.

All the participants have given signed consent to participate (Appendix 3), but in order to maintain confidentiality their names have been concealed in the copies here attached. Due to the sheer volume of email correspondence exchanged throughout this research, these will not be included in appendix. Along with the audio recording of the interviews and transcripts, the emails remain in my possession but can be made available to the University of Wales trinity Saint David, on request. For the time being, the recorded interviews and emails are available only in Spanish.

For the sake of facilitating the reading words and expressions that appear in *italics* will be either used for emphasis or for names of books, words or expressions “in double quotation marks” are being highlighted as problematic or controversial, whereas words or expressions in 'single quotation marks' will be used for direct citations.

When participants are used as direct informants, their names will appear (in brackets and without a date). All the other sources will be properly referenced.

The photographs here used are all courtesy of one of the speleological clubs.

The Main Participants

All the discussions and stories here presented are the product of the relationship between myself and the participants, and at this stage I would like to present a brief biographical list of those who took part in this project. To ensure confidentiality I have used pseudonyms instead of real names, unless the participant has specifically requested to appear with his or her real name. However, biographies and pseudonyms will be given separately in order to avoid cross-referencing the identity of the participants. Bearing in mind that this is an academic study, which intends to comply with certain standards and courtesies, most of the tone presented in this work aims to be of mainstream academic standard. That said, the speleological community, like many “tribes”, as one of the participants likes to call it, is also very much based on proximity and jocosity. I will therefore, briefly in this section, allow myself a certain level of playfulness when introducing the participants.

Human participants' pseudonyms (in no particular order):

Billy, Dom, Larry, Rivers, Chris, Ted, Karl, Brian, Garay, Bard

Biographical notes (in no particular order):

A speleologist with an interest in geology. Joined speleology as a cave-diver and now is dedicated mainly to dry exploration. A good explorer and tracker of caves and hidden passages. Tries to think like a cave. Clears off cumbersome mud stuck on equipment by putting it in his mouth and licking it.

A mature speleologist with a flair for blurring myth and reality. Known for carrying his own special brand of hydration fluids into caves.

A fireman, climber and speleologist who joined the speleological club in his teenage years. Has a special grip on caves and a visceral way of living them.

A speleologist who started exploring caves in his early teens and has not stopped since then. Dedicated to exploring but also engaged in surveying and photographing. His body seems to have developed adapted to caves. Is known for having a defiant relationship with cave gravity.

A young speleologist with a mountaineering background. Shows particular enthusiasm in cave perforation and excavation.

A young speleologist with a mountaineering background and an interest in minerals. Known for having an eye for finding mineral detail, especially when constricted in tight squeezes.

A speleologist involved in researching the history of speleology in his area and with a particular interest in new cave species.

A speleologist who gradually withdrew from the activity. Remains involved mainly with surveying and technological applications.

An artist and explorer involved in cave exploration. The discoverer of findings inside caves such as guns and bones. Known for having the eyes of a lynx. Has used stories and the history of caves in his art.

A speleologist known for dedicating his entire life to the exploration and documentation of caves. Dedicated to surveying, mapping, photographing and speleological safety and rescue.

A cave that runs along a contact of limestone and marl. Offered by a vertical entrance through a big hole on the ground in the middle of woods and home to a big initial collapsed boulder chamber. Witness to a few bats, crumbly vertical cracks, mud and an air current that throws earth to the eyes and then fades away in different directions. Partly responsible for speleological obsessions.

A limestone cave enveloped in flowstone and speleothems that when illuminated emerge in tones of white, honey yellow, orange, brown and dark red. Through it has circulated air, rivers, infiltration ponds, mud, tree roots, worms, dormice, bears and other critters. Some have never left. Inviting to the human. Muse to speleological poetic stints.

A cave that develops along a mainly vertical crack and is plastered by thick human-swallowing mud. Became legendary for making some humans give up speleology. Not gentle on the human. Muse to outbursts of speleological hatred.

2. PHILOSOPHIES OF THE MUD

Worldly Rocks

This is a work that deals with getting muddled. Like Donna Haraway (2008) and her dogs in *When Species Meet* my creatures are of the mud, of the earth. My caves and humans are relationships of the senses and their muddy entanglements are perhaps a lot stickier than one would like from their ideal companion species. Theirs is not an encounter of paced synchrony and warm companionship, nor is their touch always gentle and their regard high. My caves and humans do not often flow through each others bodies in a choreographed dance as do the humans and canine partners in Haraway's (2008) agility contests. At best they are a mix of a few admirably placed steps, hard blows and clumsy reaches. That is not to say that my human and rock creatures cannot interact - because they can, and they do - nor that they cannot be companions and involved in a relationship that seeks a politics of respect (Haraway, 2008). They do however, pose different challenges. If through her agile argument about companion humans and dogs, Haraway was able to bring the *world-forming* human and the *poor-in-world* dog (Heidegger, 1995) out of their condition and give them a more equal place in the democracy of relationships, much work still lies ahead for Heidegger's *worldless* rock to come forth and make a statement. The relationship of speleologists and the rocky caves here discussed, has thus the complication of one of them not only not speaking, but also of being seen as not having a “communicating” existence that can have access to other beings (Heidegger, 1995). But not all is lost, and there is enough academic agitation to suggest that others (Cohen, 2010) have already been paving the way and challenging the view that stones and minerals are 'inexpressive, unyielding, immobile' (Cohen, 2010, p.56). In the fantastic conversation about the book *Stones According to Egill Saebjornsson*, where Icelandic artist and musician Egill Saebjornsson inflates rocks and minerals with life and explores human relationships with the inanimate, Jane Bennett (2012) discusses with the author the idea of worms and minerals as possible co-actants with the force of art. What she articulates is that if we stop seeing art as a representation of the world and instead see it as an active force, then all the things involved in its co-creative power no longer need to be looked at through the sticky classification of agents that is usually attributed to animate beings, instead things emerge as co-actants of that force. Similarly,

Bruno Latour (2008) does not need to attribute any anthropomorphic agency to the nonhuman. For him the power to affect and be affected, that is common to all things human and nonhuman alike, is what makes them actants and therefore participants in the world.

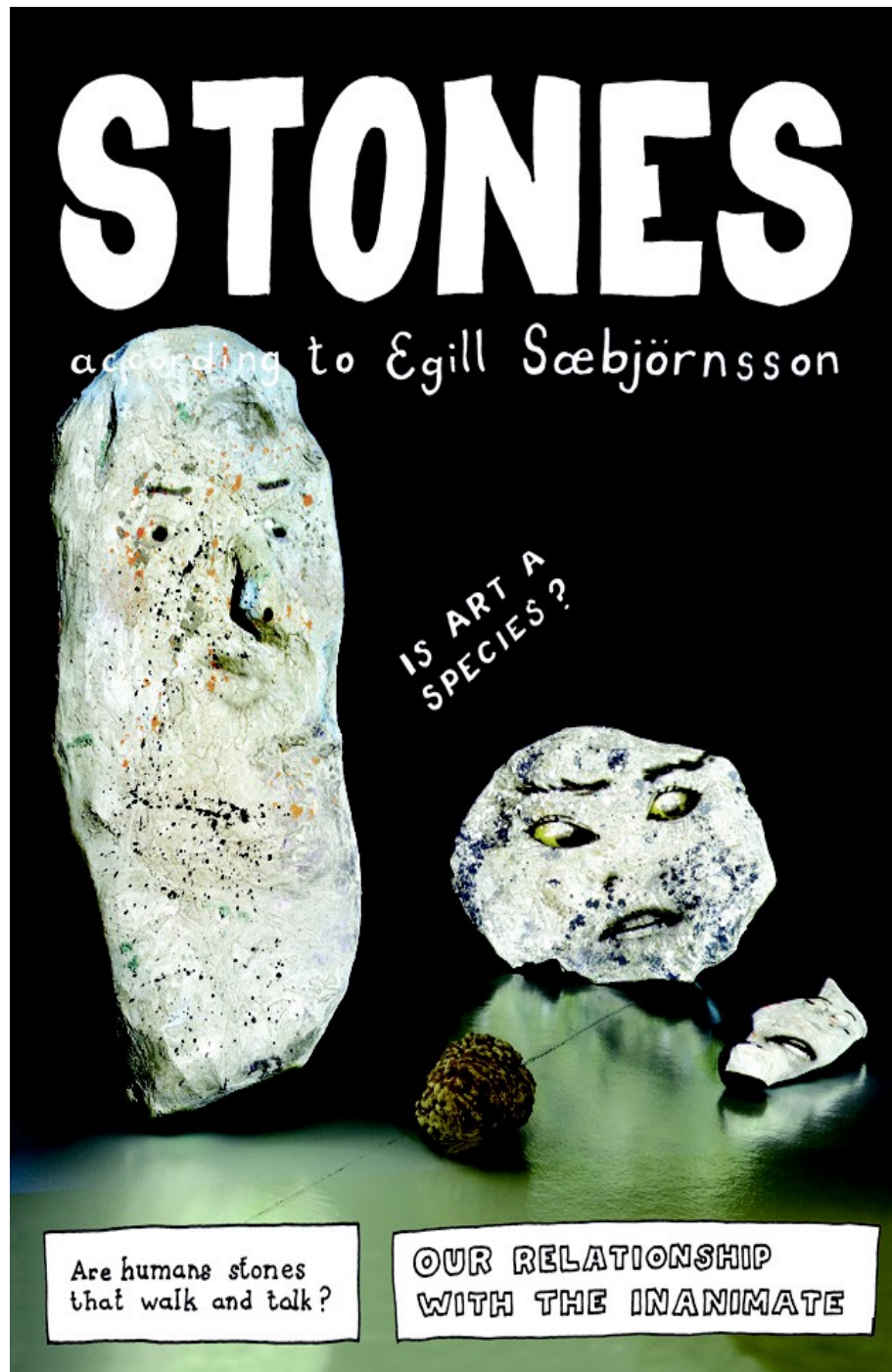


Figure 1: Stones According to Egill Sæbjörnsson (in Bennett, 2012)

When Bennett (2010a) wrote her book *Vibrant Matter* she did something bolder. Not only did she bring materials vibrating their way to life as co-actants, she allowed them a life that is independent

from the human, that is latent and potential in spite of what encounter it forms: a vitality. By describing how independently of humans a pile of rubbish constantly becomes something else - something slimy, toxic, spreading - she convincingly makes a claim for taking materials seriously as things that potentially influence and affect us through their potentially hazardous activity. Although Bennett's goal is truly valiant and exciting, my intention here is not to align my project with her political statements (Bennett, 2010b), nor to put too much focus on how things lead lives independently of the human, although for the argument here made that will also be part of the discussion. Mine is a quest that believes humans only see things happening when they get involved and engaged in them. Like Haraway (2008) and her canine companions, I believe that to know and respect, itself and others, the human first has to get muddled. Mine is then a respect that comes from being engaged, and in looking at these engagements I will turn to Bennett (2010a) to borrow both the vitality of things and the perspective that things *are* in spite of the human, but I will also involve humans in this game where things vibrate by turning them into lively materialities that partake in this becoming. My actors, human and nonhuman, will not emerge as humble forces (Miller, 2010), what they might become we will have to wait and see as they form along these lines, but I am expecting they will resonate.

More Than Human Worlds

When attempting an argument about the lively and creative relationships between humans and the inanimate, it is the seemingly static nature of the latter that always appears to constitute the problem. My concern however, rests more on the pre-conception of how the human arrives at these encounters. The blessing of working with the inanimate is that, since for so long we have relegated it to the domain of the silent and lifeless, it is not difficult to inflate it with whatever subjectivity we may wish. Humans, however, arrive at encounters already fully formed, their existence assured, and little relativism can be conjured about them without being confronted with the sound of: I can speak for myself!

In an attempt to question the authority of the human in their encounters with nonhumans, Isabelle Stengers (2005) launched the challenge for Anthropology to question “what is human in humans” and to put an end to the Kantian cosmopolitics of a human-centred cosmo-parliament. She believed that by slowing down and reflecting about whose views are dictating the rights and wrongs when we speak in the name of the “good of the world”, the human could find a more democratic place for the nonhuman to exist. Stengers, along with Latour (2008), have gone a long way in establishing an ontopolitics of Science Studies - where reality and things present themselves not as fixed givens

but as being constantly re-configured and assembled - and in advocating a gaze that allows for a politics of a more-than-human world. In these more-than-human parliaments the “thing”, the nonhuman, would not exactly speak for itself, but nor could any one voice ever claim to hold the essence of its knowledge, of knowing what “a thing” the *facto is*. The nonhuman may not have gained a voice, but it gained the right to affect and reconstitute itself. Although these have been influential and ground breaking approaches that went on to shape STS studies, the nonhuman still has not come to sit with us in Latour's (1991) political parliament of things, at least not outside of the scientific and research world (Kirksey and Helmreich, 2010). As Eben Kirksey and Stephan Helmreich (2010:584) suggest 'attention to anthropos has generated more instability in conceptions of “ethics” and “culture” than it has directed attention to anything like a changing organic “human nature”’.

In fact Philosophers such as Jacques Derrida in his work *And Say the Animal Responded?* (1997) have contemplated that the greatest problem of projecting the questions of agency *onto* the Other, is that the human is unlikely to see that it is his and her own place in the world that is due questioning. More fundamentally, according to Derrida, unpacking the Cartesian view which only permits the animal's semiotic power to *react* and never to *respond*, is only possible to address if the focus that we have placed on the animal and the Other is instead turned onto oneself to probe within the human. He takes his argument further and contends that it is only the fact that the human has the ability to conceptualize the idea of a *subject* that creates any difference between him or her and the animal, therefore suggesting that the answer lies in how the human has constituted himself in relation to the Other, and not how the Other manifests itself in the world.

This taking of conscious takes physical form as Derrida (2002) one day finds himself standing stark naked under his cat's gaze and scrutiny, and within the presence of the Other asks: Who am I? Haraway (2008), however, sees Derrida's cat story as a missed opportunity for the Philosopher to learn 'how to look back' (Haraway, 2008, p.20) at the animal and to be more curious and ask more, know more: Who is looking back? What do I touch when I touch my cat?

In this paper I attempt do pose these questions simultaneously, questioning what is this inanimate nonhuman, at the same time that I question what is to be human in this relationship. Where the cave and the speleologist meet, I look back and ask: Who do I touch when I touch the cave? Who does the cave touch when it touches me? Who are we creating together?

Politics of Things or Being Generous

In the ontopolitics of Stenger (2005) and Latour (1991) reality and *things* become through relational production and therefore nothing is fixed: things can always be de-constructed, remade and contradicted. Consequently, if they can be remade and are constantly changing, their politics and ethics are always, unequivocally, under questioning, more or less accelerated depending on how embedded something finds itself onto a paradigm. The politics of Latour's (1991) parliament of things then becomes an existence where nonhuman actors are also involved in having rights, and for Latour those rights should be based on an assessment of how real things are at any given time. Some (Law, 2004) would argue that one of the problems arising from this is that the laboratory emerges as the highest authority in giving rights to certain realities, and it is in technoscience that these realities emerge and through them that they are naturalized, therefore perilously leaning towards an argument that the decision of what becomes real would ultimately rest in the hands of Science. In fact, such concerns are already being felt in relation to the life of the cave. During the course of this research a controversial debate was taking place amongst the participants regarding a decision, taken by the local government body, and based on a scientific study about bat population, to close three caves in the area where this study took place. Although all sides seemed to have the welfare of the bat population and general cave balance in mind, their views differed as the speleological community (whom initially facilitated these scientific studies to take place and has a long history of being involved in initiatives of protection, conservation and research) seemed to be of the opinion that these decisions had taken place more out of an ideological concern than the much more complex cycles they had been witnessing in the cave environment, suggesting that if the intention is for a real difference to be made, then we require a type of involvement and understanding of these human-nonhuman systems that does more than represent an autonomous and detached thinking (Merleau-Ponty, 1964). So although I align myself with Latour in his attempt to challenge the status of humans and nonhumans and question certainties that had been taken for granted, this is where our common ground ends and we seem to depart, as the perspective where he is coming from – an empirical democratization of the world – is exactly where my cave comes under threat of being reshuffled into a laboratory again, and my human turned into the one who tests his “cosmontopolitics” through it..

Haraway (2008) and Bennett (2010a) attempt a more democratic enlisting of others in these discussions by arguing that although things and nonhumans become-with people, they retain an otherness that is something, regardless of the human, and deserves respect. The project that I present here is a project of respect that is born not only out of ideology and paradigm, but of the

physical and sensual encounter of caves and people. It is not simply a perspective where things have rights in accordance to *how* they affect us, or to what ethical values we decide to hold, it is the fact that they affect us that matter. It is above all a respect that surfaces through encounter, where the ethical springs and evolves not from the human, but from the encounter of the human with his other-self, where the question *cui bono* (Haraway, 2008) of one - to whose benefit - is entangled in the *cui bono* of the other. To see how these entanglements of affect are taking place, I now turn 'from the question of an agitated chaotic world of science, to the ontology of a world that is itself the main cause of most of our uncertainties' (Latour, 1997, p.4): I turn to the relationship of caves and speleologists.

3. LOOKING FOR THE CONTACT ZONES

Hard Core, Soft Touches

*If you ever get the horn, down below,
Then your foreskin will get torn, down below,
As you squeeze along those crawls,
You will wear away your balls,
And your screams will fill the halls, down below,*

*If you ever want to screw, down below,
Try between sumps 3 and 2, down below,
Mike and Moira did it first,
And his crotch piece nearly burst,
But the mudbank came off worst, down below.*

Down Below. 1968. Exeter University Speleological Society

(Full Version in Appendix 1)

The world of caves and speleologists is, above all, physical. I find it surprising how often visceral encounters and involvements are absent from studies that seek to first and foremost look at the involvement of the human and nonhuman in a physical world of touches and senses. It is not my primary intention to challenge nor question the lack of presence of these graphic examples in academic debate, nor do I have a particular inclination for this line of discussion. What I can not do is ignore how whilst getting involved with caves and humans I found myself in the presence of these excited muddlings of the co-creative bodies of the cave and the speleologist (Figure 2), where despite the cave not necessarily becoming the bedding of sexual performance, it is being lived through a physical encounter of body parts that invoked both physical arousal (such as stalagmites that thrust penises and shapely breasts), constriction and smothering (such as vaginas and breasts). Some parts of caves went on to being named after these conjurations, often following their mutual bodies being captured in a fight of forces and becoming jammed, enthralled and groped in an encounter that poses an assault on the senses. In the last two lines of the “poetic passage” of *Down Below* (Exeter University Speleological Society, 1968) the fight between the crotch piece and the mud bank is illustrative of the ongoing opposing forces and might that the speleologist and the cave constantly exert on each other, where in this case the speleologist comes out feeling victorious from

knowing that in spite of his suffering, the cave has also taken its toll. What is more, these encounters of the speleologist and the cave become repetitive as over and over again, they experience an interaction with each other in these “erogenous zones”, replicating and reinforcing the materiality of their physical becoming-together. It is not surprising then that due to the time speleologists spend with the cave and the suggestive and sensual embrace they offer, that the relationship that emerges from “spending time together” was during the course of my speleological activity sometimes compared to having a love affair.

Puritans say that sex these days is dangerous...I would say that it's a miracle...!

By the time I manage to get paula to bed these stalactites will have grown at least one foot...and I'm not willing to waste my time.

...I don't want to have the same fate as Mikel, that from so much abstinence grew a cheese in his testicles...so much chit chat...I say go straight to the business...!

hmmm...I think it was this way...

yeess...hello beautiful, here I am again.

...I've pulled right, now sod off and leave us alone....and take your time!

(free translation)



Figure 2: *Sexo Duro Como La Roca* by Rober Garay (Garay 1994)

In an enchanting book called *The Writings of Stones*, Roger Caillois (1985) digresses about the suggestive power that stones, their shapes and their lines have on humans. For him these inanimate things bear an aesthetic and suggestive power that animate not only the imagination of the human, but the rock itself. For Caillois, and in a line with Bennett's idea of art as a force (2010a), this fascination emerges from the fact that stones are living forces that breathe and live, and through the course of their Deleuzian rhizomatic existence (1987) - which forms endless and non-hierarchical connections with everything else around them - they are constantly throwing around spirals of suggestive co-creation that 'attracts onto itself that exact imagination 'which reveals the object more than inventing it' (Caillois 1973 in Warner 2008 no page). Previous work (Cant, 2003; Perez, 2013) done with speleologists and cavers suggests that intimate and sensuous relations are constantly being formed between them and the cave. For Cant, these encounters often find expression through the medium of the arts, possibly as a way to circumvent what she calls an expectation of 'tough masculinities' (Cant, 2003, p.68) that are embedded in that type of pursuit and that can only vent out the softer strokes the cave bears on the human through a medium exterior to the cave environment and community: art. Although during the course of my research a few speleologists (Larry, Dom, Ted) acknowledged that an underlying ego-bravado might come associated with the way speleological accounts emerge sometimes as “tough”, “factual” or technical, these are for them just one of many of expressions that take place from these encounters. More likely, is that due to the intense experiencing of the cave, expression becomes both paramount and complex (Bard) and not even borrowed words are able to capture effectively the vitality of matter and its entanglements (Bennett 2010a). What is important to bear in mind in order for the human and the cave to emerge as co-creative actors, is not why many types of expression are emerging, but the fact that they are emerging, and how this is taking place in the creative force of being-with the cave.

Although inspired by the shapes of rocks in caves, few speleologists would show more than a passing interest in Caillois' suggestive little rocks, of acquiring in their hands the physical memento of the fascination that the stone, rock or mineral had exerted on them. In fact many of them (Billy, Brian, Chris, Dom, Rivers, Ted) expressed little interest in these elements as objects (apart from that they help them identify the geology of the place) and perceived them as belonging to the cave, left in the space where they believe their stories belong. Theirs is a front of contact with those elements “where they belong”, where their stories unravel.

Materials and Materiality

“The place where things belong”, they insisted. Can a rock or a bone not be as real outside a cave as inside? Is their *being* attached to something? Will their stories not continue unravelling through the argument that I have so insistently made here that things become with each other, therefore the rock would continue its story as it passes through someone else's body? Is Caillois' collection of stones any less real than the speleologists' rock in the cave?

The difference here is not one of content, but of perspective. In his work *Being Alive: Essays on Movement Knowledge and Description* (2011) Ingold argues that the problem of understanding how things affects us is that we see it as happening through objects. When we look at something we immerse ourselves in questioning how that particular object, the structure of that object, affects us and we affect it: the stone and the rock become material objects. With that fixation point, he argues, what we neglect to see is that it is light that brings the object into being, what is affecting us is what light is forming, but by putting the focus on surfaces, we forget to see how those shapes are brought to us. During a conversation with Basque artist and explorer Rober Garay, in August 2013, I asked him how he saw the cave and the human as mutually creating each other. If I could sit him down with Ingold in *Being Alive* (2011), the conversation could have gone like this:

Garay decides that to discuss this topic, he had better invite Ingold to come along for a walk up to the mouth of a cave, where that monster is swallowing air into its body. It is a rainy day, and the way up to the cave is a treacherous choice of deciding whether to fight with the brambles or the mud that insists on slipping its support away from under their feet. When they stop at the entrance Ingold looks at the giant mouth and asks if it is the object, it's tangibility that affects us. Garay checks the bloody scratches all over his body and is about to answer, but pauses for a moment, breathes, and peers ahead into the cavernous black. He explains that if things only *are* if we can see them, the cave is nothing until the human illuminates it and so what *is* from that appearance becomes subjective depending on its type of light, viewer and perspective. Ingold, interrupts him, arms crossed in front of his chest to fend off the humidity that is eating at him, and frowns. He insists that surely that would come close to saying that nothing has an intrinsic reality, and how could that be since even if they closed their eyes and did not see the clouds, they were still forming and pouring above their heads. Garay is wet and amused, happy that Ingold noticed the conundrum, and takes his eyes away from the emptiness to turn to Ingold and reply. He explains that is exactly the point, that subjective reality apprehended by the light is but an illusion, as the only true thing is darkness. All the shapes, textures and colours, in reality, are not. Ingold looks at the entrance of the

cave and tries to imagine a world absent of light. He senses something in the darkness, a shift in the draft, the sound of the outside forest entering the mouth being reflected back to the outside again, something was forming in the cave's wind pipe that diverted the waves of air, a mass, a volume. As he holds his breath, the shapes of Billy and Dom emerge onto the light, surfaces out of the void, an optical trick that sees light as life-giving and darkness as life-eroding (Peaker, 1997).

It is this life-giving light, and its associated surfacing of the world that for Giles Peaker (1997) and for Ingold (2011) creates the illusion that makes things become tangible solid objects of affect. Challenging these optical tricks, the speleologist lives rocks not as affecting and being affect solely through their tangible surface, but through the “place where they belong”, the context where they become-with. For the speleologists, those rocks should stay there so they can continue forming, and even the loose chunks and bones belong-with what for them is the story of the cave, they are events that matter, that deserve respect. Just as light and darkness are part of the same fabric (Peaker, 1997), so is everything else that emerges and is hidden through them: the speleologists, the rocks, the cave, and their rhizomatic events that have already, or are yet, to take place. That those stories are ever forming, it is obvious; that they would still be forming outside of the cave and in Cailliois shelf, no doubt. What is of importance here though is to remember that we are talking about affects, and the way the cave is affecting speleologists is by making them see themselves, and everything else in it, as entangled and part of its broader events. Materiality is thus not intrinsically on the surface, not in the tangible object, but in the power that things have to affect and be affected (Deleuze and Guattari, 1980; Haraway, 2008; Bennett, 2010a).

4. BREAKING AND REMAKING CAVES AND HUMANS

Movement and Emerging the Cave

During my interviews, one of the most difficult things for the human participants to express, and yet the most consensual, was what a cave is: they perceived it as space. Spending a lot of time underground, speleologists resemble somewhat Ingold's (2011) mole, where the reality of its world is not that of objects and shapes, but tunnels, chambers and space. Alexandra Perez (2013) on a work about surveying and mapping as emergent engagements, explores how speleologists by pushing and moving their bodies along lines, form the space and contours that then becomes the cave. Surveying is one of the key activities of Speleology, where speleologists use devices to map and record the passages they go through and create records that with other information from topographic surface maps, geological and geographic data, give clues to how the cave might continue. A practitioner of speleology herself, to support her study Perez (2013) sets out with a team to explain how this practice takes place. Her main argument is that as she moves along her exploratory path she is 'pushing passages' (Perez, 2013, p.294), carving with her body the space that will define the cave and later be registered and contoured onto a map that *becomes* the cave, and which is constantly being "re-defined" as the exploration progresses. The perspective speleologists have of the cave as space is thus embedded in this process of the cave becoming-with the intrusion of their bodies, the space it forms as it is occupied. Consequently, it is space that often constitutes challenge and fear for speleologists, who according to their size and moulding capability are constantly assessing themselves against it (Perez, 2012): if the gap is too large for them to bridge they will fall into the chasm or if the squeeze is too tight they will be constricted to death. The problem of the cave being perceived as becoming solely through the pushing of the human body is that we might lean towards saying that the cave is made by and through the human (Deleuze, 1981) and lose sight of the fact that it retains a vitality and existence that does not have to depend on the human (Haraway, 2008; Bennett, 2010a). The way Ingold (2011) and Perez (2013) give shape to the underground world through human movement thus tends to re-emphasize the dichotomy between the human body that moves and the rock that opposes its force as resistance. Although Perez notices that during the emergent relationship of the cave and the map, as the cave

becomes space through the moving body of the human, it also affects the human by pushing with an opposing force that presses and bruises in a dance of co-affect, surprisingly she never seems to arrive to the perception that the cave is not simply opposing, but also moving.

Life at the Contact Zone

When in 2010 I started practising speleology, a certain cave had gained a reputation and had been prompting obsessions amongst the group. Rivers was fixated on her. I call *it* “her” because our caves are feminine, partly due to the fact that Spanish is a language that has gender and “la cueva” (the cave) is feminine, partly because in the Basque Country there is a long tradition of associating caves and their mythological dwelling creatures to the feminine (Barandiaran, 1972), partly because I think speleologists, who are mostly men, like female company.

After generously granting us a pleasant entrance and getting our hearts pounding, she started becoming elusive. Worst of all, she was breathing heavily onto our faces, showing us her depth, but not disclosing the way through. Rivers' obsession was so compelling, and she so furtive, that we all became absorbed by it. I had never seen anyone spend so much time looking at a map (Figure 3), he was enthralled. We went back every weekend, sometimes for two days in a row, for months and months, spending the whole of our awoken day inside her. She had become so difficult that Rivers scouted the grounds outside looking for clues of her doings, his hand acquiring a life of its own constantly measuring angles, following her surface contact. Inside, the initial gallery was a sloping mass of debris from the roof collapse in which the entrance had opened. Flowstone had

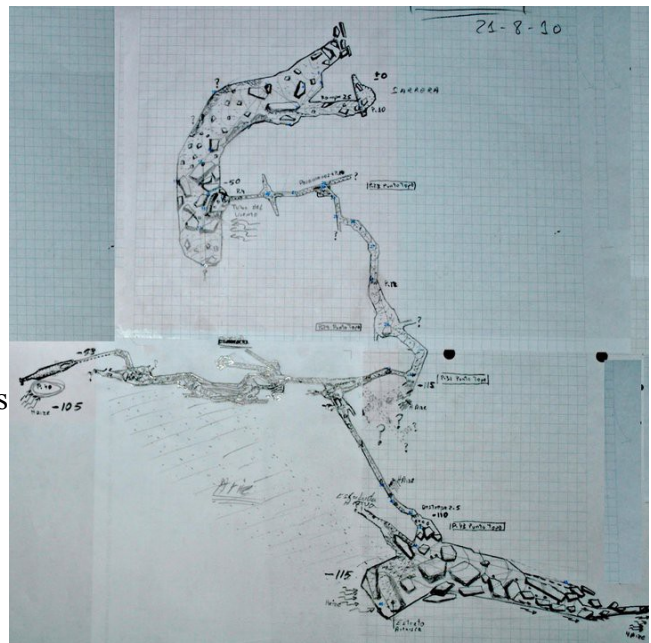


Figure 3: She 2010

been growing its way for probably a long time and now laid itself as an undulating cascade leading to the massive chaos of collapsed boulders amassed at the bottom end of the chamber. The place must be old, all the water had found its way to lower levels and long abandoned those passages of dripping calcite where everything felt still. It was through a small gap between these giants that we found a way to go deeper. The vertical cracks were awkward, not allowing us to place good rigging, banging and bruising ourselves onto her. The further in we moved, the more she squeezed us and

changed her character. Soon past the first main vertical crack and phreatic tube we were in a world of slime. After a few passages of crawling on all fours and squeezing past constrictions she started becoming eerie. The weight of dampness and cold slowing us down, our bodies losing all their vitality. She, on the other hand seemed livelier than ever. Along the contact zone water dripped down turning vertical cracks into slippery crumbles of brittle wall and precariously balancing boulders above and below us, little calcite shapes being born in hidden slots, their sharp razor-blades making that familiar tearing noise as they slid through our surfaces. The cave that I thought I knew was now spatially impossible for my senses to apprehend and I had the feeling I was constantly walking in suspended animation. What was ground was not ground, it was an accumulating deposit of rock, soil, water and things I did not understand and as soon as I gave a few steps she again opened herself beneath me. Space was not linear, it was chaotic with gravity turned upside down as we moved at impossible angles, a vertigo. Things grew in there, things were growing inside me, my chest filling with humidity, spores, particles and slowly constricting. I did not know where my breath finished and her breath began. Rivers looked like he had *the fever*. He said: “it's the air, the air does this to us”. Never had I been more sure that air does do things. Her breathing was driving us all mad. Emerging from the immense chaos, we were not the only ones who did not move in linear lines anymore, air was coming and going into and from all directions, clashing with itself, pushing its own passages and masses as we frenetically tried following it. Seen from the outside it would have looked like Ingold's moles had gone mad, instead of giving form to the path they were moving in, they were literally moving not through the cave, but with the cave, we had entered a world in which we were witnessing its forming, and we were part of it.

Vibrant Matter and Haptic Becomings

What Deleuze and Guattari set their sights on is something else: a vibratory effluence that persists before and after any arrangement in space: the peculiar motility of an intensity.

(Bennett, 2010a, p.57)

Deleuze and Guattari's (1978) project is to decentralize events as happening from the view of a subject, and instead offer a different perspective that sees all things in a process of constant becoming, with no initial or ending point in sight. To this, they argue that everything exists in a process of constant flux, never inert: the motility of an intensity. The cave is moving, flowing, only the time-frames in which both the human and the rock live makes it almost undetectable to the human senses (Levenson, 1972; Bennett, 2010a). The drifting of continents, the slow depositing of

matter that assembles and is compressed, turned, folded, heated and shaped is but a concept of Physics for the human eye, its movement so slow we can barely perceive it were it not for some brute explosions of mechanical force we can sometimes feel. There is no more mechanical life in a rock force that there is in a human though, neither is there more stillness in the rock than in the human. Defying hylomorphic models that see the inanimate material world as being formed only against its contact with living organisms (Bennett, 2010a; Ingold, 2008), this rocky world has a life of its own. In a discussion about the life of materials, Bennett (2010a) explores how metal vibrates through atoms quivering in its 'intercrystalline spaces' (Smith, 1988, p.134 cited in Bennett, 2010, p.59). Indeed to see space as endemic only to the interstices between the surface of the rock and the body of speleologist is a conditioning of scale. Our senses might be able to tell us about the life that runs through those corridors of space where our bodies fit, where our vision enters, that our body feels. It might let us understand that wind and water were there carving it before us, that the mole, a bat or a worm all have contact zones in this interdependent dance that is the cave. Technology and Science has even allowed us to perceive some of the micro-geographies of the self and other beings (Thrift, 2004), but the rock still lies silent. At the small interstices, the vitality of the soil, the rock, the air and the human evades us. Our naked senses can not apprehend when Bennett's (2010a) vibrant metal opens invisible lines of cracks, forces that are emergent from a series of causalities that are both cause and consequence of the rhizomatic buzz of a scale-time frame we can not perceive and that give a vibrant life and motion to everything. But these worlds are not always silent. The blacksmith, through the relationship that it has forged with those materials has learned its vibration, how to mould himself with it and be involved in a co-creative process (DeLanda, 1999). Speleologists, not unlike the blacksmith, resonate with the vitality of the rock and the cave. As Billy one day told me, when he is *there* he vibrates in a different way, his whole being changes. These encounters are so visceral that DeLanda defines the way the blacksmith interacts with the metal not as an action of giving shape to matter but of interacting with it as living materials that are 'pregnant with morphogenetic capabilities and his role is teasing a form out of them' (DeLanda 1999). During the presentation of this research before an evaluating committee, my supervisor Luci Attala fixed her attention on one of the photographs of my presentation and commented how it looked like the cave was giving birth to the speleologist (Figure 4), indeed a perceptive comment since as speleologists has an impact on the cave, so does the cave very literally squeezes a form out of them.



Figure 4: Cave giving birth to speleologist

The assemblages of what becomes rock, against the assemblages of what becomes flesh and structure in the human, creates a specific motion where the cave and the human interfere, their creative materialities becoming enacted according to what forces they meet (Bennett, 2010a). The speleologist's body becomes humanly crippled with aches, pains, distortions and movements, but at the same time also more adapted to the cave. To put it simply, to be able to move along some surfaces, the human “learns” how to move in a specific way. To climb up cracks and slots that slip under the surface friction of their bodies, speleologists have learned to position their backs turned to the space they will need to negotiate and moving in opposition, push themselves up with every inch of their surface. So embedded does this become in the human that one day when climbing an outdoor sea crag with Billy he mentioned that he could tell I was a speleologist from the way I gave my back to the rock trying to push my way up in opposition, whereas in outdoor climbing the human body and the rock usually flow better over each other's surface by facing it and placing weight in specific contact points. For Billy the day to day of our human lives wearing shoes and insulation made us less sensitive to the touch of nonhuman materialities, but during climbing or sliding and tearing through mud and rock our bodies are assaulted and wrapped in those elements,

partly regaining the electrical connection with the earth and encountering a balance through it, becoming-worldly, re-tying knots with the world (Haraway, 2008).

The cave will carry on existing without the human, and so will the human carry on existing without the cave, both vibrating along and forming events with the things that cross their way. But to say that they carry on existing regardless, does not exclude that they carry on affecting. Any one point of contact beholds, for a brief moment, all the potential of what it will become. As the speleologist exits the cave, *she* carries on with the human imprint in her endless story, the human does not define her, does not give her life, he becomes part of her. The human emerges wrapped in mud: Who do I touch when I touch the cave? Confronted with the mud, he feels scrutinized under the stark acknowledgement of being wrapped in it (Figure 5), and as he looks back, he sees himself becoming-with-her as materialities in a world of affects.



Figure 5: Speleologists wrapped in mud

CONCLUSION: WRAPPING AFFECTS

I have presented here a discussion about how the ontologies of the human and the cave are formed through a co-creative process. To to so I have explored what it means to have a materiality and, through the lens of affect, argued that the inanimate is alongside the human an actor in their mutual becomings.

This project is not solely a political statement that explores the world of affects between the speleologist and the cave in order to challenge a practice that appears embedded in exploratory scientific pursuit: science and knowledge are but one of the many emergent encounters of these co-creative actors. Neither is my stance footed on an ecological love for caves where they are seen as the bedrock from which folds we have been formed (Leveson, 2006) and the supporter of life and ecosystems. My concern is that seeing caves as *supports* misses the opportunity to see them as active co-creators of events simultaneously outside and within the human, and to open up our perception to a different way of being with the world. Caves are not simply places to *preserve from*, they are creative forces in which we need to learn how to *live-with*. To be involved is to be worldly. This is perhaps a more political footing that I had thought, but my work is above all one that stems from affect, one in which I have not escaped the reach and the vibrancy of the entanglements of caves and speleologists. It is an attempt that has its limitations as my voice and ideas are bound and constrained by the way I can only express an *us* through the human. The limits of the optic and haptic touches here presented, where humans and nonhumans meet, is but a consequence of my own senses but hopefully, at the same time that is constraining some things, is liberating something else.

S. Sambento

Wales, April 2014

Glossary

Boulder: A big rock usually too large for a person to move. In caves these often appear associated with collapsed chambers.

Boulder Chaos: Expression used in Speleology to refer to a disorganized accumulation of big rocks on a surface, mainly the result of collapsed chambers. These often cover and choke passages.

Contact Zones: Expression used in Speleology to refer to a geological contact (see geological contact).

Flowstone: Rock deposited as a thin sheet by precipitation from flowing water.

Geological Contact: A geological contact is the meeting point of two different types of rock. Speleologically it is an important feature as it is along this surface area that sometimes the mouths of caves are formed.

Limestone: A hard sedimentary rock, composed mainly of calcium carbonate or dolomite. Can lead to true cave development.

Marl: An unconsolidated sedimentary rock or soil consisting of clay and lime.

Phreatic tube: Cave passages made by water.

Speleothem: A structure formed in a cave by the deposition of minerals from water, e.g. a stalactite or stalagmite.

Stalactites: A structure hanging like an icicle from the roof of a cave, formed of calcium salts deposited by dripping water.

Stalagmites: A mound or column rising from the floor of a cave, formed of calcium salts deposited by dripping water and often uniting with a stalactite.

Appendix 1: Poem 'Down Below'

Alfie/GSG/Exeter Univ. Speleo. Soc. NIL Vol 4 No 4 March 1968

Down Below

There's a cave on Priddy Green, down below,
Where a few of us have been, down below,
There's a place called Swildon's Four,
Where they dive sumps by the score,
We ain't going there no more!, down below,

There's a muddy sump we have to bail, down below,
With a leaky canvas pail, down below,
But your efforts are in vain,
As, for every drop you drain,
Twice as much runs back again, down below,

There's a sump we have to dive, down below,
And it's here we start to skive, down below,
There's a Black Hole we can't climb,
Long, low crawls through mud and slime,
Ain't it all a waste of time?, down below,

There's a chimney made of glass, down below,
Which you slide down on your arse, down below,
If you've got legs like O.C.L.
You can do it very well,
But for us it's bloody hell, down below,

There's a drop in Swildon's Four, down below,
There's no ladder there no more, down below,
If you fall out of that crack,
And you land an awful smack,
There's no way of getting back, down below,

Willie Stanton had an itch, down below,
To improve the Twenty Pitch, down below,
But his efforts were in vain,
With his iron hoops and chain,
Biddle took then out again, down below,

There's a place called Shatter Pot, down below,
And they said it's had it's lot, down below,
There's a cavern vast and wide,

With a small hole in the side,
And it's here we sit and hide, down below,

There's a rift they call the Swine, down below,
And it's difficult to climb, down below,
It goes up at a slant,
At the top the ledge is scant,
And it's here we sit and pant, down below,

If you ever get the horn, down below,
Then your foreskin will get torn, down below,
As you squeeze along those crawls,
You will wear away your balls,
And your screams will fill the halls, down below,

If you ever want to screw, down below,
Try between sumps 3 and 2, down below,
Mike and Moira did it first,
And his crotch piece nearly burst,
But the mudbank came off worst, down below,

There's a Forty Foot long drop, down below,
When it's dry we reach the top, down below,
When Swildon's waters rise,
You can hear the weegies cries,
"Pull us up before we dies", down below,

Once the Forty cast it's spell, down below,
Till the day the Flood rain fell, down below,
Though the way is smooth and clear,
And there's nothing left to fear,
Some, in passing, shed a tear, down below,

There's a place they call Sump Three, down below,
And some say you dive it free, down below,
When you're running out of breath,
And you think you've met your death,
Then they say there's nothing left, down below,

There's a place they call Damp Link, down below,
There the water's black like ink, down below,
When your face is turning blue,
From excess CO₂,
It Will be the death of you, down below,

There's a place they call Bang Squeeze, down below,

Most of us get through with ease, down below,
If you ever pass that way,
On a trip with Cobbett, J.,
You'll be there all bloody day, down below,

There's some avens deep and wide, down below,
Where some of us have climbed, down below,
Where cowsh is falling down like rain,
Courtesy of Farmer Maine,
And we won't go there again, down below.

Appendix 2: Dissertation Presentation for Potential Participants

Bilbao, 19 de Agosto del 2013

Resumen y Informacion

Estoy haciendo un estudio universitario para mi Licenciatura de Antropología en la Universidad de Gales, Trinity Saint David. Mi intención es de investigar en que forma las personas perciben las cuevas en el País Vasco y, por ahora, el foco principal de mi investigación es en el caso particular de los espeleólogos.

Como personas que vayáis dentro de cuevas muy a menudo, creo que tenéis una relación especial con ese medio y que podáis dar una contribución valiosa. Espero que después de leer esta introducción que estaréis de acuerdo en participar en mi estudio.

En el País Vasco hay un largo legado de la historia oral y la tradición popular relacionada con cuevas. Creo que cuasi todos sepáis de mitos y leyendas acerca de vuestras cuevas, o de como otras personas que no entran en las cuevas podran reflejar algunos temores y creencias que forman parte de la cultura popular. Muchos dicen que ya nadie cree en estos mitos, y que el único reflejo de mitos y leendas es que hoy en día algunas personas todavía tienen miedo de ir a las cuevas. Algunos incluso dicen que cuanto más científica una cultura se convierte, menos se cree en los mitos y leyendas y menos estes se reflejten en ella.

Los espeleólogos se relacionan con las cuevas en una especie de nivel científico, y si estamos de acuerdo en que la ciencia excluye las leyendas y mitos, entonces nada en la espeleología, ni en las personas que participen en ella es influenciados de alguna manera por los sentimientos y las percepciones relacionadas con aquellas atribuidas a la cultura popular de las cuevas basada en mitos y leendas. Mi estudio hace la pregunta de si este es el caso o no. Lo que espero es, entonces, que los cuestionarios y entrevistas que tenga contigo y otros miembros de tu grupo espeleológico traigan a la superficie algunas de las percepciones de cómo vos relacionais con las cuevas.

Lo que te pido es que antes de que tengamos una entrevista te conviertas en una especie de "antropólogo/a improvisado/a" y te pongas a pensar en esta situación de "mitos y las cuevas" y "ciencia y las cuevas" en el País Vasco, y cómo crees que se reflejan en el caso de espeleología en particular.

En mi estudio yo no te estoy "analizando", estoy interesado en escuchar tus ideas sobre cómo percibes y te relacionas con las cuevas, y cómo crees que la espeleología en general es diferente o similar a una percepción más popular de cuevas.

Después de leer esta declaración, y antes de aceptar ser un participante, puedes contactarme con cualquier pregunta con respecto a este estudio. También me gustaría que leas detenidamente el siguiente antes de firmar el formulario de consentimiento:

- que te puedes retirar deste estudio en cualquier momento, sin tener que dar ninguna razón
- que la información que proporcionas puede ser utilizada en futuros informes, artículos o presentaciones
- que tu nombre no aparecerá en ningún informe, artículo o presentacione

Si después de leer todo lo anterior con cuidado aceptas colaborar en mi estudio, entonces aguardo con interés escuchar tus ideas durante las entrevistas y cuestionarios.

Simone Sambento

Anthropology Single Honours
University of Wales Trinity Saint David

Appendix 3: Participant Signed Forms of Consent



PRIFYSGOL CYMRU
Y Drindod Dewi Sant
UNIVERSITY OF WALES
Trinity Saint David

Is-Ganghellor/Vice-Chancellor: Medwyn Hughes LL.D PhD DPs FRSB

Numero de Participante:

FORMULARIO DE CONSENTIMIENTO

Percepciones del Entorno Natural

Mito o Ciencia en el Karst?

La relacion que los espeleologos Vascos tienen con las cuevas

Nombre del Investigador: SIMONE SAMBENTU

Por favor pone tus iniciales

1. Confirmo que he leído y comprendido la hoja de "Resumen y Informacion" de fecha 19/08/2013 para el estudio allí mencionado. He tenido la oportunidad de examinar la información, hacer preguntas y he me han respondido satisfactoriamente.

JC

2. Entiendo que mi participación es voluntaria y que soy libre de retirarme en cualquier momento y sin necesidad de justificación.

JC

3. Entiendo que cualquier información dada por mí puede ser utilizada en futuros informes, artículos o presentaciones por el equipo de investigación.

JC

4. Entiendo que mi nombre no aparecera en ningún informe, artículo o presentación.

JC

5. Estoy de acuerdo en participar en este estudio.

JC

[Signature]
Nombre del Participante

22.08.2013
Data

[Signature]
Firma

SIMONE SAMBENTU
Investigador

22.08.2013
Data

[Signature]
Firma

Puedes negarte a participar en este estudio. Puedes terminar tu participación en este estudio en cualquier momento. Si decides permanecer en el anonimato, mantener tu anonimato será una prioridad y todas las precauciones prácticas serán llevadas a cabo para ocultar tu identidad. Si



Coleg Prifysgol y Drindod
Trinity University College

Prifysgol Cymru
University of Wales



Y Drindod Dewi Sant
Trinity Saint David



PRIFYSGOL CYMRU

Y Drindod Dewi Sant

UNIVERSITY OF WALES

Trinity Saint David

Is-Ganghellor/Vice-Chancellor Medwin Hughes DL DPhil DPS FRSA

prefieres el anonimato, no habrá ninguna información de identificación en cintas de audio o transcripciones de esta o cualquier entrevista. Nadie va a escuchar cualquier cinta de audio o ver las transcripciones sin tu consentimiento previo. Todos los materiales generados a partir de este o de cualquier entrevista serán confidenciales.

Cuando hayas completado este formulario de consentimiento, por favor devuelvelo al investigador. Se dará una copia al participante y el original se conserva en el archivo del equipo de investigación en: University of Wales Trinity Saint David



Coleg Prifysgol y Drindod

Trinity University College

Campws Caerfyrddin

Carmarthen Campus

SA31 3EP

01267 676767 www.tsd.ac.uk

UNIVERSITY OF WALES
LAMPETER



Campws Llanbedr Pont Steffan

Lampeter Campus

SA48 7ED

01570 422351 www.tsd.ac.uk



Numero de Participante:

FORMULARIO DE CONSENTIMIENTO

Percepciones del Entorno Natural

Mito o Ciencia en el Karst?

La relacion que los espeleologos Vascos tienen con las cuevas

Nombre del Investigador: SIMONE SAMBENTO

Por favor pone tus iniciales

1. Confirmo que he leído y comprendido la hoja de "Resumen y Informacion" de fecha 19/08/2. 13 para el estudio allí mencionado. He tenido la oportunidad de examinar la información, hacer preguntas y he me han respondido satisfactoriamente.

AG

2. Entiendo que mi participación es voluntaria y que soy libre de retirarme en cualquier momento y sin necesidad de justificación.

AG

3. Entiendo que cualquier información dada por mí puede ser utilizada en futuros informes, artículos o presentaciones por el equipo de investigación.

AG

4. Entiendo que mi nombre no aparecera en ningún informe, artículo o presentacion.

AG

5. Estoy de acuerdo en participar en este estudio.

AG

24-08-2013

Nombre del Participante

Fecha

Firma

(SUBMITTED VIA EMAIL)

SIMONE SAMBENTO

24.08.2013

[Signature]

Investigador

Fecha

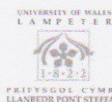
Firma

Puedes negarte a participar en este estudio. Puedes terminar tu participación en este estudio en cualquier momento. Si decides permanecer en el anonimato, mantener tu anonimato será una prioridad y todas las precauciones prácticas serán llevadas a cabo para ocultar tu identidad. Si



Coleg Prifysgol y Drindod
Trinity University College

Campws Caerfyrddin
Carmarthen Campus
SA31 3EP
01267 676767 www.tsd.ac.uk



Campws Llanbedr Pont Steffan
Lampeter Campus
SA48 7ED
01570 422351 www.tsd.ac.uk



PRIFYSGOL CYMRU

Y Drindod Dewi Sant

UNIVERSITY OF WALES

Trinity Saint David

Is-Ganghellor/Vice-Chancellor Medwin Hughes DL DPhil DPS FRSA

prefieres el anonimato, no habrá ninguna información de identificación en cintas de audio o transcripciones de esta o cualquier entrevista. Nadie va a escuchar cualquier cinta de audio o ver las transcripciones sin tu consentimiento previo. Todos los materiales generados a partir de este o de cualquier entrevista serán confidenciales.

Cuando hayas completado este formulario de consentimiento, por favor devuelvelo al investigador. Se dará una copia al participante y el original se conserva en el archivo del equipo de investigación en: University of Wales Trinity Saint David



Coleg Prifysgol y Drindod

Trinity University College

Campws Caerfyrddin

Carmarthen Campus

SA31 3EP

01267 676767 www.tsd.ac.uk

UNIVERSITY OF WALES
LAMPETER



Campws Llanbedr Pont Steffan

Lampeter Campus

SA48 7ED

01570 422351 www.tsd.ac.uk



Numero de Participante:

FORMULARIO DE CONSENTIMIENTO

Percepciones del Entorno Natural

Mito o Ciencia en el Karst?

La relación que los espeleólogos Vascos tienen con las cuevas

Nombre del Investigador: SIMONE SAMBENTU

Por favor pone tus iniciales

1. Confirmando que he leído y comprendido la hoja de "Resumen y Información" de fecha 19/08/2013 para el estudio allí mencionado. He tenido la oportunidad de examinar la información, hacer preguntas y he me han respondido satisfactoriamente.

OG

2. Entiendo que mi participación es voluntaria y que soy libre de retirarme en cualquier momento y sin necesidad de justificación.

OG

3. Entiendo que cualquier información dada por mí puede ser utilizada en futuros informes, artículos o presentaciones por el equipo de investigación.

OG

4. Entiendo que mi nombre no aparecerá en ningún informe, artículo o presentación.

OG

5. Estoy de acuerdo en participar en este estudio.

OG

[Signature]

Nombre del Participante

26-8-2013

Fecha

[Signature]

Firma

SIMONE SAMBENTU

Investigador

26-08-2013

Fecha

SS St

Firma

Puedes negarte a participar en este estudio. Puedes terminar tu participación en este estudio en cualquier momento. Si decides permanecer en el anonimato, mantener tu anonimato será una prioridad y todas las precauciones prácticas serán llevadas a cabo para ocultar tu identidad. Si



Coleg Prifysgol y Drindod
Trinity University College

Campws Caerfyrddin
Carmarthen Campus
SA31 3EP
01267 676767 www.tsd.ac.uk



Campws Llanbedr Pont Steffan
Lampeter Campus
SA48 7ED
01570 422351 www.tsd.ac.uk



PRIFYSGOL CYMRU

Y Drindod Dewi Sant

UNIVERSITY OF WALES

Trinity Saint David

Is-Ganghellor/Vice-Chancellor Medwin Hughes DL DPhil DPS FRSA

prefieres el anonimato, no habrá ninguna información de identificación en cintas de audio o transcripciones de esta o cualquier entrevista. Nadie va a escuchar cualquier cinta de audio o ver las transcripciones sin tu consentimiento previo. Todos los materiales generados a partir de este o de cualquier entrevista serán confidenciales.

Cuando hayas completado este formulario de consentimiento, por favor devuelvelo al investigador. Se dará una copia al participante y el original se conserva en el archivo del equipo de investigación en: University of Wales Trinity Saint David



Coleg Prifysgol y Drindod

Trinity University College

Campws Caerfyrddin

Carmarthen Campus

SA31 3EP

01267 676767 www.tsd.ac.uk

UNIVERSITY OF WALES
LAMPETER



Campws Llanbedr Pont Steffan

Lampeter Campus

SA48 7ED

01570 422351 www.tsd.ac.uk



Numero de Participante:

FORMULARIO DE CONSENTIMIENTO

Percepciones del Entorno Natural

Mito o Ciencia en el Karst?

La relación que los espeleólogos Vascos tienen con las cuevas

Nombre del Investigador:

Por favor pone tus iniciales

1. Confirmando que he leído y comprendido la hoja de "Resumen y Información" de fecha 19/08/2013 para el estudio allí mencionado. He tenido la oportunidad de examinar la información, hacer preguntas y he me han respondido satisfactoriamente.

VC

2. Entiendo que mi participación es voluntaria y que soy libre de retirarme en cualquier momento y sin necesidad de justificación.

VC

3. Entiendo que cualquier información dada por mí puede ser utilizada en futuros informes, artículos o presentaciones por el equipo de investigación.

VC

4. Entiendo que mi nombre no aparecerá en ningún informe, artículo o presentación.

VC

5. Estoy de acuerdo en participar en este estudio.

VC

Nombre del Participante

29-8-2013
Fecha

Leil Chais
Firma

SIMONE SAMBENTU

Investigador

29-08-2013
Fecha

SS

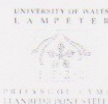
Firma

Puedes negarte a participar en este estudio. Puedes terminar tu participación en este estudio en cualquier momento. Si decides permanecer en el anonimato, mantener tu anonimato será una prioridad y todas las precauciones prácticas serán llevadas a cabo para ocultar tu identidad. Si



Coleg Prifysgol y Drindod
Trinity University College

Campws Caerfyrddin
Carmarthen Campus
SA31 3EP
01267 676767 www.tsd.ac.uk



Campws Llanbedr Pont Steffan
Lampeter Campus
SA48 7ED
01570 422351 www.tsd.ac.uk



PRIFYSGOL CYMRU

Y Drindod Dewi Sant

UNIVERSITY OF WALES

Trinity Saint David

Is-Ganghellor/Vice-Chancellor Medwin Hughes DL DPhil DPS FRSA

prefieres el anonimato, no habrá ninguna información de identificación en cintas de audio o transcripciones de esta o cualquier entrevista. Nadie va a escuchar cualquier cinta de audio o ver las transcripciones sin tu consentimiento previo. Todos los materiales generados a partir de este o de cualquier entrevista serán confidenciales.

Cuando hayas completado este formulario de consentimiento, por favor devuélvelo al investigador. Se dará una copia al participante y el original se conserva en el archivo del equipo de investigación en: University of Wales Trinity Saint David



Coleg Prifysgol y Drindod

Trinity University College

Campws Caerfyrddin
Carmarthen Campus

SA31 3EP

01267 676767 www.tsd.ac.uk

UNIVERSITY OF WALES
LAMPETER



Campws Llanbedr Pont Steffan
Lampeter Campus

SA48 7ED

01570 422351 www.tsd.ac.uk



Numero de Participante:

FORMULARIO DE CONSENTIMIENTO

Percepciones del Entorno Natural

Mito o Ciencia en el Karst?

La relacion que los espeleologos Vascos tienen con las cuevas

Nombre del Investigador:

SIMONE SAMBENTO

Por favor pone tus iniciales

1. Confirmo que he leído y comprendido la hoja de "Resumen y Informacion" de fecha 19/08/2013 para el estudio allí mencionado. He tenido la oportunidad de examinar la información, hacer preguntas y he me han respondido satisfactoriamente.

IL

2. Entiendo que mi participación es voluntaria y que soy libre de retirarme en cualquier momento y sin necesidad de justificación.

IL

3. Entiendo que cualquier información dada por mí puede ser utilizada en futuros informes, artículos o presentaciones por el equipo de investigación.

IL

4. Entiendo que mi nombre no aparecera en ningún informe, artículo o presentacion.

IL

5. Estoy de acuerdo en participar en este estudio.

IL

Nombre del Participante

Data

Firma

SIMONE SAMBENTO
Investigador

30/08/2013
Data

[Signature]
Firma

Puedes negarte a participar en este estudio. Puedes terminar tu participación en este estudio en cualquier momento. Si decides permanecer en el anonimato, mantener tu anonimato será una prioridad y todas las precauciones prácticas serán llevadas a cabo para ocultar tu identidad. Si





PRIFYSGOL CYMRU

Y Drindod Dewi Sant

UNIVERSITY OF WALES

Trinity Saint David

Is-Ganghellor/Vice-Chancellor Medwin Hughes DL DPhil DPS FRSA

prefieres el anonimato, no habrá ninguna información de identificación en cintas de audio o transcripciones de esta o cualquier entrevista. Nadie va a escuchar cualquier cinta de audio o ver las transcripciones sin tu consentimiento previo. Todos los materiales generados a partir de este o de cualquier entrevista serán confidenciales.

Cuando hayas completado este formulario de consentimiento, por favor devuelvelo al investigador. Se dará una copia al participante y el original se conserva en el archivo del equipo de investigación en: University of Wales Trinity Saint David



Coleg Prifysgol y Drindod

Trinity University College

Campws Caerfyrddin

Carmarthen Campus

SA31 3EP

01267 676767 www.tsd.ac.uk

UNIVERSITY OF WALES
LAMPETER



Campws Llanbedr Pont Steffan

Lampeter Campus

SA48 7ED

01570 422351 www.tsd.ac.uk



Numero de Participante:

FORMULARIO DE CONSENTIMIENTO

Percepciones del Entorno Natural

Mito o Ciencia en el Karst?

La relación que los espeleólogos Vascos tienen con las cuevas

Nombre del Investigador: SIMONE SAMBENTO

Por favor pone tus iniciales

1. Confirmando que he leído y comprendido la hoja de "Resumen y Información" de fecha 19/08/2013 para el estudio allí mencionado. He tenido la oportunidad de examinar la información, hacer preguntas y he me han respondido satisfactoriamente.

DE

2. Entiendo que mi participación es voluntaria y que soy libre de retirarme en cualquier momento y sin necesidad de justificación.

DE

3. Entiendo que cualquier información dada por mí puede ser utilizada en futuros informes, artículos o presentaciones por el equipo de investigación.

DE

4. Entiendo que mi nombre no aparecerá en ningún informe, artículo o presentación.

DE

5. Estoy de acuerdo en participar en este estudio.

DE

Nombre del Participante

30/08/2013
Fecha

Firma

SIMONE SAMBENTO
Investigador

30/08/2013
Fecha

Firma

Puedes negarte a participar en este estudio. Puedes terminar tu participación en este estudio en cualquier momento. Si decides permanecer en el anonimato, mantener tu anonimato será una prioridad y todas las precauciones prácticas serán llevadas a cabo para ocultar tu identidad. Si



Coleg Prifysgol y Drindod
Trinity University College

Campws Caerfyrddin
Carmarthen Campus
SA31 3EP
01267 676767 www.tsd.ac.uk



Campws Llanbedr Pont Steffan
Lampeter Campus
SA48 7ED
01570 422351 www.tsd.ac.uk



PRIFYSGOL CYMRU

Y Drindod Dewi Sant

UNIVERSITY OF WALES

Trinity Saint David

Is-Ganghellor/Vice-Chancellor Medwin Hughes DL DPhil DPS FRSA

prefieres el anonimato, no habrá ninguna información de identificación en cintas de audio o transcripciones de esta o cualquier entrevista. Nadie va a escuchar cualquier cinta de audio o ver las transcripciones sin tu consentimiento previo. Todos los materiales generados a partir de este o de cualquier entrevista serán confidenciales.

Cuando hayas completado este formulario de consentimiento, por favor devuelvelo al investigador. Se dará una copia al participante y el original se conserva en el archivo del equipo de investigación en: University of Wales Trinity Saint David



Coleg Prifysgol y Drindod

Trinity University College

Campws Caerfyrddin

Carmarthen Campus

SA31 3EP

01267 676767 www.tsd.ac.uk

UNIVERSITY OF WALES
LAMPETER



Campws Llanbedr Pont Steffan

Lampeter Campus

SA48 7ED

01570 422351 www.tsd.ac.uk



Numero de Participante:

FORMULARIO DE CONSENTIMIENTO

Percepciones del Entorno Natural

Mito o Ciencia en el Karst?

La relación que los espeleólogos Vascos tienen con las cuevas

Nombre del Investigador: SIMONE SAMBENTU

Por favor pone tus iniciales

1. Confirmando que he leído y comprendido la hoja de "Resumen y Información" de fecha 19/08/2013 para el estudio allí mencionado. He tenido la oportunidad de examinar la información, hacer preguntas y he me han respondido satisfactoriamente.

SA

2. Entiendo que mi participación es voluntaria y que soy libre de retirarme en cualquier momento y sin necesidad de justificación.

SA

3. Entiendo que cualquier información dada por mí puede ser utilizada en futuros informes, artículos o presentaciones por el equipo de investigación.

SA

4. Entiendo que mi nombre no aparecerá en ningún informe, artículo o presentación.

SA

5. Estoy de acuerdo en participar en este estudio.

SA

Nombre del Participante

Fecha

Firma

SIMONE SAMBENTU

30/08/2013

Investigador

Fecha

Firma

Puedes negarte a participar en este estudio. Puedes terminar tu participación en este estudio en cualquier momento. Si decides permanecer en el anonimato, mantener tu anonimato será una prioridad y todas las precauciones prácticas serán llevadas a cabo para ocultar tu identidad. Si



Coleg Prifysgol y Drindod
Trinity University College

Campws Caerfyrddin
Carmarthen Campus
SA31 3EP
01267 676767 www.tsd.ac.uk

UNIVERSITY OF WALES
LAMPETER



Campws Llanbedr Pont Steffan
Lampeter Campus
SA48 7ED
01570 422351 www.tsd.ac.uk



PRIFYSGOL CYMRU

Y Drindod Dewi Sant

UNIVERSITY OF WALES

Trinity Saint David

Is-Ganghellor/Vice-Chancellor Medwin Hughes DL DPhil DPS FRSA

prefieres el anonimato, no habrá ninguna información de identificación en cintas de audio o transcripciones de esta o cualquier entrevista. Nadie va a escuchar cualquier cinta de audio o ver las transcripciones sin tu consentimiento previo. Todos los materiales generados a partir de este o de cualquier entrevista serán confidenciales.

Cuando hayas completado este formulario de consentimiento, por favor devuelvelo al investigador. Se dará una copia al participante y el original se conserva en el archivo del equipo de investigación en: University of Wales Trinity Saint David



Coleg Prifysgol y Drindod

Trinity University College

Campws Caerfyrddin

Carmarthen Campus

SA31 3EP

01267 676767 www.tsd.ac.uk

UNIVERSITY OF WALES
LAMPETER



Campws Llanbedr Pont Steffan

Lampeter Campus

SA48 7ED

01570 422351 www.tsd.ac.uk



Numero de Participante:

FORMULARIO DE CONSENTIMIENTO

Percepciones del Entorno Natural

Mito o Ciencia en el Karst?

La relación que los espeleólogos Vascos tienen con las cuevas

Nombre del Investigador: SIMONE SAUBENT

Por favor pone tus iniciales

1. Confirmando que he leído y comprendido la hoja de "Resumen y Información" de fecha 19/08/2013 para el estudio allí mencionado. He tenido la oportunidad de examinar la información, hacer preguntas y he me han respondido satisfactoriamente.

P.U

2. Entiendo que mi participación es voluntaria y que soy libre de retirarme en cualquier momento y sin necesidad de justificación.

P.L

3. Entiendo que cualquier información dada por mí puede ser utilizada en futuros informes, artículos o presentaciones por el equipo de investigación.

P.U

4. Entiendo que mi nombre no aparecerá en ningún informe, artículo o presentación.

P.U

5. Estoy de acuerdo en participar en este estudio.

P.U

Nombre del Participante

30/08/2013

Fecha

[Signature]

Firma

SIMONE SAUBENT

Investigador

30/08/2013

Fecha

[Signature]

Firma

Puedes negarte a participar en este estudio. Puedes terminar tu participación en este estudio en cualquier momento. Si decides permanecer en el anonimato, mantener tu anonimato será una prioridad y todas las precauciones prácticas serán llevadas a cabo para ocultar tu identidad. Si



Coleg Prifysgol y Drindod
Trinity University College

Campws Caerfyrddin
Carmarthen Campus
SA31 3EP
01267 676767 www.tsd.ac.uk

UNIVERSITY OF WALES
LAMPETER



Campws Llanbedr Pont Steffan
Lampeter Campus
SA48 7ED
01570 422351 www.tsd.ac.uk



PRIFYSGOL CYMRU

Y Drindod Dewi Sant

UNIVERSITY OF WALES

Trinity Saint David

Is-Ganghellor/Vice-Chancellor Medwin Hughes DL DPhil DPS FRSA

prefieres el anonimato, no habrá ninguna información de identificación en cintas de audio o transcripciones de esta o cualquier entrevista. Nadie va a escuchar cualquier cinta de audio o ver las transcripciones sin tu consentimiento previo. Todos los materiales generados a partir de este o de cualquier entrevista serán confidenciales.

Cuando hayas completado este formulario de consentimiento, por favor devuelvelo al investigador. Se dará una copia al participante y el original se conserva en el archivo del equipo de investigación en: University of Wales Trinity Saint David



Coleg Prifysgol y Drindod

Trinity University College

Campws Caerfyrddin
Carmarthen Campus

SA31 3EP

01267 676767 www.tsd.ac.uk

UNIVERSITY OF WALES
LAMPETER



Campws Llanbedr Pont Steffan
Lampeter Campus

SA48 7ED

01570 422351 www.tsd.ac.uk

Entrevista Participantes

1. Si tuviste la oportunidad de leer los documentos que te he enviado, tienes alguna pregunta?
2. Cuándo empezaste a ir a las cuevas? Y porque?
3. Prefieres ir a la montaña o ir a cuevas?
4. Prefieres ir a cuevas en tu pueblo o region, o para ti no es important donde vays? Porque?
- 5.Cuál es el descubrimiento más sorprendente que has hecho dentro de una cueva?
6. En qué circunstancias consideras correcto coger o llevar cosas que encuentras dentro de las cuevas? En qué circunstancias no consideras correcto hacerlo?
7. Alguna vez has sentido un “mal rollo” por cojeralgo de una cueva?
8. Hay alguna diferencia entre coger y llevar una piedra, huesos de animales o huesos humanos?
9. Las cuevas son solo formaciones rocosas? Que son?
10. Es importante proteger las cuevas?
11. Hay algún momento en tu experiencia dentro de cuevas en que te has sentido conmovido o emocionado? Y compartiste lo que sentiste con alguien o de algun modo? Como y con quien?

12. Normalmente cuando escribes sobre cuevas, qué escribes? Y para quien escribes?
13. Te gusta mas capturar los momentos que pasas en las cuevas en texto, fotografia o video? Que intentas capturar?
14. Piensas que los espeleólogos ven las cuevas de un modo diferente a los demás?
15. Piensas que la gente cree en los mitos de las cuevas? Explica.
16. Hay algún mito relacionado con cuevas que te guste en particular?
17. Crees que los mitos de cuevas son importantes en tu cultura? Y para ti?
18. Los mitos y creencias populares sobre cuevas son importantes para la espeleología?
19. Crees que la esencia de la espeleología es la ciencia?
20. Cómo te sientes cuando estás dentro de una cueva? De qué depende el que estés a gusto y sentirte seguro?
21. Has cambiado tu percepción de las cuevas desde que has iniciado? En que es diferente?
22. Crees que viyes las cuevas del mismo modo que los demás de tu grupo? Explica.
23. Te gusta leer artículos científicos sobre cuevas? Es importante escribirlos?

24. Hay alguna cosa sobre cuevas de que te gustaría leer en revistas, pero que normalmente no encuentras?

25. Existe alguna legislación que protege las cuevas en tu país?

26. Se hubiera una amenaza a las cuevas por la exploración de recursos (canteras, extracción de olio y gas) y tuvieras que escribir un documento explicando su importancia, que escribirías?

27. Te molestaría se te dijese que iban a empezar a hacer exploración de olio y gas en las cuevas de tu pueblo?

28. Hay algo que te gustaría preguntarme?

Entrevista 1

1. Si tuviste la oportunidad de leer los documentos que te he enviado, tienes alguna pregunta?
2. Cuándo empezaste a ir a las cuevas? Y porque?
3. Era normal los jovens de tu pueblo iren a las cuevas? La gente te decía algo?
4. En que ano y como ha empezado el club? Sabes algo de como la gente de aquí lo ha recibido?
5. Y hoy en día que relación o conocimiento tiene la gente de tu pueblo con/sobre las cuevas de tu región/zona?
6. Siempre te has considerado un espeleologo?
7. Todos los que entran en cuevas son espeleologos? Cual es el criterio?
8. Que es entonces para ti la espeleologia?
9. Eres “más espeleologo” ahora que antes? Que ha cambiado?
10. Cómo te sientes cuando estás dentro de una cueva? De qué depende el que estés a gusto?
11. De que depende el sentirte seguro?
12. Crees que vives las cuevas como los demás de tu grupo?
13. Piensas que la espeleologia es lo mismo para todos los espeleologos?
14. Prefieres ir a cuevas en tu pueblo o región, o para ti no es importante donde vayas?
15. Y la montaña, te gusta del mismo modo?

16. Cuál es el descubrimiento más sorprendente que has hecho dentro de una cueva?
17. Todavía te sorprendes con las mismas cosas?
18. Has cambiado tu percepción de las cuevas desde que has iniciado? En que es diferente?
19. Que determina se sigues o paras una exploración?
20. En qué circunstancias consideras correcto coger o llevar cosas que encuentras dentro de las cuevas? En qué circunstancias no consideras correcto hacerlo?
21. Alguna vez has sentido un “mal rollo” por coger algo de una cueva?
22. Hay alguna diferencia entre coger y llevar una piedra, huesos de animales o huesos humanos?
23. Hay algún momento en tu experiencia dentro de cuevas en que te has sentido conmovido o emocionado? Y compartiste lo que sentiste con alguien o de algun modo? Como y con quien?
24. Las cuevas son solo formaciones rocosas?
25. Es importante proteger las cuevas?
26. Normalmente cuando escribes sobre cuevas, qué escribes? Para quien escribes?
27. Te gusta mas capturar los momentos que pasas en las cuevas en texto, fotografía o vídeo? Que intentas capturar?
28. Piensas que los espeleólogos ven las cuevas de un modo diferente a los demás?
29. Piensas que la gente cree en los mitos de las cuevas, o también eso es un mito?
30. Se la gente no cree en los mitos de las cuevas, porque escriben tanto sobre ellos aquí en el País Vasco? Que importancia tienen?

31. Porque se encuentran textos sobre mitología y las cuevas en revistas o libros de espeleología?
32. Hay algún mito, leyenda o creencia relacionado con cuevas que te guste en particular?
33. Crees que los mitos de cuevas son importantes en tu cultura? En que sentido? Y para ti?
34. Los mitos y creencias populares sobre cuevas tienen alguna influencia en la espeleología?
35. Crees que la esencia de la espeleología es la ciencia?
36. Te gusta leer artículos científicos sobre cuevas? Es importante escribirlos?
37. Hay alguna cosa sobre cuevas de que te gustaría ver en revistas o en los medios de divulgación, pero que normalmente no encuentras?
38. Es mejor que la gente no sepa mucho donde están algunas cuevas para non destruirlas?
39. La gente esta informada sobre el karst de su zona?
40. Como vos ven y reciben los dueños de tierras y caseríos donde exploráis cuevas?
41. Que conocimiento tienen del karst en sus terrenos?
42. Y entran en las cuevas? Como las ven? Como las utilizan?
43. Vos hacen preguntas? En que están interesados?
44. Y tu cuando hablas con ellos, aparte de preguntar donde están las cuevas, que cosas o historias te gusta escuchar?
45. Crees que el contacto que los dueños de los terrenos, o gente del pueblo, tienen con los espeleologos les cambia la percepción que tienen de las cuevas?

REFERENCES

- Barandiaran, J. M. (1972) *Obras Completas*. Bilbao: La Gran Encyclopedia Vasca.
- Bennett, J. (2012) Stones. In *Stones According to Egill Sæbjörnsson*. Revolver Publishing /Künstlerhaus Bremen, p.27-36. Available from: <http://egills.de/?cat=106> [Accessed 24th March 2014]
- Bennett, J. (2011) Vibrant Matter, Zero Landscape: An Interview with Jane Bennett. Interviewed by Klaus K. Loenhardt. In *GAM07. Zero Landscape: Unfolding Active Agencies of Landscape*. April 2011. Available from: <http://www.eurozine.com/articles/2011-10-19-loenhardt-en.html> [Accessed 25th March 2014]
- Bennett, J. (2010a) *Vibrant Matter: A Political Ecology of Things*. Durham: Duke University Press.
- Bennett, J. (2010b) Vibrant Matters: An Interview with Jane Bennett. Interviewed by Peter Gratton. In *Philosophy in a Time of Error*. 22 April 2010. Available from: <http://philosophyinatimeoferror.wordpress.com/2010/04/22/vibrant-matters-an-interview-with-jane-bennett/> [Accessed 24th March 2014]
- Callois, Roger. (1985) *The Writing of the Stones*. Charlottesville: University of Virginia Press.
- Cant, Sarah G. (2003) The Tug of Danger with the Magnetism of Mystery: Descents into the Comprehensive, Poetic-Sensuous Appeal of Caves. In *Tourist Studies* 3(1), p.67-81.
- Cohen, J. J. (ed) (2012) *Animal, Vegetable, Mineral: Ethics and Objects*. Washington, DC: Oliphaunt Books.
- Cohen, J. J. (2010) Stories of Stone. In *Postmedieval: A Journal of Medieval Cultural Studies*. 1 (½), p.56-63.
- DeLanda, M. (1999) *Deleuze and the Open-ended Becoming of the World*. Available from: http://dephasage.ocular-witness.com/pdf/delanda_mettalurgy.pdf [Accessed 21st April 2014]
- Deleuze, G. (1981) *Les Cours de Gilles Deleuze*. Deleuze/Spinoza. Cours Vincennes 1981. Published online in 2003. Available from: <http://www.webdeleuze.com/php/texte.php?cle34&groupe> [Accessed 24th March 2014]
- Deleuze, G. and Guattari, F. (1980) *A Thousand Plateaus: Capitalism and Schizophrenia*.
- Derrida, J. (1997) And Say the Animal Responded? In *The Animal that Therefore I Am*. Mallet, M-L. (ed) 2008. Trans. Willis, D. New York: Fordham University Press.

- Derrida, J.(1997) *The Animal That Therefore I Am (More To Follow)*. In *The Animal that Therefore I Am*. Mallet, M-L. (ed) 2008. Trans. Willis, D. New York: Fordham University Press.
- Exeter University Speleological Society (1968) *Down Below* by Alfie.
- Foucault, M. and Deleuze, G. (1977) *Intellectuals and Power*. In *Language, Counter-Memory, Practice: Selected Essays and Interviews*. Bouchard, D. F. Ithaca: Cornell University Press.
- Garay, R. (1994) *El Reino Inclinado*. Gernika: ADES Taldea.
- Haraway, D. (2008) *When Species Meet*. Minneapolis: University of Minnesota Press..
- Haraway, D. (1991) *Simians, Cyborgs and Women*. New York: Free Association Books.
- Heidegger, M. (1995) *The Fundamental Concepts of Metaphysics: World, Finitude, Solitude*. Trans. McNeill, W. and Walker, N. Bloomington: Indiana University Press.
- Ingold, T. (2008) *Bringing Things to life: Creative entanglements in a World of Materials*. Available from: <http://www.reallifemethods.ac.uk/events/vitalsigns/programme/documents/vital-signs-ingold-bringing-things-to-life.pdf> [Accessed 21st April 2014]
- Ingold, T. (2011) *Being Alive: Essays on Movement, Knowledge and Description*. London: Routledge.
- Jasanoff, S. (ed) (2004) *States of Knowledge: The co-production of science and the social order*. London: Routledge.
- Kirksey, S. E. and Helmreich, S. (2010) The Emergence of Multispecies Ethnography. In *Cultural Anthropology* 25(4), p.545-576. The American Anthropological Association.
- Latimer, J. and Miele, M. (2013) *Naturecultures: Science, Affect and the Non-human*. In *Theory, Culture and Society* 0(0), p.1-27. Sage Publications.
- Latour, B. (2004) *Politics of Nature: How to Bring the Sciences into Democracy*. London: Harvard University Press.
- Latour, B. (1997) Stengers' shibboleth (Foreword). In *Power and Invention*. Stengers, I. Minneapolis: University of Minnesota Press.
- Latour, B. (1991) *We Have Never Been Modern*. Cambridge: Harvard University Press.
- Law, J. and Singleton. V. (2013) ANT and Politics: Working In and On the World. In *Qualitative Sociology* 36(4), p.485-502.
- Les, J. (2005) *La Cueva de Balzola, del mito a la ciencia*. Bilbao: GET.

- Levenson, D. (1972) Extract from 'The Innocence of Rock'. In *Bedrock: Writers on the Wonders of Geology*. Savoy, L. E. et al (eds) (2006). San Antonio: Trinity University Press.
- Merleau-Ponty, M. (1964) Eye and Mind. In *The Primacy of Perception*. James, E. (ed). Trans. Dallery, C. Evanston: Northwestern University Press.
- Miller, D. (2010) *Stuff*. Polity Press: Cambridge.
- Peaker, G. (1997) Interior Light: Lynn Silverman. In *Third Text* 11(41), p.101-103.
- Perez, M. A. (2013) 'Lines Underground: Exploring and Mapping Venezuela's Cave Environment'. In *Cartographica: The International Journal for Geographic Information and Geovisualization*. University of Toronto Press. 48 (4) 293-308.
- Speleogenesis Website. 'Glossary of Karst and Cave Terms'. Based on *A Lexicon of Cave and Karst Terminology With Special to Environmental Karst Hidrology*. 2002. EPA/600/R-02/003. Washington, DC: EPA.
- Stengers, I. (2005) The Cosmopolitical Proposal. In *Making Things Public*. Latour, B. and Weibel, P. (eds). ZKM.
- Stengers, I. (2013) The Left's Vital Need is What is That People Think. Interviewed by Pierre Chaillan. In *L'Humannite in English*. Trans. Metral, I. 19 July 2013. Available from: <http://www.humanniteinenglish.com/spip.php?article2311> [Accessed 15th April 2014]
- Thrift, N. (2004) Intensities of Feeling: Towards a Spatial Politics of Affect. In *Geographic Annual* 86B(1), p.57-78.
- Warner, M. (2008) The Writing of Stones. Review of Roger Caillois in *Cabinet Magazine* 29. Spring 2008. Available from: <http://www.cabinetmagazine.org/issues/29/warner.php> [Accessed 10th April]